Anti-Counterfeit and Intellectual Property Law and Policy

Anti-Counterfeit and Intellectual Property Law and Policy

Discussion Paper Series (2024)
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Foreword

It is with great pleasure that I introduce this inaugural *Discussion Paper Series* on intellectual property protection and enforcement in Kenya. This series comprises five meticulously researched articles that delve into the critical aspects of intellectual property rights, their protection, and enforcement in Kenya.

The importance of intellectual property in fostering innovation, creativity, and economic growth cannot be overstated. Emerging and disruptive technologies have, over the last three decades, become increasingly important for intellectual property protection as these are used both as tools to infringe on intellectual property as well as instruments to enforce and protect intellectual property.

The Anti-Counterfeit Authority (ACA), a unique law enforcement authority in Kenya, has created and continues to support a novel space dubbed the International Symposium on Intellectual Property Protection and Enforcement (ISIPPE) to annually bring together regulators, law enforcement agencies, brand protection experts, intellectual property scholars, brand owners, lawyers, judges, prosecutors and students to share knowledge, insights, exchange experiences, and review merging practices with a view to building respect for intellectual property.

This *Discussion Paper Series* is an output of a series of the debates, discussions and expositions. It is a timely contribution to the intellectual property protection and enforcement discourse and knowledge in the Global South where unique authorities like the ACA are far apart and the respect for intellectual property is still facing many problems.

Intellectual property protection and enforcement are crucial for Kenya's economic growth, innovation, and global competitiveness. This discussion paper series offers valuable insights and practical recommendations to enhance the intellectual property framework in Kenya. It is my hope that these articles will inspire meaningful dialogue, informed decision-making, and collaborative efforts to improve intellectual property protection and enforcement in our country.

I extend my gratitude to the authors and researchers who have contributed to this series, and to all stakeholders who continue to advocate for stronger intellectual property rights in Kenya. Together, we can build a more robust intellectual property system that supports and rewards creativity and innovation, fostering a brighter future for all.

We welcome you to read the articles in the Series and share your invaluable feedback.

Dr Robi Mbugua Njoroge
Executive Director / CEO
Anti-Counterfeit Authority

Introduction

We are honoured to present this first issue of the *Anti-counterfeit and intellectual property law and policy Discussion paper series no 1* (2024). This collection of four discussion papers and two case commentaries starts us off on an exciting journey to document the research on various aspects of anti-counterfeit and intellectual property law and policy in Kenya and the region.

Anti-counterfeit and intellectual property law and policy is a wide area. It covers copyrights, trade marks, patents, utility models, industrial designs, plant breeders rights, and all other types of property that result from the creations of the mind. These various legal categories allow owners of property that was created 'by mental labour' to safeguard their interests.

The papers presented here have precisely aimed at analysing their various approaches to these varied intellectual property rights with a distinct concern for anti-counterfeit enforcement.

Evidence based policy making is firmly embedded in Kenya's anti-counterfeit enforcement systems. As one of the papers has argued, 'intellectual property infringement is a serious socio-economic challenge that affects, to a large extent, most developing countries in terms of discouraging investment, reducing government tax revenues and affecting consumers' health and safety. Without a clear understanding of its magnitude, it would be difficult to monitor performance and craft proper policies and strategies to combat the vice.

The Anti-Counterfeit Authority has placed a high premium on the promotion and development of research that will drive its enforcement mandate. The papers published here are themselves fruit of this effort. On 13-15 June 2023, the Anti-Counterfeit Authority organised the first International Symposium on Intellectual Property Protection and Enforcement (ISIPPE-1) at Bomas of Kenya, Nairobi, as a climax in commemorating the World Anti-Counterfeit Day. The conference featured diverse approaches presented by its various speakers, such as

research paper presentations, expert talks on relevant issues, and the sharing of testimonials concerning intellectual property rights.

Organised under the theme, 'Addressing intellectual property rights infringement and related forms of illicit trade to spur a digital-driven economy', ISIPPE-1 covered the following sub-themes:

- Best practices in combatting intellectual property rights infringement and illicit trade;
- Intellectual property rights dispute resolution mechanisms;
- Use and exploitation of intellectual property in the global market;
- Partnerships and linkages on intellectual property protection and enforcement;
- Intellectual property assets and valuation;
- Intellectual property enforcement in digital age;
- intellectual property protection in the creative and fashion industries;
- Enforcement strategies for small & medium-sized enterprises (SMEs).

The Anti-Counterfeit Authority's mission is driven, not merely by legislative mandate, but *also* by the realisation that counterfeiting exacts a high price on the health and safety of society, and the free flow of commerce. Moreover, counterfeiting is a huge enterprise depriving due benefit and profits to a significant part of the legitimate economy, as well as loss to government revenue.

The 2017 International Trademark Association and Business Action to Stop Counterfeiting and Piracy (INTA-BASCAP) report estimates that the global economic value of counterfeit and pirated products was between USD 923 billion and USD 1.13 trillion in 2013 and this was estimated to reach USD 1.90 to USD 2.81 trillion by 2022.

The impact of intellectual property infringement and illicit trade is enormous. It facilitates global crime which results in undesirable consequences in terms of the health and safety impact on consumers and also in terms of discouraging investment and productivity.

The genius of ISIPPE-1 was precisely therefore that it offered a platform for transdisciplinary discussions on the research and study that informs future evidence based policy making. This discussion paper series therefore brings together some of these papers from a variety of research approaches and disciplines.

In his paper opening this discussion series, John Akoten presents the findings of a survey done to establish the magnitude of counterfeiting and the major counterfeit entry points in Kenya based on primary data collected from manufacturers and suppliers. This study found that the level of counterfeiting in Kenya in 2021 was 15.24% down from 23.86% registered in 2015. Counterfeiting level is higher among manufacturers than distributors and it increased slightly for both 2021 and 2022. The major entry points for counterfeit goods into Kenya was Busia at 31.7% (for land border), 90% for Mombasa (for seaport), and JKIA at 63% (for airport). The study, titled 'Determining the magnitude of counterfeiting among manufacturers and suppliers in Kenya' recommends enhanced sensitisation and public awareness on counterfeiting to various stakeholders, greater collaboration between the private sector and law enforcement agencies and enhanced border surveillance to curb the influx of counterfeit goods into the country.

George G Maina's 'The relationship between online brand infringement and sub-standard or counterfeit iron sheets in Kenya' is a study that was realisation of the sharp increase in online brand infringement of major roofing brands and the resultant supply of sub-standard, unbranded or misbranded roofing sheets to unsuspecting consumers in Kenya. The study primarily evaluates the nature of online brand infringement and the sale of sub-standard and counterfeit roofing sheets in Kenya. Among its findings were that at least 17% of roofing sheet manufacturers and traders are advertising, marketing and selling

their roofing sheets using the names of other well-known brand owners with at least 7% dealing with counterfeit and sub-standard iron sheets. In his paper, Maina calls on the Anti-Counterfeit Authority to review its narrow interpretation of Section 2 of the Anti-Counterfeit Act on the definition of counterfeiting to better position itself to tackle this growing menace along the lines affirmed by the courts of law.

The third paper is a deep dive into the application of artificial intelligence to combat counterfeiting. Godfrey Chidi Ejiofor's 'Infusing photogrammetry and deep learning in the enforcement of intellectual property rights' applies the methods used by researchers across the world to apply deep learning technologies to photogrammetry technology to develop accurate 3D imaging that can then be used to identify counterfeit goods. This study harnessed the power of AI deep learning techniques to safeguard intellectual property rights by using trained Siamese networks identification models to extract and analyse the texture, trade mark resemblance and variation of filter and sticker patterns in cigarettes in Kenya with promising results. The obvious benefits of such methods is that once trained, machines can work faster and more durably to identify counterfeits at various stages of the supply chain.

Madeleine Joy Omungalah presents a doctrinal review of the use of the various intellectual property rights protection regimes to protect creative works. The creative industry thrives on innovation, originality, and the expression of artistic works. Intellectual property is a key element for the development of the creative economy as it enables creators to monetise their work. This paper explores the significance of intellectual property protection in the creative industry and its impact on innovation, economic growth, cultural preservation, etc. It also discusses key intellectual property aspects such as copyrights, trademarks, patents, industrial design rights, and geographical indications; highlighting their relevance to different creative sectors together with their effectiveness in protecting various creative rights.

Saeko Tekin Fidel closes our publication with 'An inquiry into the consistency of the Anti-Counterfeit Act with the TRIPS Agreement in relation to generic drugs'. Soon after enactment, the Anti-Counterfeit Act was challenged at the High Court in the case *Patricia Asero Ochieng and Two Others v Attorney General and another* for what was its perceived risk to the importation of generic drugs into Kenya and the region, and especially so for critical HIV and AIDS drugs. Tekin in his reflections goes further to test the harmony of the Kenyan statute with the applicable international TRIPS regime, and finds that there is a need to include an express provision in the Anti-Counterfeit Act, exempting duly registered generic drugs from its application.

This first issue of the *Anti-counterfeit and intellectual property law and policy discussion paper series No 1* (2024) is one more concrete output of the commitment by the Anti-Counterfeit Authority to lead in its mandate to not merely enforce intellectual property rights protection, but to do in full attention to new research and adjustment to the demands of evidence based policy making.

We are most grateful for the support of the various people whose efforts have contributed to this publication, from the various participants at ISIPPE-1, to our authors and finally to Kabarak University Press for their editorial support in this process.

We trust you will find great value in these discussions, and join in further research on anti-counterfeit and intellectual property law and policy.

Research and Policy Department
Anti-Counterfeit Authority
July 2024, Nairobi

Determining the magnitude of counterfeiting among manufacturers and suppliers in Kenya

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John Akoten*

Abstract

Intellectual property infringement is a serious socio-economic challenge that affects, to a large extent, most developing countries in terms of discouraging investment, reducing government tax revenues and affecting consumers' health and safety. Without a clear understanding of its magnitude, it would be difficult to monitor performance and craft proper policies and strategies to combat the vice. This study sought to establish the magnitude of counterfeiting and the major counterfeit entry points in Kenya based on primary data collected from manufacturers and suppliers. It was established that the level of counterfeiting in Kenya in 2021 was 15.24% down from 23.86% registered in 2015. Counterfeiting level is higher among manufacturers than distributors and it increased slightly for both 2021 and 2022. The major entry points for counterfeit goods into Kenya was Busia at 31.7% (for land border), 90% for Mombasa (for seaport), and JKIA at 63% (for airport). This study recommends enhanced sensitisation and public awareness on counterfeiting to various stakeholders, greater collaboration between the private sector and law enforcement agencies and enhanced border surveillance to curb the influx of counterfeit goods into the country.

Key words: intellectual property infringement, counterfeiting, public education, multi-agency collaboration

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*   John Akoten is the Director, Research, Awareness, Policy and Quality Assurance. He holds a PhD in Development Economics from GRIPS, Tokyo, Japan.

Introduction

Counterfeiting is one form of illicit trade which is defined as an illegal trade that infringes on laid down policies, laws, regulations, licences, taxation systems, embargoes and all procedures used to regulate trade.[1] It includes sub-standard goods, smuggled goods, counterfeit goods, and undervalued goods.

The *Cambridge Advanced Learner's Dictionary* (fourth edition) defines counterfeiting as follows: something made to look like the original of something, usually for dishonest or illegal purposes. In other words, something that is imitated fraudulently.[2] The *Collins Dictionary* defines counterfeiting to mean: something made in imitation of something genuine with the intent to deceive or defraud; or something forged.

The definition of counterfeiting is also virtually similar across jurisdictions. According to the United States Prioritizing Resources and Organization for Intellectual Property Act of 2008 (herein PRO-IP law), counterfeiting occurs when someone copies or imitates an item without having been authorised to do so and passes the copy off for the genuine or original item.

The Criminal Law of the People's Republic of China (1997) suggests that a counterfeit trade mark is a trade mark that is identical with another person's registered trade mark. Singapore recognises a counterfeit trade mark if it is identical to or so nearly resembling the registered trade mark as to be calculated to deceive.[3] Article 51 of the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement of the World Trade Organisation (WTO) defines counterfeit trade mark or pirated copyright goods in its note 14 as follows:

a) "counterfeit trade mark goods" shall mean any goods, including packaging, bearing without authorization a trade

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1   M Naím, *Illicit: How smugglers, traffickers and copycats are hijacking the global economy* Doubleday, 2005.

2   Trade Marks Act, 1998 [Singapore].

3   Trade Marks Act, 1998 [Singapore].

mark which is identical to the trade mark validly registered in respect of such goods, or which cannot be distinguished in its essential aspects from such a trade mark, and which thereby infringes the rights of the owner of the trade mark in question under the law of the country of importation;

b)   "pirated copyright goods" shall mean any goods which are copies made without the consent of the right holder or person duly authorized by the right holder in the country of production and which are made directly or indirectly from an article where the making of that copy would have constituted an infringement of a copyright or a related right under the law of the country of importation.

The South African Counterfeit Goods Act, 1997, defines counterfeiting as follows.

Counterfeiting:

a)   means, without the authority of the owner of any intellectual property right subsisting in the Republic in respect of protected goods, the manufacturing, producing or making, whether in the Republic or elsewhere, of any goods whereby those protected goods are imitated in such manner and to such a degree that those other goods are substantially identical copies of the protected goods;

b)   means, without the authority of the owner of any intellectual property right subsisting in the Republic in respect of protected goods, manufacturing, producing or making, or applying to goods, whether in the Republic or elsewhere, the subject matter of that intellectual property right, or a colourable imitation hereof so that the other goods are calculated to be confused with or to be taken as being the protected goods of the said owner or any goods manufactured, produced or made under his or her licence; or

c) where, by a notice under Section 15 of the Merchandise Marks Act, 1941 (Act No. 17 of 1941), the use of a particular mark in relation to goods, except such use by a person specified in the notice, has been prohibited, means, without the authority of the specified person, making or applying that mark to goods, whether in the Republic or elsewhere.

In Kenya, the Anti-Counterfeit Act, 2008, which borrows heavily from the South Africa Counterfeit Goods Act, 1997, defines counterfeiting to mean

taking the following actions without the authority of the owner of intellectual property right subsisting in Kenya or outside Kenya in respect of protected goods: -

a) the manufacture, production, packaging, re-packaging, labelling or making, whether in Kenya, of any goods whereby those protected goods are imitated in such manner and to such a degree that those other goods are identical or substantially similar copies of the protected goods;

b) the manufacture, production or making, whether in Kenya, the subject matter of that intellectual property, or a colourable imitation thereof so that the other goods are calculated to be confused with or to be taken as being the protected goods of the said owner or any goods manufactured, produced or made under his licence;

c) the manufacturing, producing or making of copies, in Kenya, in violation of an author's rights or related rights;

d) in relation to medicine, the deliberate and fraudulent mislabelling of medicine with respect to identity or source, whether or not such products have correct ingredients, wrong ingredients, have sufficient active ingredients or have fake packaging.

In other words, counterfeiting is any activity that unlawfully imitates manufactured, produced, packaged, and labelled copyright-protected goods. It is the violation, theft or infringement of intellectual property rights which includes trade marks, industrial designs, geographical indications, copyright and related rights. Counterfeiters

can make replicas that are seemingly similar to genuine products, thus making it difficult for consumers to distinguish the two. During purchases, consumers are made to believe that what they are buying is genuine.

Although counterfeiting is difficult to detect without the help of the intellectual property right owners, there are tell-tale signs of counterfeiting, which are summarised as the 4Ps: pricing, product description, packaging, and point of sale. They are explained as follows:

a) Pricing

- Counterfeits are generally unreasonably cheaper. Counterfeiters offer unreal bargain, sometimes explaining to the customer that they are offering huge discounts as a way of appreciation.

b) Product description

- This comes in the form of spelling mistakes, lack of information such as expiry dates and so on.

- Corrupt naming of trade mark/labelling. For instance, 'Roundap' instead of 'Roundup'.

c) Packaging

- The product inside the packaging and what is written on the package do not match. It is advisable for consumers to open the packaging and make sure that the item advertised on the packaging is what is inside.

- The packaging material is of poor quality and sometimes counterfeiters use re-used materials such as plastic or glass bottles.

d) Point of sale

- Counterfeit goods are often not sold in reputable and well-known shops but they are mainly sold on back streets, dark alleys, unlicensed premises and similarly situated outlets. Counterfeiters also use hawkers to distribute their merchandise.

Counterfeiting is a global problem which affects all countries, whether developed, developing or less developing. From a 2017 report on *Economic impacts of counterfeiting and piracy*,[4] the total value of counterfeit and pirated goods stood at US$ 2.3 trillion. The report which was prepared for BASCAP and INTA further provided estimates on the impact that this vice could have on the wider social and economic fronts globally and concludes that these costs could reach an estimated US$1.9 trillion by 2022.

By 2019, reports by the Organisation for Economic Co-operation and Development (OECD) and the EU's Intellectual Property Office, showed that the counterfeit business stood at 3.3% of world trade. It represented an estimated $6.27 trillion, and underscored a massive increase from US$ 2.3 trillion in 2017. This is enough to undermine commerce, and the rule of law.

Most counterfeit products in East Africa are sourced from South East Asia and the Middle East, with China leading in manufacturing and exporting counterfeits.[5] Small percentages are rebranded, redesigned and repackaged locally while others find their way into the market through un-gazetted entry points.

The International Peace Institute estimates that counterfeit trading in the East African Community has an annual market share of Ksh180 billion as of 2017. In Kenya, the Anti-Counterfeit Authority estimates that 1 in every 5 products sold in the Kenyan market is counterfeit and that close to 4 million Kenyans are currently using counterfeit products. All this, according to the Anti-Counterfeit Authority, is a serious threat to public health and security, and the economy of the country.

The main factors promoting counterfeit goods include a limited supply of genuine products, inability to identify genuine products,

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4   BASCAP & INTA, The economic impacts of counterfeiting and piracy – Report prepared for BASCAP (Business Action to Stop Counterfeiting and Piracy) and the International Trademark Association (INTA), 2017.

5   J Schott, E Jung & C Cimino-Isaacs, *An assessment of the Korea-China free trade agreement*, Peterson Institute for International Economics. Policy Brief, No. PB, 2015, 15-24.

high prices of genuine products, and poverty, corruption and ignorance among the populace.[6] Kenya has a rich legal framework to combat counterfeiting and illicit trade in general. Through a multi-agency effort, counterfeit goods are seized, suspects are arrested and taken to court and condemned goods are destroyed to send a strong message that the Kenya government does not condone counterfeiting.

The impact of counterfeiting is widely documented in literature. Counterfeiting can lead to loss of business, loss of employment, damage to company reputation and image, risks to consumer health and safety, loss of government tax revenues; stifling of innovation, entrepreneurship and business initiatives. In the case of counterfeit food, it can have detrimental effect on health and safety.[7]

Without determining the level of counterfeiting over time, it would be difficult to establish the effectiveness of various policies and strategies used to combat counterfeiting and whether there is need for a change in the strategy. This study sought to measure the level of counterfeiting in Kenya in order to inform policy, awareness and enforcement towards reducing the prevalence of this crime in Kenya.

The main objective of this study is to determine the level of counterfeiting in Kenya based on primary data collected from manufacturers and distributors. The study specifically aims to: determine the level and trends of counterfeiting in Kenya; determine the major entry points and major distributors of counterfeits into Kenya, and determine the manufacturers brand registration status and awareness of counterfeiting targeting their products.

This chapter is organised as follows. The second section discusses existing literature on the economic size and measurement of counterfeiting as well as the legal and multi-agency framework in combatting counterfeiting and illicit trade. The third section is devoted

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6   T Staake and E Fleisch, *Countering counterfeit trade*, Berlin, Springer, 2010.

7   Susan Abel and Elmer Mascarenhas *Counterfeit foods, illegally labelled and grey market goods: Is your brand protected?* Global Food Safety Resource, 2021, available at https://globalfoodsafetyresource.com/grey-markets-products/.

to the methodology in terms of the study design, population, sampling, survey instruments, data types and sources, piloting, data collection, entry, cleaning and analysis. The results are presented in the fourth section and the final section concludes with recommendations.

Economic size of counterfeiting and illicit trade

Discussions on the economic size of counterfeiting is incomplete without discussing the size of illicit trade in general. A counterfeit good may manifest one or more forms of illicit trade. For instance, a counterfeit good could be smuggled, undervalued and sub-standard. It could also be purely counterfeit. An Organisation for Economic Co-operation and Development (OECD) and European Union Intellectual Property Office (EUIPO) 2017 report estimated that trade in counterfeit and pirated goods in 2016 had amounted to USD 509 billion (3.3% of global trade) up from USD 461 billion in 2013 (2.5% of world trade).[8]

The illicit trade where counterfeiting falls is worth more than $300 billion per year in trade. The size of the illicit trade varies among countries from 1% to about 40-50% of the market, 11.6% globally, 16.8% in low-income and 9.8% in high-income countries. The *Counterfeiting and its impact on socio-economic development* study further reports that East Africa loses over $500 million (Ksh 40 billion) annually in tax revenue due to counterfeit and pirated products finding their way into the market.

Additionally, the East African Business Council (EABC) observed that the profitability and market share of EAC companies, especially those involved in the manufacture of fast-moving consumer goods have been negatively affected by counterfeited and pirated products.

The table below shows the top countries in Africa that reported on intellectual property rights infringement in 2013.

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8   *Counterfeiting and piracy: Measurement issues*, WIPO/OECD, Geneva, 2005.

Top reporting African countries on intellectual property rights infringement in 2013:

Country	Quantity (Pieces)
Angola	1,502,418,418
DRC	1,115,343,026
Togo	148,065,336
Madagascar	59,350,590
Cote d'Ivoire	26,357,613
Kenya	17,246,130
Namibia	10,271,468

The table shows that Angola recorded the highest volume of counterfeit goods that were intercepted with 1.5 billion pieces followed by DRC with 1.1 billion pieces, Togo with 148 million pieces, Madagascar with 59 million pieces, Cote d'Ivoire with 26 million pieces, Kenya with 17 million pieces and lastly Namibia with 10 million pieces.

The total size of illicit trade in Kenya stood at Ksh 826 billion in the year 2018. This is according to the national baseline survey conducted by Anti-Counterfeit Authority between October 2019 and February 2020.[9] From the survey, the government revenue loss due to counterfeiting was Ksh 153.1 billion and the total sale losses reported as a result of illicit trade was Ksh 89 billion in the year 2018. The investment opportunity lost due to illicit trade was estimated to cost Ksh 123 billion in 2018. The study established that the worst-hit sectors of the economy as per the share of illicit trade in the sector include building, mining and construction (23%), energy, electrical and electronics (15%), textiles and apparel (14%), plastic and rubber and metal and allied sectors (9%) each.

Kenya's legal and institutional framework for combatting counterfeiting and illicit trade

The Constitution of Kenya 2010 mandates the state to do the following with regard to intellectual property rights:

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9 *The extent of counterfeit and other forms of illicit trade in Kenya: Firm survey,* Anti-Counterfeit Authority, Nairobi, 2020.

- Article 11(2) (c) – the State shall promote the intellectual property rights of the people of Kenya.

- Article 40(5) - the State shall support, promote and protect the intellectual property rights of the people of Kenya.

- Article 46 (1) states that consumers have the right—

  a)   to goods and services of reasonable quality;

  b)   to the information necessary for them to gain full benefit from goods and services;

  c)   to the protection of their health, safety, and economic interests; and

  d)   to compensation for loss or injury arising from defects in goods or services.

- Article 69(1) (c) – the State shall protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.

- Article 260 (c) on the definition of property. It states that property includes any vested or contingent right to, or interest in or arising from intellectual property.

These constitutional prescriptions came in to reinforce an already existing statutory framework geared towards supporting, promoting, protecting and enforcing intellectual property rights. The Anti-Counterfeit Act, 2008 was enacted to prohibit trade in counterfeit goods. The intellectual property rights covered in this statute includes any right protected under the Copyright Act, 2001, any plant breeders' right granted under the Seeds and Plant Varieties Act (Cap. 326), any right protected under the Trade Marks Act (Cap. 506), and any right protected under the Industrial Property Act, 2001.

Under the Anti-Counterfeit Act, 2008, the Anti-Counterfeit Authority (ACA) is mandated to combat counterfeiting of intellectual property rights which include trade marks and service marks, copyrights, plant breeders' rights, patents, industrial designs, utility models, geographical indications and technovations. However, there

are specific government institutions in Kenya that are mandated to implement these statutes. The table below shows the institutions and the statutes they implement.

Institution	Statute
Kenya Copyright Board (KeCoBo)	Copyright Act, 2001
Kenya Plant Health Inspectorate Service (KEPHIS)	Seeds and Plant Varieties Act, Cap. 326
Kenya Industrial Property Institute (KIPI)	Trade Marks Act, Cap. 506; Industrial Property Act, 2001
National Police Service	National Police Act, 2011
Kenya Bureau of Standards	Standards Act, Cap. 496
Weights and Measures Department	Weights and Measures Act, Cap. 513 Trade Descriptions Act, Cap. 505
Kenya Revenue Authority	Customs Act, Cap 472 East African Community Customs Management Act, 2004
Pharmacy and Poisons Board	Pharmacy and Poisons Act, Cap. 244
Pest Control Products Board	Pest Control Products Act, Cap. 346
Not assigned	Protection of Traditional Knowledge and Cultural Expressions Act, 2016

There are also tribunals dedicated to intellectual property rights in Kenya and they include the Industrial Property Tribunal established under the Industrial Property Act and the Seeds and Plant Varieties Tribunal established under the Seeds and Plant Varieties Act.

Section 22 of the Anti-Counterfeit Act provides for two categories of inspectors who are mandated to conduct investigations on intellectual property right infringements. These are appointed inspectors and designated inspectors. The former are officers of ACA who have been

gazetted as inspectors, while the latter are public officers from various institutions who are mandated to combat different forms of illicit trade. These officers include:

1) member of the Board of ACA
2) police officer
3) authorised customs officer
4) trade development officer
5) industrial development officer
6) trade mark and patent examiner
7) seed and plant inspector
8) public health inspector
9) inspectors appointed under the Standards Act (Cap. 496)
10) inspectors appointed under the Weights and Measures Act (Cap. 513)
11) inspectors appointed under the Copyright Act (No. 12 of 2001)
12) inspectors appointed under the Food, Drugs and Chemical Substances Act (Cap. 254)
13) inspectors appointed under the Pharmacy and Poisons Act (Cap. 244) and
14) inspectors appointed under the Pest Control Products Act (Cap. 346).

Thus, Section 22(3) of the Anti-Counterfeit Act introduces a multi-agency approach in the war against counterfeiting and illicit trade in general. To strengthen this effort, the government established the Inter-Agency Anti-Illicit Trade Executive Forum (herein referred to as the Executive Forum) with two working groups, enforcement group (being coordinated from the Office of the President) and outreach group (being coordinated from the office of the principal secretary responsible for matters trade), under Gazette Notice No 7270 of 20 July 2018. The Executive Forum consists of heads of public and private sector institutions who are responsible for combatting illicit trade. The Forum reports to the National Anti-Illicit Trade Coordination Centre (NATCoC) which consist of the principal secretaries for the ministries responsible for combatting different forms of illicit trade. The figure below shows

the multi-agency coordination framework as outlined in the National Action Plan to Combat Illicit Trade in Kenya (NAPCIT) 2018-2022. The plan is a five-year strategy to combat illicit trade in Kenya.
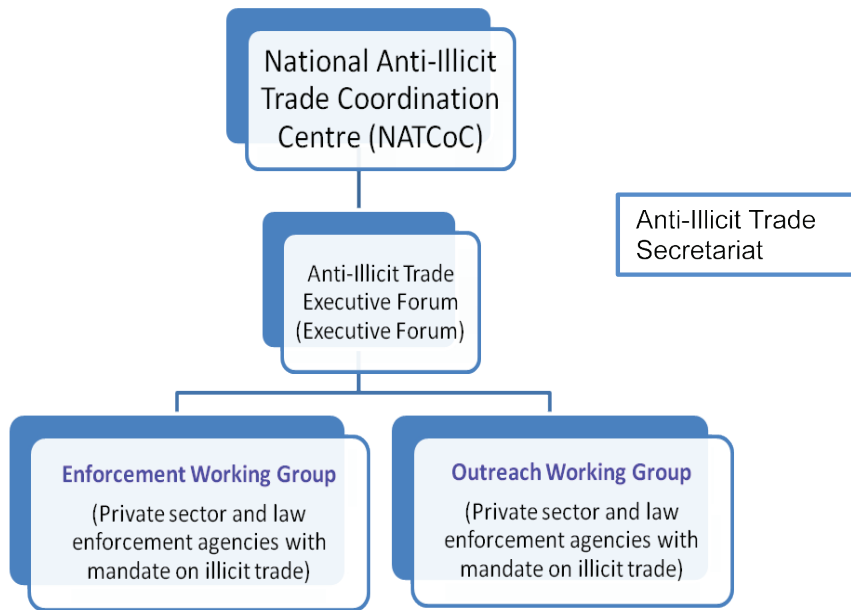
Figure 1: National multiagency coordination framework

The following were the achievements of the multi-agency teams:

1) Seizure of illicit goods worth Ksh 13.5 billion in under one year in 2018.

2) Destruction in 2018 of condemned illicit goods worth Ksh 1.5 billion by the former president of Kenya, His Excellency President Uhuru Kenyatta.

3) Extensive public outreach programmes covering the whole country including the border points.

4) Extensive stakeholder training programmes at border points and in different parts of the country.

Vision 2030 is Kenya's development blueprint covering the period 2008 to 2030. It is aimed at making Kenya a newly industrialising, 'middle-income country providing a high-quality life for all its citizens by the year 2030'. To operationalise the Vision, the country develops and

implements medium term plans. The third medium term plan, dubbed the Big Four Agenda (BFA) was aimed at accelerating the achievement of Vision 2030.

The Big Four Agenda (BFA) focuses on four pillars, namely manufacturing, food security, universal health care and affordable housing. The government acknowledges that intellectual property infringement may affect the growth of the four sectors and hence the achievement of Vision 2030.[10]

Measuring the level of counterfeiting: General practice indicators

The impact of counterfeiting is both tangible and intangible; it affects both the manufacturer and the general public, and injury befalls both the manufacturers whose goods are counterfeited and the consumer who either knowingly or unknowingly purchases the counterfeit products. Tangible impacts include the revenues lost by the trade mark owner/manufacturer and the government in form of lost tax revenue. Intangible impacts include the loss of goodwill and consumer confidence.

The adverse effects of counterfeiting range from fires due to sub-standard cables, to loss of jobs from the closure of genuine companies due to unhealthy competition in the market amongst many other effects.

Like most crimes, the level of counterfeiting is difficult to measure. Measuring counterfeiting is challenging because of the lack of available data. To measure the magnitude and scope of counterfeiting, some studies use three sources: enforcement data, surveys and sampling, economic modelling, and other approaches.[11] Some studies use the prevalence of product counterfeiting across time or geographic location. Some studies document the number of industry products or brands that are counterfeited. Others measure the level of counterfeiting by

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10   P Mutinda, *Role of Big Four Agenda and Vision 2030 for Kenya's sustainable development*, 2020.

11   Counterfeiting and piracy: measurement issues, WIPO/OECD, Geneva, 2005.

considering individual products that are counterfeited or they compare products to determine those that are susceptible to counterfeiting. In this study, we took the approach of estimating the level of counterfeiting from surveys (i.e. the manufacturers' perspective) by considering the market share taken up through counterfeiting. Manufacturers consider various factors including competition from genuine manufacturers in coming up with the estimates based on the market share lost due to counterfeiting.

Methodological considerations in measuring the level of counterfeiting

Study design

This section presents the design, data type and sources, sampling, training, pilot testing, data collection, coding, cleaning and data analysis. This study adopted a descriptive approach which included data parameters that can be followed over time.

The population for this study consists of all manufacturers in the country. A random sample of manufacturers was drawn from those based in the counties of Nairobi, Mombasa, Kisumu, Eldoret, Nakuru, and Nyeri.

The following table shows the number of firms that were sampled: -

Type	No of firms	%
Local	401	94
Foreign	27	6
Total	428	100
Manufacturers	200	47
Traders/suppliers (Distributors)	228	53
Total	428	100

The largest proportion of the sampled firms were local accounting for 94%, while foreign firms accounted for the balance of 6%. Thus, the firms were skewed in favour of local firms. However, in terms of whether the firms were manufacturers or distributors, the proportion

was roughly the same: manufacturing firms took a share of 47% while distributors share was 53%.

A structured questionnaire was used which consisted of open and closed-ended questions to generate quantitative and qualitative data.[12] The survey tool covered the following areas: business information, awareness about counterfeiting and its impact to the business, trade routes and distribution channels for counterfeits, counterfeit reporting, and challenges in combatting counterfeiting.

Both quantitative and qualitative data was collected. Primary data was gathered from manufacturers and distributors while secondary data was obtained from previous reports on matters of counterfeiting. Data was collected from various manufacturers and distributors who are directly involved in the production of products and the provision of services among the big four agenda sectors in the country. Teams comprising research assistants and supervisors were involved in data collection in the field. Microsoft Excel and Stata computer programmes were used to enter, clean and analyse quantitative data. Content analysis was employed to analyse qualitative data. The purpose of the analyses was to determine the extent of counterfeiting among the big four agenda sectors, establish counterfeiting trends and establish the main entry points for counterfeited goods into the country.

Survey Findings

Profile of the respondents

Local v foreign

Most of the firms interviewed were local (94%) while a few were foreign (6%). Local means the firms' ownership is controlled by the majority shares from Kenyans, while foreign means non-Kenyans own majority shares.

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12   The research assistants were trained on various aspects of counterfeiting, the objectives of the survey and any other relevant information. A draft questionnaire for the survey was pre-tested and comments used in improving the survey tool.
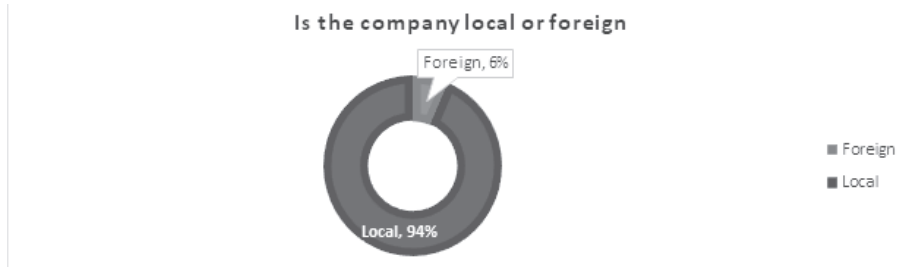
Figure 2: Is the company local or foreign

Type of firms

The firms that were interviewed consisted of manufacturers (47%) and trader/suppliers (53%).
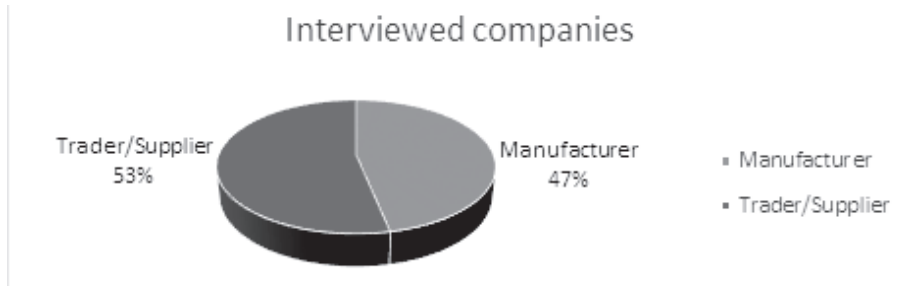
Figure 3: companies interviewed

Registration status

Most of the companies interviewed were private limited companies at 58% while sole proprietors, partnerships and public limited companies were at 24%, 12% and 6% respectively.
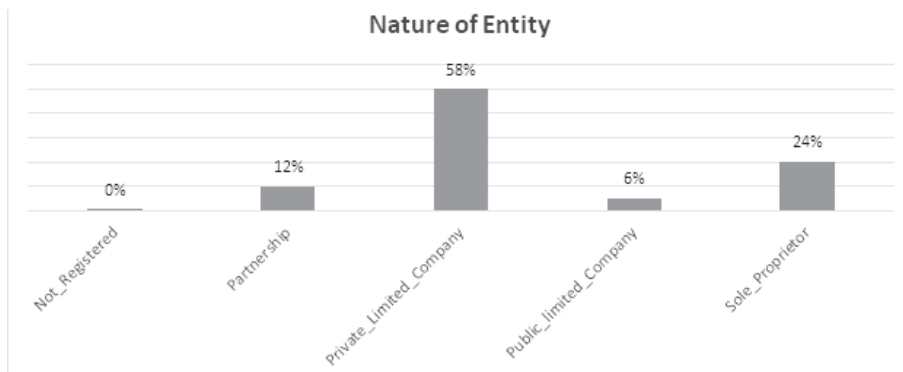
Figure 4: Nature of entity

How imported counterfeit goods enter the country

The ways through which the goods enter the country were divided into three different ways namely: sea ports, land borders and airports. The graphs below show how each mode of entry is affected. On the land border entries, Busia is the most commonly used route with 31.7% while Wajir is the least used with 4.1%. The Port of Mombasa is the most rampant when it comes to sea entry points leading with 90%. At 63% Jomo Kenyatta International Airport (JKIA) is the most commonly used for importing counterfeit goods into the country, followed by Mombasa International Airport at 16% then Kisumu and Eldoret international airports having 10.5% each.
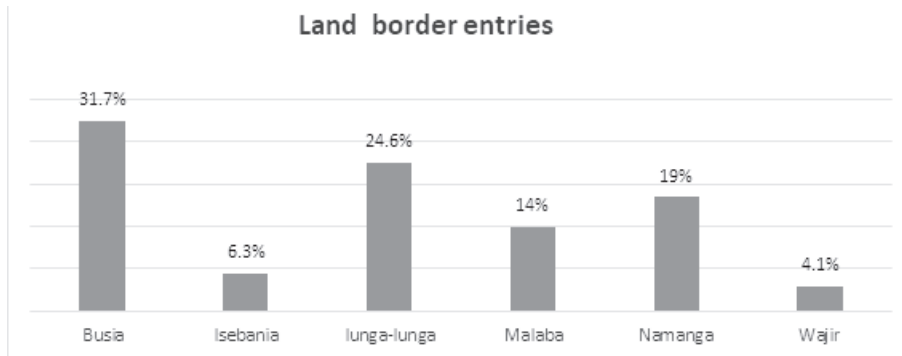
Figure 5: Land borders entries
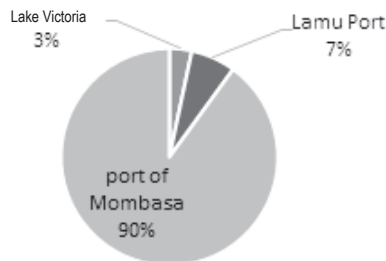
Figure 6: Seaport entries
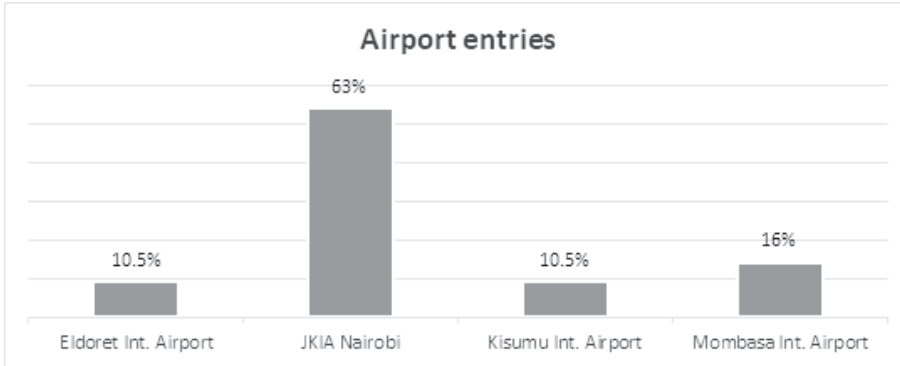
Figure 7: Airport entries

The trend of counterfeiting in the firms

Counterfeiting level

Firms reporting the level of counterfeiting in their firms as a percentage of market share taken up by counterfeiting. Based on the reported statistics, the market share taken up by counterfeits decreased slightly from 15.36% in 2020 to 15.24% in 2021.

The graph below shows the trend of counterfeiting activities since the year 2014. The trend of counterfeiting as reported by the firms indicate that there has been a general decrease in counterfeiting over the years, suggesting that Kenya's efforts in combatting counterfeiting has been effective.
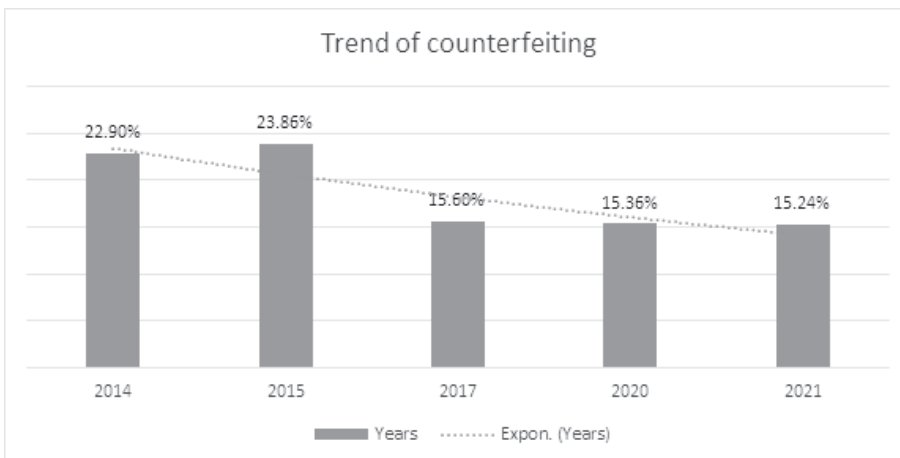
Figure 8: The trend of counterfeiting in firms

Comparison between manufacturers and suppliers (distributors)

The table below shows the statistical comparison between manufacturing firms and supplier/traders (or distributors) in terms of the market and sales revenue share they generate from online sales in 2022, level of counterfeiting in 2021 and 2022 in terms of market share and sales revenue share.

The findings show that manufacturers perform better than distributors in terms of the revenue they generate from online sales in 2022, level of counterfeiting in 2021 and 2022 in terms of market share and sales revenue share. The revenue from online sales in 2022 for manufacturing firms was 5.01%, while the distributors received 2.86%. The difference is statistically significant at 10% level.

In terms of market share in 2022, manufacturers had a market share of 8.55% versus 4.87% for distributors and the difference was significant at the 5% level. In 2021, the market share was slightly lower than in 2022. Manufacturers had a share of 7.75% compared to 4.09% for the distributors. The difference was significant at the 5% level.

Looking at the sales revenue share in 2022, manufacturers enjoyed a share of 17.86% compared with 11.57% for distributors and the difference was significant at slightly above 5%, while in 2021, manufacturers had a sales revenue share of 16.33% compared with 9.48% for distributors and the difference was significant at 5% level. Since the market share and sales revenue share is a proxy for the level of counterfeiting, manufacturers seem to have encountered greater incidences of counterfeiting than the distributors between 2021 and 2022.

Table 2: Level of counterfeiting by sector

Variable	Manufacturers	Distributors	Diff	p-value
Market share in 2022 (%)	8.55	4.87	3.68**	0.0426
Market share in 2021 (%)	7.75	4.09	3.66**	0.0264
Sales revenue share in 2022 (%)	17.86	11.57	-6.29*	0.0516
Sales revenue share in 2021 (%)	16.33	9.48	6.86**	0.0225

Source: ACA 2022 Survey.

**, * stands for statistically significant at 5% and 10% levels, respectively.

Most counterfeited products in Kenya

Manufacturers and suppliers were asked to list the most counterfeited products. The products they listed were categorised into the sectors they belong. From figure 9 below, the findings show that the most counterfeited products were building materials as reported by 22.22% of the respondents, followed by food (14.58%), automotive products (13.89%), paper and furniture (12.50%). The least counterfeited products were body products (3.47%) and textiles (2.80%).
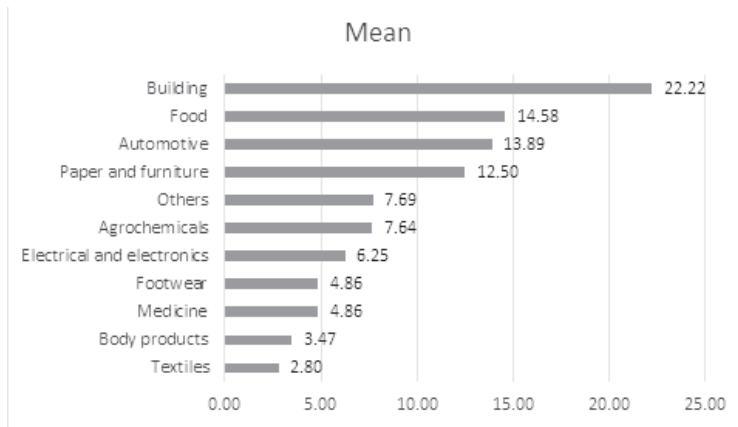
Figure 9: Most counterfeited products in Kenya

Reasons why counterfeiting takes place

One of the reasons for the study was to establish why some people engage in counterfeiting. The major reason as reported in Figure 10 by the respondents was high profits (64.94%), followed by lack of awareness (38.31%), weak enforcement (23.23%), scarcity of materials (15.48%) and 11.69% of respondents mentioned other reasons such as inability to distinguish genuine goods from counterfeits, complexity of manufacturing, easy to copy, high product demand, among others.
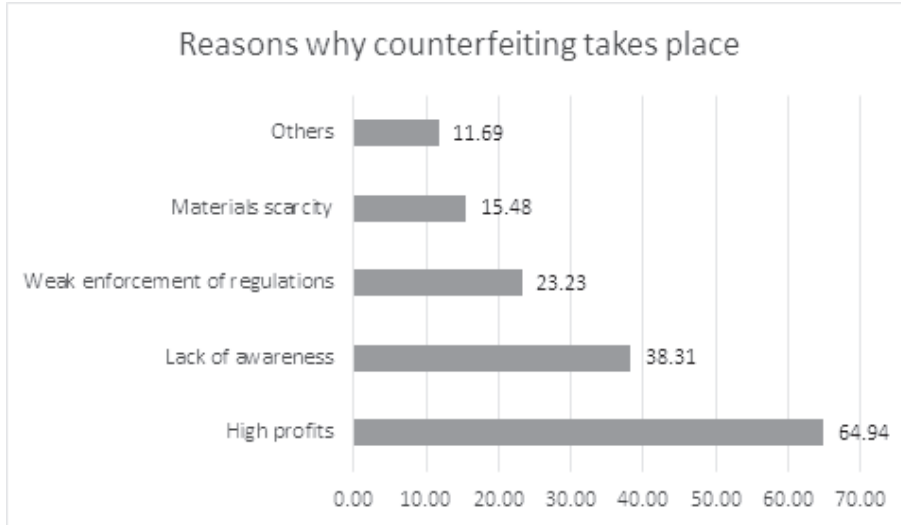
Figure 10: Reasons for counterfeiting

Most effective way of dealing with counterfeiting

Respondents were asked to suggest the most effective way of dealing with counterfeiting. Figure 11 shows the results of the analysis. Most of the respondents suggested enforcement (58.57%), followed by consumer education (57.62%), and lastly stakeholder collaboration (31.90%). Some respondents (46.67%) also mentioned other strategies such as monitoring online platforms and use of authentication technologies.
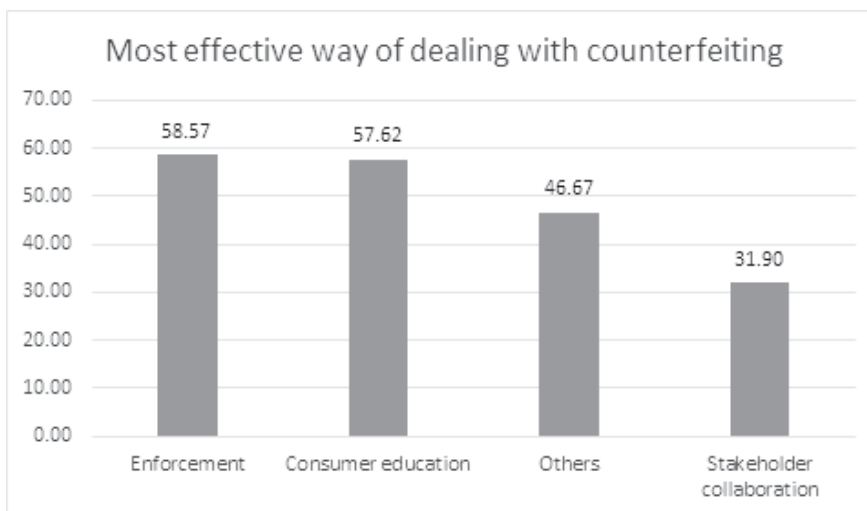
Figure 11: Measures use by firms to address counterfeiting

Company branding

Most (88%) of the companies interviewed had a brand, only 12% of them had no brand. For those that had brands, 96% were registered while only 4% had not registered due to the high cost of registration or finding it a long process to register a brand.
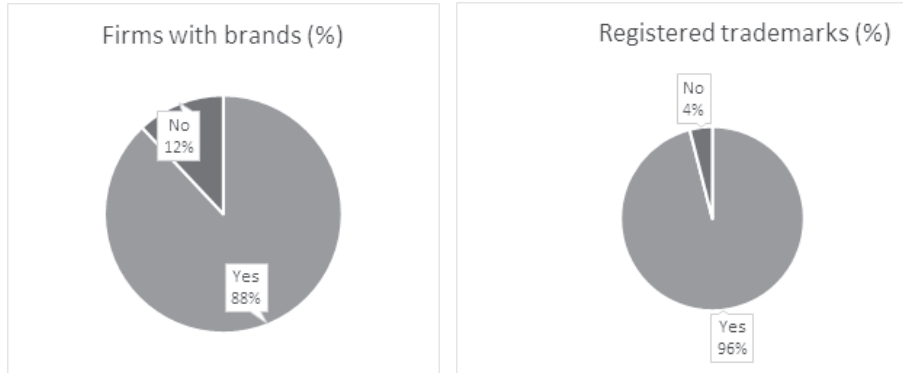
Figure 12: Company having a brand name

Awareness of counterfeit activity targeting one's products

Most of the respondents (55%) were sure of no counterfeiting activity targeting their products. About a third (34.5%) of respondents were aware of some counterfeiting activities targeting their products. Those who were not aware and not sure were 10.5%.
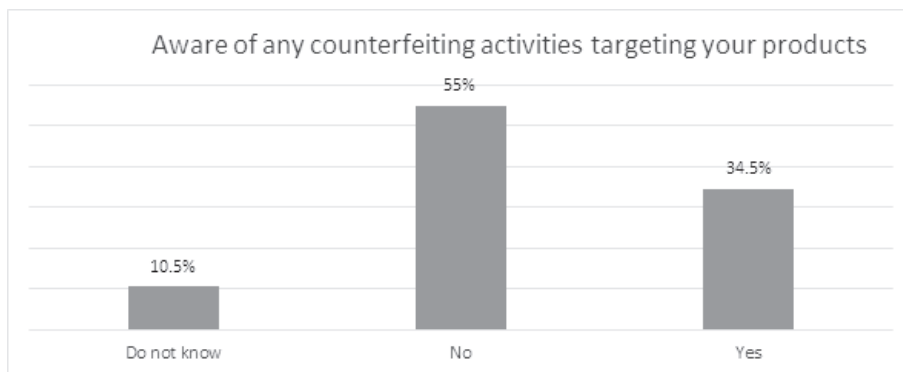
Figure 13: Aware of any counterfeiting activity targeting their products

Company control measures over wholesalers or traders

The majority (55%) of the companies sampled had control measures in the supply chain with their wholesalers or traders. These control measures included memoranda of understanding (MoUs), codes of conduct, training and surveillance. These measures ensured that no counterfeiting takes place in the supply chain. Forty-five percent of the companies did not have any anti-counterfeit control measures.
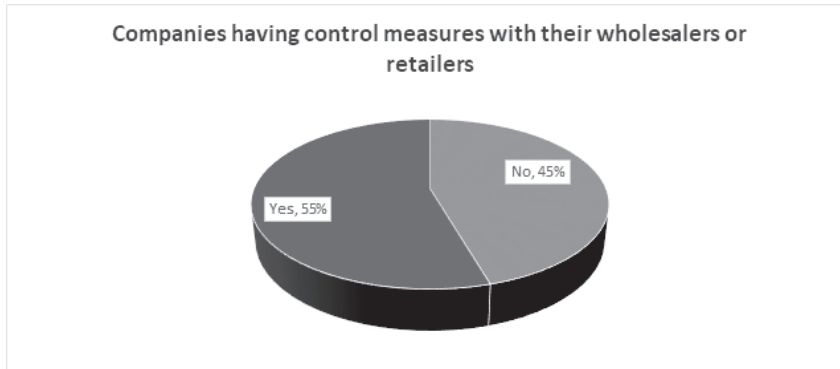
Figure 14: Companies having control measures with their wholesalers or retailers

Disposal of counterfeit goods

According to the law, ACA is required to dispose of counterfeit goods upon determination by court of law or completion of an alternative dispute resolution mechanism. A majority of the respondents (71%) suggested the counterfeit goods be burnt, 17% said the goods should be shipped back at the cost of the suspect and 12% suggested that the goods be donated to the needy if the goods do not have any health and safety consequences.

Figure 15: Disposal of counterfeit goods

Section 27 of the Anti-Counterfeit Act, 2008, directs as follows:

goods that have been seized under section 23(1) shall be stored and kept in safe custody at a counterfeit goods depot until the person in charge of the depot — (a) is ordered by a court to….destroy or otherwise dispose of those goods as specified in the order: Provided that in the case of counterfeit goods, such goods shall be destroyed at the expense of the local manufacturer or importer, as the case may be, based on the environmental considerations and the capacity of the country to destroy the goods, or shall be reshipped.

From the Act, there are two ways that the law provides in dealing with counterfeit goods: destruction or reshipment. For the over ten years that ACA has been in existence, all counterfeit goods have been destroyed through burning or disposal into the sea (for the case of sugar). None has been reshipped because of the challenge of identifying the origin of the goods and the shipping company.

Major distributors of imported counterfeits within the country

After the counterfeit goods are manufactured, they are sold to consumers. In terms of distributing counterfeit goods within the country, hawkers are the major distributors at 46% followed closely by traders/suppliers at 42%. Most of these hawkers are found by the roadside in urban areas.
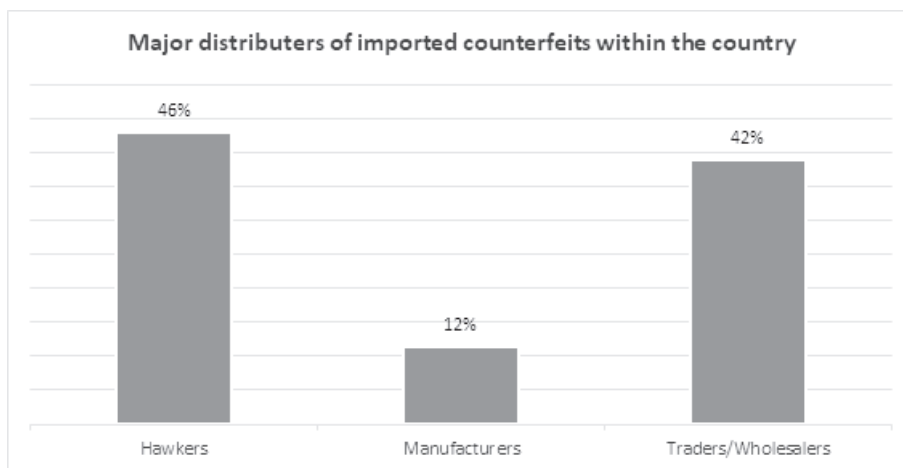
Figure 16: Major distributors of counterfeits within the country

Online trading

One of the objectives of this study was to determine the extent to which firms sell their products using online platforms. Online trading may have an impact on the war against counterfeiting because suppliers of counterfeit goods remain anonymous and hence difficult to police or arrest.

From the table below (panel 1), 30.1% of manufacturers sell their goods online, followed by 25.6% of distributors. Half of those that engage in both manufacturing and distribution sell their products online. On average, 31.3% of firms sell their products online. These online sales contribute about 4% of the total sales revenue.

Panel 2 shows the proportion of revenue from online sales in 2022 between manufacturers and distributors. The result shows that online revenue from manufacturers (5.01%) is higher than for distributors (2.86%) and the difference of 2.15% is statistically significant at 10% level, as measured by the p-value (0.0732).

Table 3: Online trading

Panel 1: Proportion of firms selling online

Variable	Mean (%)
Manufacturers	30.1
Distributors	25.6
Both manufacturers/distributors	50
Average	31.3
Online sales revenue	3.89

Panel 2: Comparison between manufacturers and distributors

Variable	Manufacturers	Distributors	Diff	p-value
Revenue from online sales in 2022 (%)	5.01	2.86	2.15*	0.0732

Source: ACA 2020 Survey.

* Stands for significant at 10% level.

Summary of findings

The theft of intellectual property is a global problem that affects all nations whether developed, developing or less developing and it has serious socio-economic consequences in terms of discouraging investment, reducing government tax revenues and affecting consumers' health and safety. Without a clear understanding of its magnitude, it would be difficult to monitor performance and craft proper policies and strategies to combat the vice. This study sought to establish the magnitude of counterfeiting and the major counterfeit entry points in Kenya, among other parameters, based on primary data collected from manufacturers and suppliers.

In summary, the study reveals that most imports of counterfeits enter Kenya through the border of Busia, port of Mombasa, and through JKIA. These are the major entry points for counterfeit goods into the country. The level of counterfeiting in Kenya in 2021 was 15.24%. This is the market share taken up by counterfeits as reported by the sampled firms. The levels have been decreasing over time from a high of 23.86% in 2015 to a low of 15.24% in 2021, an indication that the efforts put forward by ACA and the entire multi-agency teams in combatting counterfeiting have been bearing fruit. The findings also reveal that the level of counterfeiting is higher for manufacturers than for the distributors.

The most counterfeited products in Kenya in 2021 were building materials (22.22%), followed by food products (14.58%), while the least counterfeited products were body products (3.47%) and textiles (2.80%). Counterfeiting is fuelled by high profits as reported by 64.94% of the respondents, followed by lack of awareness (38.31%), weak enforcement (23.23%) and lastly by scarcity of materials (15.48%).

To deal with counterfeiting, respondents suggested several measures. In decreasing order of importance, they include enforcement (58.57%), consumer education (57.62%) and lastly by stakeholder collaboration (31.90%).

Most companies have registered brands. A few companies, however, have not registered their brands, and hence they are an easy target by counterfeiters since they are not able to demonstrate ownership of the brands.

In terms of awareness, close to half of the firms are not aware of counterfeiting of their products. That might mean that counterfeiters are not targeting their products or the firms have not invested in anti-counterfeiting measures such as the hiring of personnel to collect intelligence on suspected counterfeiting of their products.

The major distributors of counterfeit goods are hawkers and traders/wholesalers. Anti-counterfeiting efforts should, therefore, target these group, be it in terms of awareness creation or enforcement.

The study also found out that about a third of the firms sampled sell their products online and these sales account for about 4% of the total sales revenue. Manufacturers enjoy significantly higher online sales revenue than the distributors. Therefore, online counterfeiting can be attractive to the counterfeiters because of the difficulty in policing the online trade due to its anonymity.

Recommendations

In order to enhance efforts towards combatting counterfeiting in Kenya and make it a counterfeit-free economy in line with the ACA's vision, the survey makes the following recommendations:

1)   *Enhance sensitisation on counterfeiting to various stakeholders.*

Counterfeiting is a complex criminal activity that requires knowledge and skills to enforce. Stakeholders should be sensitised on their role in combatting counterfeiting and collection of information and evidence that can be used for the successful prosecution of offenders.

2) *Enhance public awareness activities on counterfeiting and encourage counterfeit reporting.*

Firms might not be aware of counterfeiting activities targeting their products because they lack capacity to do maintain surveillance. They might not be aware of anti-counterfeiting measures that companies can rely upon and to whom to report in case of counterfeiting of their products.

3) *Enhance collaboration between the private sector and law enforcement agencies.*

Counterfeit goods are often found to be sub-standard. Counterfeiters also commit other offences such as failure to pay taxes, smuggling, and misreporting. Therefore, a multi-agency approach among various stakeholders is critical in the investigation and prosecution of counterfeiting and illicit trade offences in general.

4) *Enhance border surveillance to curb the influx of counterfeit goods into the country.*

Most counterfeit goods are imported and they enter the country through major border and sea ports. Hence, enhancing border surveillance is critical in controlling the entry and exit of counterfeit goods from neighbouring countries.

5) *For greater impact, multi-agency teams should target wholesalers/ traders in the war against counterfeiting.*

Importers of counterfeit goods distribute counterfeit goods through hawkers and wholesalers/traders. Once the large imports have been broken down into small quantities by the numerous hawkers and traders, it becomes virtually impossible for enforcement agencies to intercept them. Therefore, targeting these groups for intelligence purposes in order to nab the major importers might yield better outcomes rather than arresting small traders and hawkers and arraigning them in court.

6)   *Address material shortage.*

Shortages of materials that manufacturers use to make various products may encourage unscrupulous business persons to engage in counterfeiting. There is need for policy makers to understand why some manufacturing materials are scarce and develop policy measures to encourage their production or importation.

7)   *Make counterfeiting unprofitable and unattractive.*

The major reason why counterfeiting takes place is high profitability. Policy makers should ensure that the business of counterfeiting does not pay by targeting the high profits that counterfeiters enjoy. This can be in various forms such as imposing high fines and/or long jail terms, cancellation of trading license, among others.

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Constitution of Kenya, 2010

Counterfeit Goods Act, No. 37 of 1997 [South Africa]

Marrakesh Agreement Establishing the World Trade Organization. Annex 1C: Agreement on Trade-Related Aspects of Intellectual Property Rights

Prioritizing Resources and Organization for Intellectual Property Act of 2008 (PRO-IP law) [United States]

The Criminal Law of the People's Republic of China, 1997

Trade Marks Act, 1998 [Singapore]

The relationship between online brand infringement and sub-standard or counterfeit iron sheets in Kenya

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George G Maina*

Abstract

This study was triggered by the increase in online brand infringement of major roofing brands and the resultant supply of sub-standard, unbranded or misbranded roofing sheets to unsuspecting consumers in Kenya. The study primarily evaluates the nature of online brand infringement and the sale of sub-standard and counterfeit roofing sheets in Kenya. This study is based on quantitative and experimental research that primarily adopted the correlational research design. The study involved undertaking test purchases and laboratory analysis as well as gathering numerical data on Kenya's roofing industry and online brand infringement to determine the relationship between online brand infringement and the sale of sub-standard and counterfeit roofing sheets in Kenya. The target population was a total of seventy-seven (77) roofing sheet manufacturers and independent traders (traders selling or importing unbranded roofing sheets or under their brand names). The study applied the non-probability sampling design by utilising purposive sampling. Among its findings were that at least 17% of roofing sheet manufacturers and traders are advertising, marketing and selling their roofing sheets using the names of other well-known brand owners with at least 7% dealing with counterfeit and sub-standard iron sheets.

Key words: counterfeit, online brand infringement, sub-standard roofing sheets

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*   The author is a legal practitioner based in Nairobi, Kenya. gggmaina25@gmail.com | ORCID No: 0009-0007-1342-4709

Introduction

Iron sheets are the most predominant type of roofing material in Kenya. At least 80.3% of houses in Kenya have roofing sheets as the main roofing material.[1] According to the Kenya National Bureau of Statistics (KNBS), the use of iron sheets as a primary roofing material grew from 73.2% in 2019 to 80.3% in 2023. The preference for roofing sheets may be attributed to their versatility, durability and ability to withstand extreme weather conditions.[2] Roofing sheets are generally cost-effective on account of their durability which means less repair and maintenance costs. Roofing sheets also offer a wide range of aesthetic options and visual appeal since roofing sheets can be designed to complement different architectural styles.

The increased use of iron sheets can be attributed to Kenya's construction boom. Over the last decade, Kenya's construction and real estate sector grew by more than 10%. According to the KNBS 2022 Economic Survey Report, Kenya's construction sector grew by 6.6% in 2021 compared to a growth of 10.1% in 2020. With Kenya having a housing deficit of over 2,000,000 houses per annum and an estimated 50,000 houses constructed annually, the World Bank estimates that the construction sector will continue to grow exponentially.[3]

In addition to the construction boom in Kenya, the increased use of iron sheets can also be attributed to the progressive replacement of other forms of roofing material such as grass in favour of roofing sheets. For example, between 2009 and 2019, the number of households using grass-thatched roofs declined from 13.7% to 5.1%.[4] During the same period, the use of iron sheets increased from 73.2% to 80. 3%.

According to the Kenya National Bureau of Statistics 2022 Economic Survey, the value of imported iron and steel increased by

1   Kenya National Bureau of Statistics, *2019 Kenya economic survey* Nairobi, 2020.

2   Komurov Kakajan, 'Steel roofing systems: Enhancing performance and aesthetics' 4(2) *Journal of Steel Structures and Construction*, 2023.

3   World Bank *Kenya economic update: Housing - Unavailable and unaffordable*, Washington DC, 2017.

4   Kenya National Bureau of Statistics, *2019 Kenya economic survey*, Nairobi, 2020.

6.6% from the Kshs. 88.1 billion in 2015 to Kshs. 104.1 billion as of 2019. The increased demand for iron sheets in Kenya has led to the increase of established iron sheet profilers/manufacturers from three (3) in 2005 to at least 36 in 2023. From the initial three manufacturers comprising Mabati Rolling Mills Limited, Corrugated Group and Maisha Mabati Limited, the iron sheets market in Kenya has grown tenfold to also include independent iron sheets importers from China and other Asian countries.

The increased proliferation of online brand infringement of major roofing brands and the resultant supply of unbranded or misbranded roofing sheets to unsuspecting consumers has informed the choice to undertake this study. This study primarily evaluates the nature of online brand infringement and the sale of counterfeit roofing sheets in Kenya. Counterfeiting in the roofing market has led to a proliferation of sub-standard roofing sheets. These sub-standard roofing sheets pose serious threats to health, security and the economy.

The use of brand names in Kenya's roofing industry has been used not only to signify the source but has been critical in signifying the quality of the roofing sheets. The brand distinctions in the roofing industry have led to increased competition. To this end, unscrupulous manufacturers and traders are deliberately and intentionally passing off their roofing sheets using well-known brand names. The actions of unscrupulous manufacturers and traders infringing on well-known brand names have led to the increased proliferation of unbranded sub-standard and counterfeit roofing sheets in Kenya.[5] This brand infringement has been exacerbated by the digital space which has provided a platform for unscrupulous manufacturers and traders to disguise, market and sell their roofing sheets as genuine brand names despite the resultant products being unbranded or bearing other brand names.

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5   Stephen Mutoro, 'Take action against companies selling poor quality roofing iron sheets' *East African Standard,* available at https://www.standardmedia.co.ke/article/2001424950/take-action-against-companies-selling-poor-quality-roofing-iron-sheets accessed 20 May 2024.

The passing off by unscrupulous iron sheet manufacturers using established brand names amounts to counterfeiting. Counterfeiting is a billion-dollar industry that deprives the legitimate trade mark owners their revenue. The Organisation for Economic Co-operation and Development (OECD) estimates that the volume of counterfeit goods amounts to at least US$ 460 billion annually or makes up 2.5% of world trade. Over the last decade, counterfeit goods in the European Union amounted to at least US$ 134 billion representing 5.8% of European Union trade.[6]

In the East African region, the Tanzania Fair Competition Commission in 2022 recovered more than US$ 10 million worth of counterfeit goods. In Kenya, the Anti-Counterfeit Authority (ACA) has estimated that illicit trade is worth US$ 5.96 billion with US$ 745 million being contributed by the sale of counterfeit goods.[7]

Counterfeiting not only impacts the local economies but also poses risks to consumers. Counterfeit goods are generally inferior in quality since counterfeiters generally compromise on quality in order to sell at lower costs and maximise their profits. These sub-standard products pose health and safety risks to consumers.

The study, conducted between February and April 2023, involved gathering numerical data on Kenya's roofing industry, and online brand infringement, and undertaking test purchases and laboratory analysis to determine the relationship between online brand infringement and the sale of sub-standard and counterfeit roofing sheets in Kenya. The major data collection tools of the study were the iZOOlogic® brand monitoring tool, test purchases and laboratory analysis.

Through non-probability sampling design by utilising purposive sampling, the study identified 77 business entities exclusively trading in unbranded or own-brand roofing sheets. Of the 77 entities, thirty-six (36) have locally installed iron sheet profiling capacities. In addition

6   OECD/EUIPO, *Illicit trade: Global trade in fakes: A worrying threat,* OECD Publishing, Paris, 2022 <https://doi.org/10.1787/74c81154-en >.

7   *The extent of counterfeit and other forms of illicit trade in Kenya: Firm survey* Anti-Counterfeit Authority, Nairobi, 2020.

to the initial three manufacturers, Mabati Rolling Mills, Corrugated Group (Nyumba) and Maisha Mabati, additional manufacturers include entities such as Royal Mabati Factory, Ruiru Mabati Factory Limited, Rhino Mabati Factory Limited, Kidani Mabati, Home Link Mabati, Imarisha Mabati Limited, Tongda International Co. Ltd trading as Daima Mabati and Boma Mabati.

The regional spread of iron sheet manufacturers and independent trades is tabulated below based on their main production or trading facilities:

County	No. of Entities
Kiambu	18
Nairobi	17
Machakos	15
Nakuru	8
Kajiado	5
Kisumu	4
Mombasa	3
Uasin Gishu	3
Kilifi	2
Kirinyaga	1
Laikipia	1

In analysing legal provisions, the paper applies the doctrinal legal research methodology. The study is anchored on two theories of intellectual property rights, namely the deterrence theory and the social planning theory to evaluate the efficacy of the enforcement framework for combating counterfeit roofing sheets in the digital age of online commerce.

Deterrence theory, which is founded on the works of Jeremy Betham and Beccaria Cesare, involves a three-pronged approach in which certainty, clarity and severity of punishment are implemented to ensure that the value of the punishment outweighs the profit of the offence. The deterrence theory advocates for the imposition of punishment meant to deter the continuation of a wrong. The social

planning theory advocates for the role of policymakers, government agencies and legislators in devising and implementing policies and measures that tackle community problems.

The paper proceeds as follows. Part Two will expound on the nature of trade mark protection in Kenya's roofing sheets industry, while Part Three will develop understanding on the nature of brand infringement in Kenya's roofing sheets industry. Part Four will focus on online brand infringement and its impact, and Part Five will provide a summary and conclusion.

Product branding and protection in Kenya's iron sheets industry

The Kenya Bureau of Standards KS EAS 410 and 468 Standards identify various iron sheet profiles and specifications. The distinction in the types of roofing sheets can be based on the coating. These include painted and metal-coated roofing sheets. To cater for the tastes and preferences of their customers, manufacturers supply iron sheets in various universal and customised profiles. These profiles include corrugated, box profile, tile and flat sheet profiles. To further distinguish their roofing sheets, manufacturers and traders have assigned different brand names for their roofing sheets.

A brand is a name, sign, symbol, logo or combination of these concepts used to identify a product or service.[8] A brand name provides a business with the opportunity to imply quality, evoke feelings of trust, quality and confidence in a product. Product branding is meant to achieve two main objectives: identification, to differentiate a particular product or service from other like brands, and verification, to authenticate the source and quality of the products.[9] Brand names

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8   Patricio Sáiz and Rafael Castro, 'Trademarks in branding: Legal issues and commercial practices' 60(8) *Business History* (2018), 1105-1126.

9   Alireza Alizadeh, Seyyed Hoseini, Hamid Khodada and Asadolla Kora, '*Product and corporate branding: A conceptual framework*' 16(1) *IOSR Journal of Business and Management*, (2014), 14-24

are considered intellectual property. To protect their brand names from exploitation, business entities will register trade marks.[10]

In function, a trade mark is used to distinguish the goods and services of different businesses. A trade mark prevents consumers from being misled about the quality and source of products. Trade mark protection grants the owner the exclusive right to use the brand name or authorise its use. According to the World Intellectual Property Organisation (WIPO), trade marks perform three economic functions that are legally protected: the origin function, the quality or guarantee function, and the investment or advertising function.[11]

Under the quality function, trade marks operate as indicators of the source of the goods. Under the quality or guarantee function, trade marks symbolise the quality of the products based on the consumer's perspective. Under the investment or advertising function, trade marks are 'cyphers around which investment of a product is built on'.[12] Trade marks are crucial elements that enable consumers to make decisions on whether or not to buy a product. With the immense growth of advertisements, modern consumers associate trade marks with the source and quality of the multitude of products in the market.

Similarly, Flikkema, de Man and Wolters in their 2010 study identified three key reasons for the registration of trade marks.[13] The first is to increase the value of the assets of the company such as the company's image and customer base. A strong brand strengthens these assets. The second is to signal innovation to customers and the public.

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10   William Rudolph Cornish and David Llewely, *Intellectual property: Patents, copyrights, trademarks and allied rights* 6th ed, Sweet and Maxwell, London, 2007.

11   World Intellectual Property Organisation, *Economic importance of trademarks and geographical indications and their use in commerce*, WIPO National Seminar on the Protection of Trademarks and Geographical Indications held on 17-19 March 2003 in Beirut, Lebanon.

12   Cornish and Llewely, *Intellectual property: Patents, copyrights, trademarks and allied rights*.

13   Meindert Flikkema, Ard-Pieter de Man and Matthijs Wolters, *New trademark registration as an indicator of Innovation: Results of an explorative study of Benelux trade mark data*, Serie Research Memoranda 0009, Virje University, Amsterdam, 2010.

The third is to utilise the brand name as a marketing tool and prevent product imitation.[14] In the Indian case of *Cadbury India Limited v Neeraj Food Products*,[15] the New Delhi High Court observed that the spirit and purpose of trade mark legislation are to protect the trader and consumer against dishonest adoption of a trade mark by another to capitalise on its reputation and goodwill.

To protect their brand names, roof manufacturers in Kenya have largely registered their trade marks. The Kenya Industrial Property Institute's records reveal that there are at least two hundred (200) trade marks in Kenya's roofing industry mainly registered under the Class 6 categorisation under the Nice Classification of Goods and Services for purposes of registration of marks. Some of the well-known iron sheets trade marks include, without limitation, Versatile®, Orientile®, DumuZAS® and Lifestile® owned by Mabati Rolling Mills Limited; Decra® owned by Space & Style Limited; Maisha Alu-Zinc®, Maisha Tile® and Maisha Roman Tile® owned by Maisha Mabati Limited; Nyumba Mabati® owned by Corrugated Sheets Limited; and Brick Tile® and 'Euro Tile® owned by Royal Mabati Factory Limited; and Wave Tile® and Mettro Tile® owned by Imarisha Mabati Limited.

The nature of brand names will either be evocative or inventive.[16] Brand names are mainly used to denote the sources of the iron sheets which also informs their quality. The brand names are generally informed by the type of iron sheet profile or coating of the iron sheet. For wavy tile profiles, the brand will generally have the word 'Tile'. Examples of brand names for wavy tile profiles include 'Versatile®, 'Roman Tile®, and 'Wave Tile®'. For box-shaped profiles, the brand names may include the word 'box' Examples of box profile iron sheets brand names include Heritage Box Profile™ and 'Maisha Colour Box Profile™'.

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14   Flikkema, de Man and Wolters, *New trademark registration as an indicator of innovation: Results of an explorative study of Benelux trade mark data.*

15   (2007) 27 PTC 95.

16   David Aaker, *Managing brand equity,* The Free Press, New York, 1991.

Legal framework on trade mark infringement in Kenya

The protection of brand names in Kenya's roofing industry as trade marks has been achieved through the application of international and municipal laws. Among the international instruments are: the Madrid Agreement (1891) – which established the Madrid System for the International Registration of Marks that enables the protection of trade marks across the world, the *Organisation africaine de la propriété intellectuelle* (OAPI) and African Regional Intellectual Property Organisation (ARIPO) established under the Bangui Agreement (1999), and the Lusaka Agreement (1976). At the municipal level, the Kenya Industrial Property Institute (KIPI) is responsible for the registration of trade marks under the Trade mark Act.

Counterfeit products are imitations that are passed off fraudulently as genuine products with the intent to take advantage of established brands. Section 2 of Kenya's Anti-Counterfeit Act defines 'counterfeit' to mean:

> …taking the following actions without the authority of the owner of intellectual property right subsisting in Kenya or outside Kenya in respect of protected goods -
>
> a)   the manufacture, production, packaging, re-packaging, labelling or making, whether in Kenya, of any goods whereby those protected goods are imitated in such manner and to such a degree that those other goods are identical or substantially similar copies of the protected goods;
>
> b)   the manufacture, production or making, whether in Kenya, the subject matter of that intellectual property, or a colourable imitation thereof so that the other goods are calculated to be confused with or to be taken as being the protected goods of the said owner or any goods manufactured, produced or made under his licence;
>
> c)   the manufacturing, producing or making of copies, in Kenya, in violation of an author's rights or related rights;

d)   in relation to medicine, the deliberate and fraudulent mislabelling of medicine with respect to identity or source, whether or not such products have correct ingredients, wrong ingredients, have sufficient active ingredients or have fake packaging.

The High Court of Kenya, in the judicial review case of *Republic v Anti-Counterfeit Agency ex-parte Caroline Mangala t/a Hair Works Saloon (2019),*[17] interpreted counterfeiting to include brand infringement. In the words of Justice J. Mativo:

> …from the above definition [Section 2 of the Anti-Counterfeit Act] …. The re-packing and using marks that may confuse the public as to the identity of the products amounts to trade mark infringement …Thus it can be said that in Kenya, counterfeiting means infringement of intellectual property rights.

Generally, counterfeits are often referred to as 'fakes' and are considered of inferior quality to the products they imitate. However, counterfeit products can still exist even where the products meet the applicable quality standards. For example, in the *Caroline Mangala case* above, the products were condemned as counterfeit on account of brand infringement despite meeting the industry standards.

The nature of brand infringement may take the form of passing off or trade mark infringement. The statutory basis for trade mark infringement in Kenya is anchored in Sections 7 and 8 of the Trade marks Act. In the last five years, two landmark trade mark infringement cases have shed light on the nature and form of trade mark infringement in Kenya's roofing industry.

In *Mabati Rolling Mills Limited v Royal Mabati Factory Limited (2020),*[18] the dispute involved the ownership and use of the 'Versatile®' and 'Royal Versatile®' trade marks. Both companies laid claim to the ownership of these two popular brand names in the roofing market. The High

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17   Judicial Review No 325 of 2018, Judgement of the High Court at Nairobi, 20 November 2019, [eKLR].

18   Civil Case No 35 of 2017, Judgement of the High Court at Nairobi, 17 April 2020 [eKLR].

Court held that Mabati Rolling Mills Limited was the legitimate owner of the two brand names and restrained Royal Mabati Factory Limited from using the brand names. The Court imposed a Ksh 2,000,000 fine and orderd destruction of the roofing sheets causing confusion in the market. The decision of the court was based on the earlier registration of the trade marks by Mabati Rolling Mills Limited.

In *Royal Mabati Factory Limited v Imarisha Mabati Limited (2018),*[19] the dispute involved the ownership and use of the 'Royal Box Profile®' and the 'Royal Classic Tile®' trade marks. The trade marks were registered in the name of Royal Mabati Factory Limited. The High Court restrained Imarisha Mabati Limited from using the trade marks without the authority of Royal Mabati Limited.

Outside the court system, there are numerous complaints and disputes between iron sheets manufacturers on the ownership and use of trade marks. These complaints and disputes are documented through various public bodies such as the Anti-Counterfeit Authority, the Kenya Bureau of Standards and the Kenya Police Service.

An analysis of the court cases and complaints with the regulatory bodies establishes that passing off and trade mark infringement take various forms. These include the packing, distribution, advertising and marketing of iron sheets using well-known trade marks. The most prevalent forms of brand infringement in Kenya's roofing industry are through advertising, marketing and selling roofing products using unauthorised trade marks.

Increased digital literacy levels in Kenya have catalysed brand infringement in the roofing industry. As illustrated in the case above, roofing product manufacturers have shifted to the online space to advertise, market and promote their goods through general and individualised online platforms.

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19   Civil Case No 12 of 2018, Ruling of the High Court at Kajiado, 22 June 2018 [eKLR].

With the digital shift, unscrupulous traders are, without authorisation, marketing, promoting and advertising their roofing products using well-known brand names with a view to confuse and deceive prospective customers.

As of January 2021, internet penetration in Kenya stood at forty per cent (40%) of the population.[20] With an estimated 29 million internet users up from 9 million users in 2011, the Kenyan consumer has gradually turned to the internet not only as a key source of information but for commerce. Increased internet penetration has shifted the sale and marketing of goods and services. The United Nations Conference on Trade and Development (UNCTAD) ranks Kenya as the 88th fastest-growing e-commerce economy and the 4th in sub-Saharan Africa.[21]

Anti-counterfeit enforcement framework in Kenya's iron sheets industry

The enforcement of the anti-counterfeiting in Kenya is institutionalised in the Anti-Counterfeit Authority which was established in 2010. Section 5 of the Anti-Counterfeit Act establishes the Anti-Counterfeit Authority with the primary mandate of combating counterfeiting, trade and dealings in counterfeit goods. The Anti-Counterfeit Authority has largely been active in combating counterfeits in Kenya. The Anti-Counterfeit Authority's success can be measured by the numerous raids, seizures and court actions targeted at counterfeit goods.

In 2022, the Anti-Counterfeit Authority established that online counterfeiting in Kenya has increased from 18% in 2027 to 20% in 2022. Despite the successes of the Anti-Counterfeit Authority, combating of online-driven counterfeits in the roofing industry in Kenya has remained dismal. In two complaints before the Anti-Counterfeit Authority (as of April 2023) involving two roofing manufacturers who were engaging in online brand infringement, issuing invoices using third-party trade

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20   World Bank, *Data base-Individuals using the Internet (% of population)-Kenya-2021* < https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=KE >.

21   United Nations Conference on Trade and Development, *B2C commerce index, 2020.*

marks and supplying unbranded roofing sheets, the Anti-Counterfeit Authority adopted a narrow and restricted interpretation of what constitutes counterfeit goods.

The Anti-Counterfeit Authority's position was that counterfeit roofing sheets had to bear or be packaged using another's trade mark. In essence, the unbranded roofing sheets that were marketed and sold using another's trade marks could not amount to counterfeits. The basis of this narrow interpretation is anchored under Section 2 of the Anti-Counterfeit Act which defines 'Counterfeit goods' as '…goods that are the result of counterfeiting any item that bears an intellectual property right, and includes any means used for purposes of counterfeiting'.

Field study on online brand infringement and the sale of counterfeits and sub-standard co-operation and iron sheets

The Organisation for Economic Development[22] postulates that a majority of the more than US\$ 200 billion annual global sales of counterfeit goods are attributed to the ability of counterfeiters to extend their reach to customers through the internet. There has been an explosion in online brand infringement and fraudulent domain names and websites to sell and distribute third-party products and misdirected merchandise to the detriment of brand owners.

Between February and April 2023, using the iZOOlogic® online brand monitoring tool, targeted online searches were conducted of entities selling iron sheets under the 'Versatile®' and 'Decra®' brand names in the online space. The choice of the two brand names was on account of their popularity in the coloured tile and stone coated roofing sheets sectors respectively. A total of twenty-three (23) results were generated. The online platforms which yielded the results were Facebook (60%), websites (35%) and other social media platforms such as Instagram (5%).

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22   Organisation for Economic Co-operation and Development, *The economic impact of counterfeiting and piracy* Paris, 2007.

From these targeted online results, it was established that ten and three entities were using the online platforms to market and promote their roofing products under the 'Versatile®' and 'Decra®' trade marks respectively. This represented 17% of the iron sheet manufacturers and independent traders in Kenya.

Through purposive sampling, test purchases were done in five (5) of the ten (10) roofing products advertised using the 'Versatile' brand name in the online space. The choice of the 'Versatile®' brand name for test purchases was informed by the fact that it was one of the most used roofing brand names in the online space to market and advertise tile profile roofing products. Additionally, the usage of the 'Versatile' brand name was subject to a court dispute between Mabati Rolling Mills and Royal Mabati Factory Limited as discussed above. The findings of the test purchase were as follows:

a) Two (2) of the entities did not manufacture iron sheets and relied on a common iron sheets manufacturer where the customer collected their roofing sheets. While the invoice indicated the roofing sheets as 'Versatile®', the iron sheets collected from the common manufacturing entity had a different brand name;

b) Two (2) of the entities supplied unbranded roofing sheets despite the invoice indicating the product as 'Versatile®'; and

c) One (1) of the entities supplied roofing sheets embossed with the Mabati Rolling Mills logo. The invoice indicated the product as 'Versatile'

From the analysis of the above data, it is evident that at least 17% of the iron sheet providers may be advertising, marketing and promoting their products using well-known third-party brand names. Although the study could not validate whether these entities had been authorised by the brand owners to use their trade marks, it was evident that at least 7% of these entities were illegally using these trade marks. This was evident in the fact that they were selling poor branded products or

misbranded roofing sheets while riding on the names of well-known third-party brand names in the online platforms.

In 2022, the Kenya Bureau of Standards (KEBS) raised concerns about the increased prevalence of sub-standard iron sheets in Kenya.[23] The KEBS report established that some iron sheet manufacturers were producing iron sheets of less than the stipulated width and thickness contrary to the stipulated standards. These sub-standard iron sheets not only greatly compromise the quality and performance but result in undercutting and uneven competition.

A laboratory analysis of three (3) out of the five (5) samples collected for the study failed to meet the quality and standards test. Through an independent laboratory analysis of the samples, the results established non-conformity with the KS EAS 410 (Hot-dip aluminium-zinc coated plain and corrugated sheets) and KS EAS 468 (Pre-painted metal coated steel sheets and coils) iron sheet standards as tabulated below.

Sample	Solvent Resistance (mek)	Impact	Flexibility	T-Bend	C-Hatch	Dry Film Thickness (DFT)		DFT as per EAS 468 {Top coat (10-20) Back coat (7-9)} μm	Base Metal Thickness (mm)	Evaluation of coating masses as per EAS 410:2005 gsm (min for AZ85 is 71 by chemical method) GSM	Overall Results.
						Primer	Top Coat				
1	>100	Pass	Pass	Fail	Pass	3	14	Pass	0.271	10.68	Fail
	>100	Fail	Fail	Fail	Pass		3	Fail			
2	>100	Pass	Pass	Fail	Pass	3	14	Pass	0.275	12.52	Fail
	>100	Fail	Fail	Fail	Pass		4	Fail			
3	>100	Pass	Pass	Fail	Pass	3	14	Pass	0.275	10.89	Fail
	>100	Fail	Fail	Fail	Pass		3	Pass			

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23   Kenya National Bureau of Statistics, *2021 Economic Survey,* Nairobi.

Conclusion

Iron sheets are the most predominant type of roofing material in Kenya. At least 80.3% of houses in Kenya have roofing sheets as the main roofing material. The increased use of iron sheets can be attributed to Kenya's construction boom. Over the last decade, Kenya's construction and real estate sector grew by more than 10%. The increased demand for iron sheets in Kenya led to the increase of established iron sheet profilers/manufacturers from three (3) in 2005 to at least thirty-six (36) and forty-one (41) independent traders in 2023.

The use of brand names in Kenya's roofing industry has been used not only to signify the source but has been critical in signifying the quality of the roofing sheets. The brand distinctions in the roofing industry have led to increased competition. The nature of brand names in Kenya's roofing industry is both evocative and inventive. The brand names are mainly used to denote the sources of the iron sheets which also informs their quality. The brand names are generally informed by the type of iron sheet profile or coating of the iron sheet.

Being a source of visibility and reputation, brand names are a strategic marketing asset for iron sheet manufacturers competing based on product differentiation and customer loyalty. With increased internet penetration to at least forty (40%) of the Kenyan population, the trade and marketing of iron sheets has significantly shifted into the online space.

The increased uptake of online-based marketing and trading has catalysed brand infringement. Kenyan businesses, including roofing product manufacturers, have shifted to the online space to advertise, market and promote their goods. Unscrupulous iron sheet manufacturers and traders are deliberately and unintentionally passing off their roofing sheets using well-known brand names. The actions of unscrupulous manufacturers and traders infringing on well-known brand names have led to the increased proliferation of sub-standard and counterfeit roofing sheets in Kenya.

At least 17% of the iron sheet manufacturers are advertising, marketing and promoting their products using well-known third-party brand names. Although the study could not validate whether these entities had been authorised by the brand owners to use their trade marks, it was evident that at least 7% of these entities were illegally using these trade marks.

The impact of counterfeiting of iron sheets not only impacts the local economies but also poses risks to consumers. Counterfeits are generally inferior in quality as counterfeiters generally compromise on quality to sell at lower costs and maximise their profits. These sub-standard products pose health and safety risks to consumers. In 2022, the Kenya Bureau of Standards (KEBS) raised concerns about the increased prevalence of sub-standard iron sheets in Kenya. The KEBS report established that unscrupulous iron sheet manufacturers were manufacturing iron sheets of less than the stipulated width and thickness contrary to the stipulated standards.

This brings into focus the place of Kenya's anti-counterfeiting legal framework in combating online-driven counterfeiting. With the increasing online-based counterfeiting in Kenya, the conventional conceptualisation and enforcement of counterfeits are gradually becoming moribund. Modern-day counterfeiters in the iron sheets industry are shifting to online brand infringement. The online-driven brand infringement is meant to deceive and confuse customers to the detriment of the brand owners.

The narrow interpretation of the legal bounds of counterfeiting by the Anti-Counterfeit Authority has rendered the fight against online-driven brand infringement in the iron sheets industry slow and arduous as genuine brand owners are left to their own devices to develop coping mechanisms. Notably, the Anti-Counterfeit Authority has stuck with the traditional view of counterfeiting to involve the actual unauthorised branding or packaging of products with identical or similar third-party brand names.

To this end, a purposive interpretation of the law must be adopted by the Anti-Counterfeit Authority in order to combat online-driven counterfeiting. It is recommended that the Anti-Counterfeit Authority should enact guidelines and push for regulations on the nature and evidential threshold of online-driven counterfeiting.

Infusing photogrammetry and deep learning in the enforcement of intellectual property rights

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Godfrey Chidi Ejiofor*

Abstract

This paper explains infusing deep learning technologies to assist in upholding authenticity of an intellectual property right owner. Photogrammetry technology provides a means of capturing physical assets and creating a repository for reference. Recent trends in artificial intelligence can be used in detection of product variation, as machines are consistent in the manufacturing process of cigarettes. This similar technology can harness the power of AI deep learning techniques to safeguard intellectual property rights. A trained Siamese Networks Identification Model reliant on an existing labelled dataset to extract and analyse texture, trade mark resemblance and variation of filter and sticker patterns in cigarettes can be used to support enforcement of intellectual property rights. Inputs attaining a similarity score based on precision, recall and F1 score are used to discover product variations reliant of available classification weight parameters.

Key words: photogrammetry, deep learning, intellectual property rights, patent enforcement, computer vision

Introduction

There have been attempts to track and identify counterfeit products using Quick Response (QR) and Short Message Service (SMS) codes with systems integrated into the web. The internet has become one of the most valuable and essential resources for storing and accessing information.

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*   GIS Developer at Nakuplan Consultants, Nakuru, Kenya. ORCID iD: 0009-0006-1 208-8486 ejioforched@gmail.com

As such, the use of modern technology to enforce intellectual property rights has become inevitable. However, these same internet tools have led to increased purchase of sub-standard and counterfeit goods from e-commerce stores.

Tracking and monitoring counterfeits is a challenging task. Technological improvements can be used to drastically change the mode of counterfeit detection due to its low error rates when accurately trained. The traditional process of identifying counterfeits is a manual process that occurs once the consumer has purchased the commodity. Physical investigations can only begin once knock-off products have infiltrated the consumer market and losses incurred by the intellectual property right owner. Consumers rarely search for counterfeit information online. Therefore, the execution of various modern technologies can change the way anti-counterfeit enforcement institutions store and enforce intellectual property rights and how consumers can be educated and take precautions.

This study's background revolves around applying deep learning in the context of anti-counterfeiting efforts. Counterfeiting is a prevalent issue worldwide, causing significant financial losses to businesses and posing risks to consumers. Traditional methods of detecting and combating counterfeits often need to catch up due to the increasing sophistication of counterfeiters, for instance in the context of e-commerce. Hence, this study aims to address the shortcomings in the current recordation, analysis and detection techniques by exploring the application of three dimensional (3D) technologies and artificial intelligence in detecting counterfeit products of registered intellectual property rights owners.

Scholarship and practice on combatting counterfeiting through deep learning techniques

This paper has two hypotheses. First, the collection of 3D data on intellectual property assets can supplement methods of recording and documenting intellectual property assets. Secondly, artificial

intelligence techniques can increase efficiency in the detection of counterfeit products.

Regarding the first hypothesis, modern databases and cloud computing engines have enabled the collection, storage and availability of big data about intellectual property assets. New technologies such as photogrammetry have enabled collection of 3D data directly from registered intellectual property rights owners. 3D scanning allows for the creation of digital representations of physical objects with high precision. Therefore, scanning intellectual property assets like designs, product structures or unique measurements could be utilised for intellectual property rights documentation and visualisation. Crowd-sourcing and online platforms have facilitated gathering of 3D data from intellectual property rights owners. Such technologies provide a collaborative and accessible environment for intellectual property rights owners to share their data and ensure a comprehensive, accurate and diverse dataset.

Photogrammetry is the process of extracting precise geometric information from photographs or images. It entails analysing multiple two dimension (2D) images taken from different perspectives and using the principles of triangulation to reconstruct 3D shapes and measurements.[1] Whereas 3D scanning involves capturing the geometric information of an object or scene using specialised scanning devices (these devices can be laser scanners or structured light scanners), 3D scanning techniques can capture highly accurate and detailed 3D representations.[2] Photogrammetry can be used in conjunction with 3D scanning to augment and refine the captured data.

Photogrammetry can be employed in situations where direct 3D scanning is inaccessible. 3D scanning excels at capturing high-resolution details of small or intricate objects; photogrammetry can

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1 Wolfgang Förstner, Bernhard P Wrobel *Photogrammetric computer vision: Statistics, geometry, orientation and reconstruction,* Springer, 2016.

2 Dinusha Mendis, Mark Lemley, and Matthew Rimmer, *3D printing and beyond: Intellectual property and regulation,* Edward Elgar Publishing, Cheltenham and Northampton, MA, 2019.

be more suitable for capturing large-scale scenes or environments due to efficiently acquiring multiple images.[3] The choice between them depends on factors such as the desired level of precision, object complexity, accessibility, and specific application requirements.

On the second hypothesis, artificial intelligence (AI) is a field of computer science that focuses on creating intelligent systems capable of performing tasks that typically require human intelligence. This encompasses various sub-fields, including machine learning, deep learning, computer vision, and robotics. The sub-fields utilise different algorithms, methodologies, and techniques to develop intelligent systems.[4] AI systems are designed to perform complex tasks such as recognising patterns, decision making, problem solving, understanding natural language, and perceiving and analysing images or videos. These tasks traditionally required human intelligence, but AI aims to automate and replicate them. Despite the progress in AI, achieving general intelligence remains an ongoing challenge. AI is dependent on humans to train and update data on the machines.

Machine learning techniques, for example, enable systems to automatically improve their performance by analysing vast amounts of data, identifying patterns, and making predictions or decisions based on the learned patterns.[5] Deep learning, a sub-field of machine learning, uses artificial neural networks with multiple layers to extract hierarchical representations from data, enabling systems to learn complex features and perform tasks like image recognition, speech recognition, and natural language processing. Deep learning has emerged as a powerful tool in various domains, including computer vision and natural language processing. Its ability to learn complex

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3   Thomas Luhman, Stuart Robinson, Steve Kyle & Jan Boehm, *Close range photogrammetry and 3D imaging*, 3rd revised and expanded edition, de Gruyter, 2019.

4   Stuart J Russell and Peter Norvig (eds), *Artificial intelligence: A modern approach* Third Edition, Pearson Education Inc, 2010.

5   Xianhong Hu, Bhanu Neupane, Lucia Flores Echaiz, Prateek Sibal, Macarena Rivera Lam, *Steering AI and advanced ICTs for knowledge societies: A rights, openness, access, and multi-stakeholder perspective*, UNESCO Publishing, 2019.

patterns and extract meaningful features from data makes it promising for tackling the challenges associated with counterfeit detection and prevention.[6]

In recent years, there have been notable advancements in applying deep learning techniques to combat counterfeiting. These techniques involve training deep neural networks on large-scale datasets, enabling them to learn discriminative features and distinguish genuine products from counterfeits. Further, deep learning algorithms can analyse visual characteristics, such as product packaging, logos, and labels, to identify potential counterfeit items. Furthermore, deep learning models can be trained to analyse textual data, such as product descriptions or online reviews, to identify suspicious or misleading information associated with counterfeit products. This helps uncover counterfeit supply chains and identify key players involved in producing and distributing counterfeit goods.[7]

This paper advocates the need for innovative approaches in combating counterfeiting, given the limitations of traditional methods. With its capabilities in extracting complex features and analysing various data types, deep learning presents an opportunity to enhance anti-counterfeiting efforts. By leveraging deep learning techniques, developing more accurate and efficient systems for detecting, identifying, and preventing counterfeit products becomes possible.

Overall, the background of the study underscores the importance of exploring the potential of deep learning in the field of anti-counterfeiting and the role it can play in addressing the challenges posed by counterfeit goods in today's global marketplace.

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6   Thomas Davenport, 'The potential for artificial intelligence in healthcare' 6(2) *Future Healthcare Journal* June 2019, 94-98. doi: 10.7861/futurehosp.6-2-94.

7   Volker Lang, *Digital fluency: Understanding the basics of artificial intelligence, blockchain technology, quantum computing, and their applications for digital transformation*, 2021. DOI:10.1007/978-1-4842-6774-5.

A substantial amount of research has recently concentrated on using deep learning methods to prevent counterfeiting and defend intellectual property rights. Deep learning models have been investigated by researchers for use in a variety of anti-counterfeiting strategies.

Li, Liu, Zhang, and Li have presented a unique approach that employed deep learning techniques to detect counterfeit banknotes by analysing their visual features.[8] The researchers aimed to develop a model that could accurately differentiate genuine banknotes from counterfeit ones. The researchers utilised a deep learning architecture specifically designed for image analysis tasks in their study. This architecture allowed the model to automatically learn and extract relevant visual features from the banknote images, enabling effective discrimination between genuine and counterfeit banknotes.

For the purpose of training the model, a sizable collection of banknote pictures was gathered that included both authentic and fake instances. For validation purposes, the photos were carefully labelled. The researchers focused especially on reproducing the banknotes' unique patterns, security features, and minute details, which counterfeiters frequently target. Through training, the deep learning model developed the ability to recognise minute visual cues and distinguish discriminative representations of real and fake currency.

The model received a thorough review after training to determine its performance. To evaluate the efficacy of their suggested strategy, the researchers examined accuracy indicators such as precision, recall, the model's capacity to avoid false negatives, and the F1 score. Their results showed great accuracy in identifying fake currency, demonstrating the effectiveness of their deep learning-based methodology.

In a different 2020 study, Han, Xu, Luo, and Li focused on combating counterfeiting using hologram images. The specific type of hologram is commonly used for security purposes, such as those

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8   H Li, H Liu, X Zhang & D Li, *Deep learning-based method for detecting counterfeit banknotes*, 2019.

found on credit cards, identification documents, or other items where counterfeit prevention is crucial. These holograms typically include intricate designs, patterns, and security features that make them challenging to replicate accurately. The study's objective was to develop a deep learning framework that could successfully discriminate between genuine and counterfeit holograms based on their distinctive visual features. They came up with a deep learning framework that employed a convolutional neural network (CNN) to extract distinguishing characteristics from hologram images in order to build a model that could accurately recognise fraudulent holograms.

For their research, they compiled a dataset including samples of both real and false holograms. These holograms undoubtedly featured intricate security systems and complex designs, making copying challenging. In order to recognise and record the distinctive visual patterns and features present in hologram images, the CNN architecture was specifically designed. Using the gathered dataset, the researchers trained the CNN model's parameters. As a result, CNN was able to automatically extract relevant characteristics and visual representations unique to real and fake holograms. Utilising criteria like accuracy, precision, recall, and perhaps the F1 score, the researchers thoroughly assessed the effectiveness of their deep learning system in differentiating genuine from fake holograms.

Pertinently, the research titled 'Artificial intelligence and trade mark assessment' explores the application of AI in the field of trademark assessment.[9] The authors delve into how AI technologies enhance and streamline the process of trade mark analysis and evaluation and discuss the challenges faced by trade mark examiners in assessing the registrability and distinctiveness of trade marks. They highlight the potential of machine learning and natural language processing, to automate and expedite various tasks involved in trade mark assessment, including similarity searches, classification, and semantic analysis.

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9   Anke Moerland & Conrado Freitas 'Artificial intelligence and trade mark assessment', in R Hilty, K-C Liu, & J-A Lee (eds) *Artificial intelligence & intellectual property*, Oxford University Press, 2021, 266-291.

The study addresses legal and ethical considerations associated with using AI in trade mark assessment, including bias, transparency, and accountability.

Applying deep learning in counterfeit of SuperMatch cigarettes

To prove our above-stated hypotheses, this research executed two experimental approaches. First, the application of deep learning techniques by training an acquired dataset to quickly analyse complex data and deliver fast results on a large scale. Secondly, the visualisation and comparison of results with real-world data from the created database. The Anti-Counterfeit Authority's National Baseline Survey guided the data sources used in this approach. The research relies on data sourced from consumer goods categorised as highly prone to counterfeiting, as specified in the Anti-Counterfeit Authority Handbook. The researcher's area of focus was on cigarette sticks and cigarette packets, which were collected from random outlets. The primary objective was to identify and analyse both visible and hidden attributes of genuine and counterfeit consumer brands. This section of the paper offers a chronological breakdown of the steps involved to apply deep learning techniques for differentiating between counterfeit and genuine cigarettes.

The first step was data collection. Both counterfeit and genuine cigarettes were purchased from random retail outlets. The process ensured a diverse representation of the SuperMatch cigarette brand available in the market. The first steps of primary identification of genuine cigarettes relied on the results obtained from scanned QR codes using a simple QR scanner available on mobile applications on Kenya Revenue Authority seals. Identification between genuine and counterfeit goods relied on feedback from the scanned seals.

The second step was 3D data acquisition. To accurately differentiate between counterfeit and genuine cigarettes using 3D data, a specialised 3D scanning device was used. The choice of the 3D device was crucial to achieving high precision and detailed models. An Apple device camera can provide a photogrammetric point cloud or 3D model, though it

will provide low precision and noisy models emitting intricate details. Therefore, a 3D scanning device was preferred to create two 3D models of both genuine and counterfeit samples. The scanning process entailed capturing a multitude of data points; the result is a highly detailed point cloud or digital 3D model that accurately represents the physical attributes of genuine and counterfeit samples.

Counterfeit and genuine cigarette samples were individually scanned to capture their unique geometry and physical characteristics. 3D scanning devices employ structured light using the principle of triangulation, projecting a known pattern of light onto the object of study. The sensors assembled in the scanner capture precise shifting fringe patterns across the subject surface. The scanner processes millions of XYZ points into a point cloud or model. Depth-sensing technology uses various methods, such as stereo-vision, to measure the distance between the scanner and the object to allow the creation of a 3D model to capture fine details like texture and contours of the subject. Structured light technology involves how the pattern forms or deforms and calculates depth information for each point on the object.

The third step was software utilisation. This process involved utilising both proprietary and open-source tools to examine attributes between genuine and counterfeit cigarettes. Once the samples had been scanned, the impression was displayed on the proprietary software provided by the manufacturer of the scanning device. It was later exported to the desired data format, which was an object file (OBJ). The object file format supports 3D geometry and unlimited colours. This software offers tools to calibrate and align the model.

Moreover, there should be a process of reconstructing the surface and generating meshes and noise reduction. Noise reduction is the major issue that arises from scanned 3D images. The typical process entails minimising unwanted irregularities that result from imperfections during scanning; this could be overlapping sections of the model. The aim is to make it smooth. Mesh simplification entails simplifying the complex model while preserving the model's shape and adjusting

colour grading if required. Working with an experienced person was key to understanding the whole scanning process.

The model in object file format was imported into Blender as a general project. The model was scaled and rotated along the x, y, and z axes to simplify the clean-up. Edit mode and wire-frame mode were activated to visualise individual vertices that make up the object and to select unwanted aspects and delete them, respectively. Further, material preview was activated to visualise the samples with colour. Furthermore, the model was made smoother by checking the auto-smooth attribute that distorted bends on individual cigarettes.

Feature extraction

The fourth step was feature extraction. This method creates a new and smaller set of features that captures most of the useful information of the raw 3D data. Feature extraction is used when the original raw data is in JPEG, OBJ, or PNG format. Therefore, it transforms raw data into the desired format.

The obtained 3D models served as a foundation for the extraction of numerous traits that might identify between fake and real cigarettes. These criteria included design elements and logo trademarks found on the packaging and scanned cigarette. The length and radius of the cigarette filter were also measured in order to determine the parameters of each unique cigarette stick. Due to the Kenya Revenue Authority's stamp duty's paper-like texture, it was photographed to extract relevant traits.

Measurements were performed and manipulated using the open-source blender software—examination of packaging aspects like design, logos, colour schemes, font styles, and visibility. The Autodesk Recap trial version was utilised as an extra tool to validate the Blender results and improve measurement precision when contrasting authentic and potentially counterfeit goods.

The final step was data organisation and labelling. The gathered and processed data was saved in the OBJ file format and included the 3D scan details, packaging properties, and extracted dimensions. The geometry of the cigarettes was saved in this format. Then, labels were placed on each cigarette model to indicate if it was a real product or a possible fake. Later, manual inspection and verification of the labelling process was carried out based on other data, such as packaging characteristics and the findings from the scanned QR codes.

Following this chronological order, the researchers generated a structured dataset incorporating the geometric and visual characteristics of counterfeit and genuine cigarettes. This dataset was a foundation for further analysis and development of deep learning models to differentiate between the two categories accurately.

Now to our second hypothesis, 'Artificial intelligence techniques can increase efficiency in the detection of counterfeit products'. A quantitative approach is typically preferred because of the variations in measurements and scores from the trained deep learning model to produce informative representations that are efficient to compute. Representations start from multiple views of a 3D shape generated by a rendering engine.
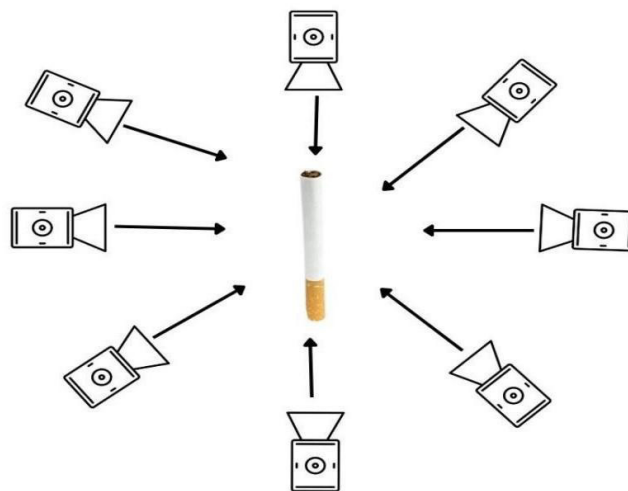
Figure 1. An illustration of the scanning process and how 2D images are generated from a 3D model

2D view-based representations are generated from multiple views of the 3D models. A simple step is to use multiple views of the 2D generated images and use individual 2D images for recognition tasks. Therefore, our approach is to combine information from multiple 2D dimensions for image classification and recognition tasks of samples provided.

Siamese neural networks

Siamese neural networks (SNNs) are a class of neural network architectures that contain two or more identical sub-networks, often called twin networks. The main objective is to identify whether a pair of data are similar. The Siamese network learns to differentiate two inputs while learning their similarity. The loss function used is usually a form of contrastive loss. The outputs from the sub-networks are then compared in the final layer to generate a prediction, referred to as similarity score. SNNs have been used in face detection to unlock phones, handwritten signature verification, and the use of fingerprints to manage human resources.

Siamese network architecture

The architecture of a Siamese network consists of two identical convolution neural networks (CNNs) and pooling layers responsible for extracting meaningful features from image samples of each input. The network is symmetric; whenever we present two distinct images to the twin networks, the top conjoining layer will compute the same metric. Each sub-network processes differentiate input samples with shared weights, parameters, and biases used to find similarities between inputs by comparing feature vectors.

An energy function at the top joins sub-networks that compute a metric between the highest level feature representation on each side consisting of inputs. Weight tying guarantees that each network does not map two extremely similar image inputs to very different locations in feature space because each network computes the same function. The output of each sub-network is a learned embedding that represents

the input in a lower dimensional space. The embeddings from the two sub-networks are then compared using a distance metric, such as the loss function. The distance metric measures the similarity between embeddings; a smaller distance variation indicates a higher similarity. The distance is then passed through a classification layer that predicts whether pair images belong to the same class, a positive feedback or different classes, a negative result.

Siamese networks are designed for tasks where the goal is to compare paired input data. It is effective in instances where training data is limited and performs well with a small amount of labelled sample data. They are suited for learning meaningful embedding for input data used for classification and clustering. Moreover, they can be used in a variety of domains that require similarity comparison.
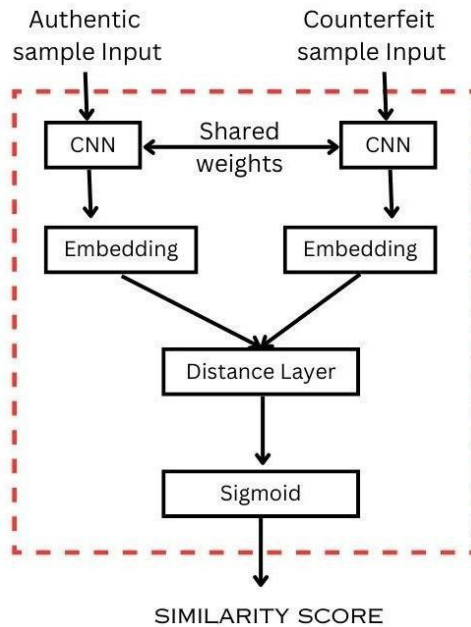
Figure 2. An illustration of comparison and similarity score done by Siamese networks

To summarise this section, the key features of Siamese networks are:

- Objective is to classify if inputs are similar or different using a similarity score, calculated using the contrastive function

and Triplet loss function, which are techniques for general distance metric learning.

- Siamese networks take two different inputs passed through similar sub-networks with the same architecture, parameters, and weights.

- Both sub-networks are a mirror image of each other; any change to any sub-network architecture should be applied to the other sub-network. The output provides the difference between two inputs.

- Siamese is a one-shot classifier that uses unique features to generalise unfamiliar categories, making it preferred for learning with a small data set.

How to implement a Siamese network

Implementation of a Siamese network was attained using the PyTorch library. Py-Torch is an open-source Facebook library with optimised and efficient reusable components for easier 3D deep-learning research tasks. It provided a variety of 3D operators and loss functions such as Chamfer, Edge Length, and Normal Consistency. PyTorch was preferred due to its efficiency, modularity, and differentiability when handling deep learning tasks. Computer specifications play a vital role in the installation of a recent Python library on an Intel Core i7 process with 3.1GHz with 16GB RAM on a Macintosh operating system – a PC with a windows operating system with similar RAM and processor specifications. Image data can either be accessed via an API or downloaded and stored as a folder accessible by PyTorch.

Data loading

Our architecture requires an image input pair with a label of similar or dissimilar. Creating custom data from scanned images assists in fulfilling the task, generating a 2D image from the 3D models stored in the database or a local computer folder to be accessed by PyTorch. The most important image resources are logos as a trade mark, the

individual cigarette stick, and the filter texture image to verify filter texture. Each image must be 256 pixels by 256 pixels for uniformity in size and improve the process output. The Siamese network datasets are required to be a pair of images, along with their similarity label of 1 if a genuine product and 0 if it is counterfeit. To prevent imbalances, ensure nearly half of the images are from the same class while the other half is from a different class to enable training in the Siamese network.
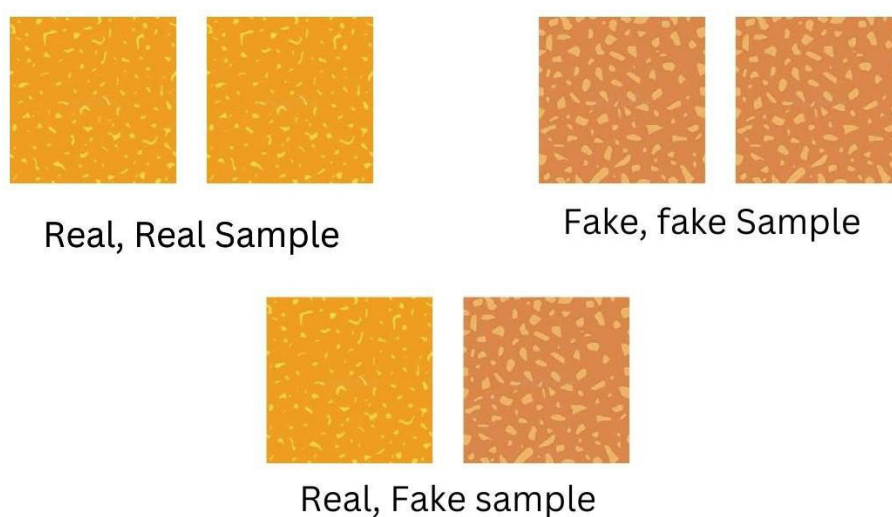
Figure 3. Illustration of training data for Siamese networks

Training the Siamese network

The training process of a Siamese network is outlined as follows:

1) Pass the first genuine image pair through the network.
2) Pass the second counterfeit image of the pair through the network.
3) Calculate the loss using the outputs from process 1 and process 2.
4) Back propagate the loss to calculate the gradients.
5) Update weights using the Adam optimiser.

Transfer learning the Siamese network

Human learners have inherent ways to transfer knowledge between tasks. We recognise and apply relevant knowledge from previous learning experiences when we encounter new tasks, and so do trained models. The more related a new task is to our previous experience, the more easily we can master it. Transfer learning attempts to develop methods to transfer knowledge learned in one or more source tasks and use it to improve learning in a related target task.
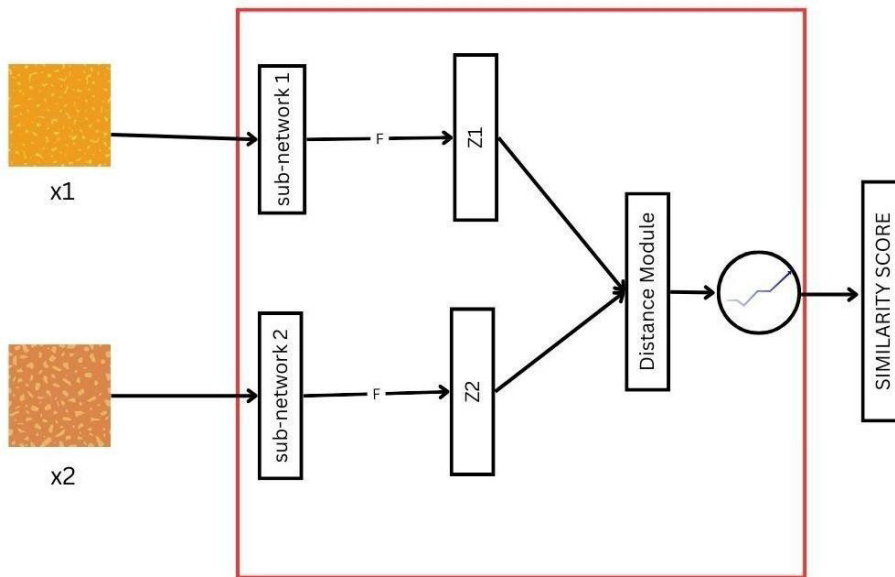
Figure 4: Explanation of Siamese network architecture to identify counterfeit cigarettes using filter pattern.

Siamese networks consist of two or more sub-networks processing two or more distinct inputs. The sub-networks are intended to be identical since they share similar structure and weights. If both inputs are of cigarette filters, therefore, x1 and x2. Their embeddings z1 and z2 will be similar, as well as the two sub-networks share the same weights as they have the same discriminative characteristics. The two embeddings are fed into the distance module that calculates the contrastive loss in order to provide their similarity score. In our setting,

since we have two inputs, two sub-networks are instantiated. A simple absolute distance is computed between the two embeddings; then, a Sigmoid function is applied to provide a similarity score in the range of 0 to 1. A similarity score close to 1 means the inputs are similar, while a score near zero is not similar.

Results of similarity score on filter texture

Similarity scores on Inputs

Real, Real Sample
Similarity Score = 0.978

Real, Fake sample
Similarity Score = 0.225

Fake, fake Sample
Similarity Score = 0.045
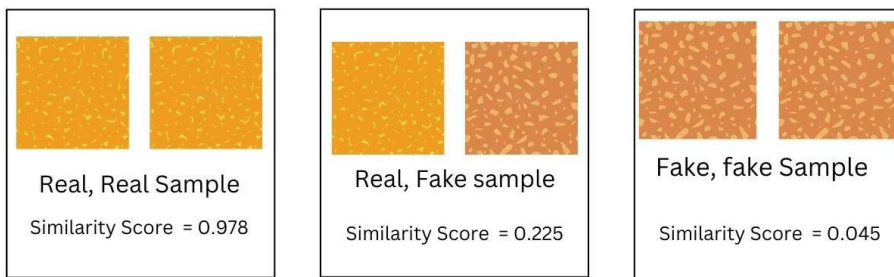
Figure 5: Similarity score on inputs

From the first image, test scores conform to the idea that similarity scores near 1 provide the utmost resemblance and are classified as a genuine product. Both real-fake samples and fake-fake samples generated a score value below half the similarity score graph of 0.225 and 0.045, identifying counterfeit samples among genuine cigarettes using the texture attribute.

Precision, recall and F1 score are indicators of a deep learning model performance. To understand the indicators; we grade our samples into various categories; *True Positive* is an outcome where the model correctly predicts the positive class. A *True Negative* is an outcome where the model correctly predicts a negative class. A *False Negative* is a result where the model incorrectly predicts the negative class. A *False Positive* is a result where the model incorrectly predicts the positive class. Therefore, model classification relies on the metrics derived from the outcomes.

KEY : TP = True positive   **FP = False positive**
TN = True negative   **FN = False negative**

Figure 6: Model classification matrix

Precision is a measurement of the model's ability to accurately and correctly classify positive samples or predictions from the input provided. It is closely intertwined with accuracy; fraction of prediction our model got right. Precision is a measure of quality.

$$\text{Accuracy} = \frac{\text{Number of correct predictions}}{\text{Total number of predictions}}$$

$$\text{Accuracy} = \frac{TP + TN}{TP + TN + FP + FN}$$

Figure 7: Precision classification matrix 1

Therefore, in a scenario where our model has an input of 10 samples of genuine and counterfeit. A genuine sample is a true positive with our model providing 5 and counterfeit samples are true negatives which are 3. 1 False Negative and 1 False Positive.

$$\text{Accuracy} = \frac{5 + 3}{5 + 3 + 1 + 1} = 0.8 \quad x\ 100 = 80\%$$

Figure 8: Model accuracy matrix

Therefore our model achieved an accuracy of 80%. Which is fairly accurate.

Then, how is precision calculated as True Positive divided by sum of True Positive and False Positive. Based on the scenario below.

$$\text{Precision} = \frac{TP}{TP + FP} = \frac{5}{5 + 1} = 0.83 \quad x\ 100 = 83\%$$

Figure 9: Precision classification matrix 2

Our model has a precision score of 83%. It is important to realise the values from TP, FP, FN and TN to have a precise model for classification.

Results obtained over test set in terms of Precision, Recall and F1-score
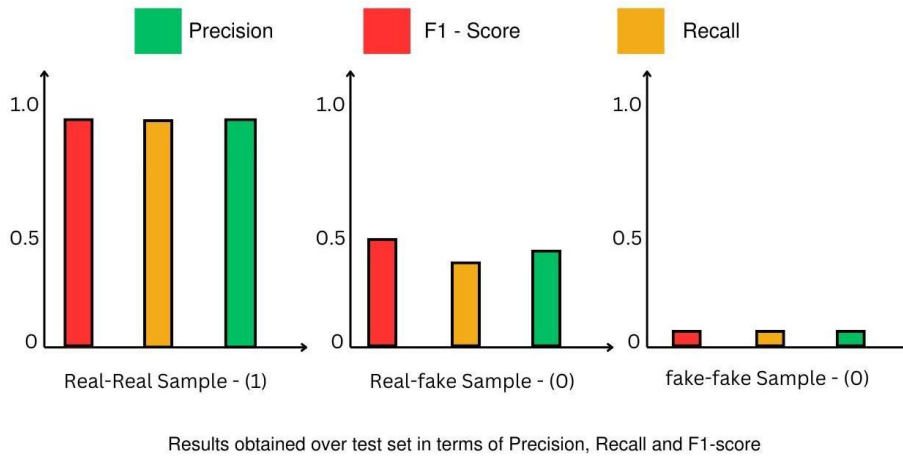
Figure 10: Precision classification matrix 3

Recall

Recall is the measurement of positive sample label that were correctly classified by our model. It is a measurement of quantity.

$$\text{Recall} = \frac{TP}{TP + FN} = \frac{5}{5 + 3} = 0.625 \times 100 = 62.5\%$$

Figure 11: Model recall matrix

Therefore, our recall value of 62.5%, means our model can distinguish 62.5% of genuine samples provided. This is a fair score, which will require further training of labelled samples.

It is important to understand what deep learning indicator to rely on. Precision improvement reduces recall and vice-versa.

F1 Score

Is simply a mean generated from recall and precision values.

Conclusion

This paper proposes a Siamese neural network that uses two sub-networks to validate genuine products. Experimental results in various private and public datasets prove the effectiveness and robustness of the model. This work is a reference for future studies and applications. Brand owners are encouraged to create detailed 3D impressions to assist in educating the public on differentiating between genuine and counterfeit products. The results of this study have important ramifications for numerous industries and applications using patents as well as helping to enhance counterfeit identification approaches.

Recommendation and use case

Creation a trained repository to be used by an intellectual property right owner to identify brand imitation from a variety of market samples. Individuals can capture acquire ML + AI to verify concepts and drive their quest in promoting genuine and upholding authenticity with honour. This can be used to support legislative decisions based on results and parameters stated out in registration of an intellectual asset with clear measurements and parameters.

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The value of intellectual property protection for the creative industry

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*Madeleine Joy Omungalah**

Abstract

The creative industry thrives on innovation, originality, and the expression of artistic works. Intellectual property rights recognise and safeguard creations of the mind. Intellectual property is a key element for the development of the creative economy as it enables creators to monetise their work. In order to protect the various intellectual property assets and nurture a thriving creative ecosystem, there is need to fully understand and utilise intellectual property laws and best practices. This paper explores the significance of intellectual property protection in the creative industry and its impact on innovation, economic growth, cultural preservation, etc. It also discusses key intellectual property aspects such as copyrights, trade marks, patents, industrial design rights, and geographical indications; highlighting their relevance to different creative sectors together with their effectiveness in protecting various creative rights. This paper further emphasises the benefits of robust intellectual property protection, including encouraging innovation, driving economic growth, preserving cultural heritage, and facilitating collaboration and licensing. Latest trends influencing protection in the creative industry and challenges such as piracy and infringement are also acknowledged and discussed.

Key words: commercialisation, creative economy, implementation, intellectual property rights, protection.

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*   Madeleine Joy Omungalah is an experienced Legal Administrative Assistant working in Tala, Kenya. Her interests lie in the fields of intellectual property and data protection.

Introduction

Intellectual property has been commonly defined as the kind of property that results from the creations of the mind, basically the fruits of one's mental labour. The existence of intellectual property gives rise to intellectual property rights which are given to persons over the creations of their minds, permitting them to safeguard their interests over their creations. Just like tangible property rights, intellectual property rights enable the creator/owner to exercise monopoly over their intellectual property, and comprise of a set of exclusive rights to exclude others from making, copying or using certain intangible creations for a certain period of time.[1]

Through intellectual property rights, intellectual property is capable of being a commercial asset with the potential of generating significant revenue as it allows creators to claim ownership and profit from their ideas. The importance and significance of intellectual property rights in the creative industry cannot be understated, as they play a pivotal role in fostering innovation, protecting creators' interests, ensuring the sustainable growth of the sector and promoting competition in various industries. intellectual property protection in the creative industry therefore encompasses the rules for securing and enforcing legal rights to inventions, designs, and artistic works.

Not only does the law protect ownership of personal property and real estate, but it also protects the exclusive control of intangible assets.[2] The creative industry is currently attractive to many people, the majority being the youth. However, few understand the business behind the industry and how to tap into the creative economy to get returns from their creations.[3] Therefore, intellectual property and

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1   MNO Advocates LLP, 'Introduction to intellectual property law' MNO Advocates LLP, 25 January 2022 <https://mnolegal.co.ke/introduction-to-intellectual-property-law/>.

2   Sharon Chahale, 'The impact of Covid 19 on the creative industry' 37 *Copyright News* (2019) 3-4.

3   Victor Nzomo, 'Recap of 6th Global Entrepreneurship Summit 2015 #GESKenya2015', IP Kenya, 27 July 2015 <https://ipkenya.wordpress.com/2015/07/27/recap-of-6th-global-entrepreneurship-summit-2015-geskenya2015/#more-3369>.

intellectual property rights protection are gaining more recognition and space in the legal and commercial platforms worldwide. Having intellectual property protection at the core of this industry ensures that there is a system in place that grants exclusive rights to creators and innovators, guaranteeing them the full enjoyment of their creative rights. The intellectual property protection system thus aims to foster an environment in which creativity and innovation can thrive by striking the right balance between the interests of innovators and that of the wider public.[4]

In Kenya, intellectual property law protects intellectual property through the registration of creations under copyright, trade marks and patents making it possible for people to gain exclusivity, recognition and financial benefits from their creations. Registration is thus not only a critical step but also the key to confirm and assert ownership over creations especially in instances where two or more people have the same 'idea'. The Kenyan legal system relies on the '*1ˢᵗ to file principle'*, hence, whoever files or registers their 'idea' first is granted the intellectual property rights to the creation and is consequently the ultimate beneficiary and owner of the creation.

Various legal and institutional frameworks are in place to regulate and govern intellectual property rights and guarantee their protection. The Universal Declaration of Human Rights (UDHR), under Article 27(2) recognises intellectual property right protection as a fundamental human right, and states:

> Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

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4   Chahale, 'The impact of Covid 19 on the creative industry', 3-4.

Other international instruments that govern intellectual property include the Paris Convention,[5] Madrid Protocol,[6] Berne Convention[7] among others. The Banjul Protocol,[8] Harare Protocol[9] and Swakopmund Protocol[10] have been instrumental towards safeguarding and governing the registration of trade marks, patents, utility models, industrial designs and traditional knowledge.

Under the Kenyan law, protection of intellectual property is enshrined in Article 40(5) of the Constitution of Kenya 2010, which places a mandate on the state to protect and enforce Kenya's intellectual property rights. Articles 11(2)(c) and 69 (1)(c) of the Constitution also recognise intellectual property as an important right. Intellectual property is also anchored in several legislations such as the Copyright Act, the Kenya Industrial Property Act and the Trade Mark Act. Additionally, four intellectual property protection bodies that safeguard intellectual property rights are in place. These are the Kenya Industrial Property Institute (KIPI), the Kenya Copyright Board (KECOBO), Kenya Plant Health Inspectorate Services (KEPHIS) and the Anti-Counterfeit Authority (ACA).

Intergovernmental institutions such as the African Regional Intellectual Property Organisation (ARIPO) and the World Intellectual Property Organisation (WIPO) are mandated to safeguard intellectual property rights respectively. These institutions, conventions and statutes

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5   Paris Convention for the Protection of Industrial Property, adopted 20 March 1883.

6   Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks, adopted 27 June 1989. See also, Madrid Agreement Concerning the International Registration of Marks, 28 September 1978.

7   Berne Convention for the Protection of Literary and Artistic Works, adopted 1 March 1989.

8   Banjul Protocol on Marks Within the Framework of the African Regional Intellectual Property Organisation (ARIPO), adopted 19 November 1993.

9   Harare Protocol on Patents and Industrial Designs Within the Framework of the African Regional Intellectual Property Organisation (ARIPO), adopted 10 December 1982.

10   Swakopmund Protocol on the Protection of Traditional Knowledge and Expression of Folklore, adopted 9 August 2010. See also, Arusha Protocol for the Protection of New Varieties of Plants, adopted 6 July 2015; and Kampala Protocol on Voluntary Registration of Copyright and Related Rights, adopted 28 August 2021.

not only protect the innovative and creative capacity of intellectual property owners and promote competition in various industries, but also safeguard the welfare of the consumers of the goods and services to which the creations apply.

It is worth noting that over the years, the landscape of intellectual property protection in the creative industry has undergone significant transformation. Traditionally, copyrights, trade marks, and patents had been the bedrock of intellectual property protection. However, the advent of the digital age has introduced new challenges and opportunities. The rise of digital platforms has revolutionised how creative content is produced, distributed and consumed. While technology facilitates greater access to creative works, it poses challenges to intellectual property protection. We have witnessed an increase in unauthorised digital reproduction, distribution and piracy, necessitating a re-evaluation of traditional intellectual property frameworks. Consequently, the effectiveness of intellectual property protection is being influenced by evolving trends, the level of knowledge among stakeholders, adaptability to the changing digital landscape and the willingness to enforce and respect intellectual property rights.

Additionally, as the creative industry continues to globalise, intellectual property protection faces new challenges in the form of cross-border infringement and differing legal frameworks. Harmonisation of intellectual property laws on an international scale is thus a growing need, with countries aiming to establish a standardised approach towards intellectual property protection. Nevertheless, enforcement across diverse jurisdictions remains a complex issue.

As the creative industry embraces digital platforms for global reach, questions of cross-border enforcement, interoperability and the safeguarding of digital assets come to the forefront.

This paper thus undertakes a comprehensive exploration of the indispensable role played by intellectual property protection in the dynamic landscape of the creative sector. It examines the multifaceted dimensions of intellectual property, considering not only traditional

aspects such as copyrights, trade marks, patents and industrial design rights but also delving into the impact of emerging digital trends and technologies. By dissecting the interplay between established intellectual property assets and the digital realm, it aims to provide a holistic understanding of the contemporary challenges and opportunities that shape the future of intellectual property protection in the creative industry.

Intellectual property assets

An intellectual property asset is any intellectual property right in intangible assets, including but not limited to copyright, patents, trade marks, brand, and technical know-how.[11] These intangible assets, just like tangible assets, are valuable and subject to legal protection and should therefore be registered so as to ensure that their use is protected and exclusivity is granted to their creators. Intellectual property assets play a crucial role in various industries by providing a competitive advantage and serving as a foundation for innovation, creativity and economic growth.

Effective management of intellectual property assets and protection is essential for businesses and individuals to safeguard their innovations, creative works and market identity. This includes using strategies such as conducting intellectual property audits, filing for registrations, monitoring for infringement, learning how to commercialise various intellectual property assets and implementing policies that promote a sustainable and thriving creative ecosystem.

Intellectual property assets not only play a significant role in boosting a nation's economic competitiveness but also serve as valuable commodities that can be strategically leveraged. These assets have the capacity to be licensed, sold or utilised as collateral for financing, thereby offering diverse avenues for financial transactions and contributing to the overall economic prosperity of a nation.

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11   Law Insider, 'IP asset definition' <https://www.lawinsider.com/dictionary/ip-asset >

Copyright

Copyright is a type of intellectual property right granted to protect writing-related (literary) and artistic works. It provides authors, composers, dancers, singers, actors and software designers among other creatives the exclusive right to control the use of their works. Copyright protects the expression of the idea in physical form and not the idea itself.[12] Copyrightable works include books, music, paintings, sculptures, and films, among many others.

Copyright is one of the primary pillars of intellectual property in the creative industry since it safeguards original works of authorship. Its primary concept is originality. Copyright protection empowers creators to exercise control over their creations, promoting a conducive environment for artistic expression and the pursuit of creative endeavours. During the colonial era, copyright law was governed by British Law through the 1911 and 1956 UK Copyright Acts and other common law doctrines. The earliest Kenyan made law on copyright was the Copyright Act which has since undergone several amendments with the latest one being through the Copyright Amendment Act of 2022.[13] Besides the Act, the Copyright Regulations of 2020 also govern copyright protection.

Copyright law does not give a concise and direct definition of the asset but also goes ahead and provides works that are protected under the Copyright Act. Nevertheless, copyright can be defined as a legal right created by the law of a country, that grants the creator of an original work exclusive rights to its use and distribution usually for a limited time, with the intention of enabling the creator to receive compensation for their intellectual effort.[14] Notably, copyright protection extends to translations, adaptations, new versions or arrangements of pre-existing

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12   Cynthia Nzuki and Chebet Koros, 'Copyright protection in Kenya: A simplified guide for creatives and intellectual property practitioners', Centre for Intellectual Property and Information Technology Law, 2022.

13   Ben Sihanya, 'Copyright law in Kenya' 41(8) *IIC-International review of intellectual property and competition law* (2010) 926-947; See also Act No 14 of 2022.

14   Madhani Advocates, < https://mallp.co.ke/intellectual-property/>

works, albums, compilations and collections of works, which present an original character.[15]

Section 22 of the Copyright Act lists the property and work eligible for copyright protection and related rights under the act. These include:

a)   Literary works - novels, stories, poetic works etc.

b)   Musical works - original composition of music, visual symbols used to represent music & accompanying lyrics etc.

c)   Artistic works - paintings, drawings, etchings etc.

d)   Dramatic works - any works intended to be performed dramatically

e)   Audio-visual works - Physical form of images, either accompanied by or without sound, from which a moving picture may by any means be reproduced

f)   Sound recordings - representation of sounds for the purpose of listening to or hearing it

g)   Broadcasts - The transmission or sending out of sounds and/or images, by wire or wireless means, in such a manner as to cause such images or sounds to be received by the public

As laid out in Section 22(3) of the Copyright Act, works qualify for copyright protection if they meet the following three requirements:

a)   Eligibility: they must fall under any of the classifications of works provided above.

b)   Originality: they must be original. This means that the author must have used enough effort and skill to create them.

c)   Affixation: The work should be presented in any physical form such as a book, song, computer programme, etc. The work should be capable of being identified, reproduced or

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15   Nzuki and Koros, 'Copyright protection in Kenya: A simplified guide for creatives and intellectual property practitioners'.

communicated through a device like paper, cardboard or computer disc.

Copyright confers exclusive rights (economic rights) to the owner to control the reproduction of any material form of the original work or its translation or adoptions, distribution to the public of the work by way of sale, rental, lease, loan, importation or similar arrangement and broadcasting of the whole work or a substantial part thereof either in its original form recognisably derived from the original.

Copyrighting also confers moral rights, which are inalienable and retained by the author even after the transfer of economic rights. They can only be transferred upon the death of the author or creator either through a will or operation of the law. These are the right to claim authorship of the work and the right to object to any distribution, mutilation or other modification of or other derogatory action in relation to the said work which will be prejudicial to the owner or identification.[16] An author can transfer all their economic rights to a third party but sue (raise a claim) when their moral rights are violated.[17]

Additionally, the Kenya Copyright Board (KECOBO) is mandated with the overall administration and enforcement of copyright and related rights. It carries out public awareness, enforcement, registration of copyright, licensing of collective management organisations and civic education on matters of copyright and related rights. Generally, it coordinates the activities of the copyright industries.

It is therefore paramount for creatives to have the necessary knowledge and tools to protect their work(s), and in turn, economically benefit from them. A copyright owner can maximise their copyright through protection, registration, use of contracts, enforcement and monetisation.[18]

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16   Madhani Advocates < https://mallp.co.ke/intellectual-property/>.

17   Nzuki and Koros, 'Copyright protection in Kenya: A simplified guide for creatives and intellectual property practitioners'.

18   Nzuki and Koros, 'Copyright protection in Kenya: A simplified guide for creatives and intellectual property practitioners'.

However, the digital age has brought forth challenges in enforcing copyright due to easy reproduction and distribution of works, rendering the legal and institutional frameworks inadequate and ineffective in protecting works. As a result, copyright owners are losing millions due to infringement, piracy and counterfeiting.

Trade marks

Trade marks protect elements of a business that distinguish its goods or services from the competition, including names, sounds, words, symbols and logos. Trade marks that are actively in use can be perpetually renewed as protection lasts or continues as long as the mark is being used. Trade mark protection prevents others from passing off other goods or services as those of the trade mark owner and/or confusing those in the market with a similar name or identifying feature.[19]

The registration of trade marks is mainly governed by the Trade Marks Act, Cap 506 of the Laws of Kenya. Kenya is also a signatory to various international treaties such as the Paris Convention for the Protection of Industrial Property, Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), Banjul Protocol and the Madrid Agreement on International Registration of Trade Marks.

Section 2 of the Act defines a trade mark as:

a mark used or proposed to be used

a)   in relation to goods for the purpose of indicating a connection in the course of trade between the goods and some person having the right either as proprietor or as registered user to use the mark, whether with or without any indication of the identity of that person or distinguishing goods in relation to which the mark is used or proposed to be used from the same kind of goods connected in the course of trade with any person;

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19   Upcounsel, 'Intellectual property assets: Everything you need to know' Upcounsel <https://www.upcounsel.com/intellectual-property-assets>.

b)   in relation to services for the purpose of indicating that a particular person is connected, in the course of business, with the provision of those services, whether with or without any indication of the identity of that person or distinguishing services in relation to which the mark is used or proposed to be used from the same kind of services connected in the course of business with any other person.

A trade mark can therefore be termed as a distinguishing mark, identity or feature of a certain good or service.

By enabling companies to differentiate themselves and their products from those of the competitors, trade marks play a pivotal role in the advertising and marketing strategies of companies thereby contributing to defining the image, goodwill and reputation of the company's products in the eyes of consumers. The image and reputation of a company, built on the basis of the performance of its products in terms of meeting the needs of the consumers, creates trust. Such trust is the basis for establishing a loyal clientele. Consumers often have an emotional attachment to certain trade marks since they are associated with a set of desired qualities or features embodied in the products bearing such trade marks. Trade marks also provide an incentive to companies to invest in maintaining or improving the quality of their products in order not to deceive customers and to ensure that products bearing the trade mark have a positive reputation.[20]

Trade mark protection may be obtained through use or registration. The registration of trade marks is governed by the Kenya Industrial Property Institute (KIPI). While it is not compulsory to register a trade mark, it is highly advisable since registration provides exclusive rights to prevent unauthorised use of the trade mark. Additionally, having a registered trade mark may prove useful in the event of infringement proceedings in court. The owner of a registered trade mark may also

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20   World Intellectual Property Organisation, 'Making a mark: An introduction to trade marks for small and medium-sized enterprises', 900 (1) *Intellectual Property for Business* (2017).

claim damages.[21] A registered trade mark is protected for a period of 10 years from the date of registration.

For a trade mark (other than a certification mark) to be registered, it must meet the *registrability* criteria set out in section 12 of the Trade Marks Act, which states that it must contain or consist of at least one of the following essential particulars:

a) the name of a company, individual or firm, represented in a special or particular manner;

b) the signature of the applicant for registration or some predecessor in his business;

c) an invented word or invented words;

d) a word or words having no direct reference to the character or quality of the goods, and not being according to its ordinary signification a geographical name or a surname;

e) any other distinctive mark, but a name, signature or word or words, other than such as fall within the descriptions in paragraphs (a), (b), (c), and (d), shall not be registrable under this paragraph except upon evidence of its distinctiveness.

Thus, distinctiveness is a key requirement for registrability.

There are different types of trade marks. Firstly, product marks which relate to identification of specific goods. Secondly, service marks are signs which serve to distinguish services of an industrial or a commercial enterprise or a group of such enterprises. Services may be of any kind, such as financial, banking, travel, advertising, or catering. Thirdly, certification marks are used to identify products that comply with a set of standards and have been certified by a certifying authority. A good example is the Kenya Bureau of Standards certification mark.

Certification marks are owned by one person but licensed to others to identify goods or services which meet the defined standard. Fourthly,

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21 World Intellectual Property Organisation, 'Making a mark: An introduction to trade marks for small and medium-sized enterprises'.

distinguishing guise which identifies the unique shape of a product or its package. An example of a trade marked distinguishing guise is the Coca Cola bottle shape. Fifthly, well-known marks are marks that are considered to be well known in the market and as a result, benefit from stronger protection. Examples of well-known marks include Toyota, Mercedes Benz, Microsoft, YouTube, Facebook, Google, Sony, Unilever, Samsung, Yahoo, etc.[22]

Trade marks extend beyond visual symbols and additionally include non-traditional marks like sounds (*tuduuuum! by Netflix),* scents and even colour combinations. This broader scope reflects the evolving nature of brand identification.

Patents

Patents protect inventions and innovations, granting the inventor exclusive rights to make, use and sell the patented product or process. Patents cover a wide range of technological advancements, from machinery and pharmaceuticals to software and business methods. In Kenya, the Industrial Property Act of 2001 governs this aspect of intellectual property.

Patents play a significant role in protecting technological innovations and advancements within the creative industry. They grant exclusive rights over inventions over a period of time. By granting exclusive rights to inventors, patents encourage investment in research and development, leading to the creation of new products and technologies that push the boundaries of creativity.

An invention, as defined under Section 21 of the Industrial Property Act, is a solution to a specific problem in the field of technology and may be or may relate to a product or process. Under Section 22, an invention is *patentable* if it is new. Under Section 23(1), an invention is new if it is not anticipated by prior art. This brings about the aspect

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22   R Mboya, 'A Kenyan guide to trade mark registration', *LinkedIn*, 11 November 2022, - <https://www.linkedin.com/pulse/kenyan-guide-trademark-registration-rachael-mboya/?trk=public_post_content_share-article >.

of novelty. Secondly, if it involves an inventive step. An invention shall be considered as involving an inventive step if, having regard to the prior art relevant to the application claiming the invention, it would not have been obvious to a person skilled in the art to which the invention pertains on the date of filing of the application or, if priority is claimed, on the priority date validly claimed in respect thereof.[23] Thirdly, if it is industrially applicable. An invention shall be considered industrially applicable if, according to its nature, it can be made or used in any kind of industry, including agriculture, medicine, fishery and other services.[24]

Locally, KIPI is tasked with the registration of patents. Where one wants to register their patent regionally, they can do it at the African Regional Intellectual Property Organisation (ARIPO) and internationally at the World Intellectual Property Organisation (WIPO). It is worth noting that a patent shall expire at the end of twenty years from the filing date of the application.[25]

Industrial designs

Section 84 of the Industrial Property Act 2001 defines an industrial design as any composition of lines or colours or any three-dimensional form, whether or not associated with lines or colours, provided that such composition or form gives a special appearance to a product of industry or handicraft and can serve as a pattern for a product of industry or handicraft. An industrial design can therefore be attributed to the appearance, ornamental or aesthetic features of a product and not the technical or functional aspects.

Industrial design rights thus safeguard the visual design or aesthetic aspects of products, such as its shape, surface ornamentation, or colour, preserving the unique aesthetics and functional features that make them distinct. Industrial design rights play a crucial role in helping to customise products to appeal to a specific market and to add value to products. They are particularly relevant in industries where the

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23   Industrial Property Act (No 3 of 2001).

24   Industrial Property Act (No 3 of 2001).

25   Industrial Property Act (No 3 of 2001).

appearance of a product is a key selling point. KIPI is tasked with the registration of this asset of intellectual property. The protection period for industrial designs is 5 years.

Geographical indications

WIPO defines geographical indications (GIs) as intellectual property rights that serve to identify a product that originates from a specific geographical area and that has a quality, reputation or other characteristics that are essentially attributable to its geographical origin. They are rooted to an origin and cannot be assigned.

In an era where consumers exhibit heightened awareness and consciousness regarding the origin, quality and authenticity of products, the value and significance of geographical indications extends beyond legal protection, and stretches into the marketing and branding space. Consumers are not only seeking legal assurances but are also placing immense value on the authenticity and unique characteristics associated with products from specific geographic locations.

This underscores the pivotal role that geographical indications play in shaping consumer perceptions, influencing purchasing decisions and ultimately contributing to the success of marketing and branding strategies. Products associated with specific regions gain a unique competitive edge. This not only assures them of legal protection but also contributes to robust marketing narratives and branding differentiation.

Other intellectual property assets

Utility model/petty patent

A utility model is mainly designed for minor inventions and usually requires less inventive activity than that required for a patent (thus the name 'petty patent'). It provides a unique form of protection for minor innovations, though for a shorter duration compared to the protection period of a patent. This asset typically offers a shorter and more straightforward registration process, making it an attractive

option for certain types of inventions. It protects the functional aspects of a product or process and grants the right to exclude others from making, using or selling the protected invention for a limited duration.

Trade secrets

Trade secrets encompass confidential business information, such as formulas, processes, customer lists, and business strategies which provide a competitive advantage. Unlike patents, copyrights, and trade marks, trade secrets are protected as long as they remain confidential and provide a business advantage.

The escalating dependence on digital infrastructure has brought forth heightened concerns regarding cybersecurity and in particular the safeguarding of trade secrets. As organisations increasingly digitise their operations and store sensitive information electronically, the risk of cyber threats and unauthorised access to proprietary knowledge becomes more pronounced.

This growing reliance on digital platforms underscores the critical imperative for robust cybersecurity measures to fortify the protection of trade secrets, ensuring the confidentiality and integrity of invaluable intellectual assets in an era where digital vulnerabilities pose significant challenges.

Plant variety protection

This asset grants exclusive rights to the breeder of a new plant variety, ensuring control over its propagation, production and sale. Plant variety protection is particularly relevant in the agriculture and horticulture industries. The importance of protecting plant varieties is becoming more recognised for global food security purposes. This involves finding a balance between safeguarding ownership rights and ensuring widespread access to a variety of agricultural resources that are crucial in maintaining a diverse and accessible food supply.

Additionally, advancements in biotechnology have spurred in-depth discussions regarding the patenting of genetically modified

organisms (GMOs) and the intricate relationship between this practice and the protection of plant varieties. As biotechnological innovations enable the creation of genetically modified crops with specific traits, questions arise about the legal protection of the novel organisms, the ethical dimensions surrounding GMO patenting, their influence on innovation, competition and the broader goals of sustainable and secure global agriculture.

Domain names

While not a traditional intellectual property asset, domain names are essential for online presence and branding. Securing and protecting a relevant domain name is crucial for establishing and maintaining a recognisable online identity. As the digital landscape expands, individuals and entities are engaging in domain squatting where they register domain names with the intent of profiting from the rightful owners thereby posing a threat to the integrity of the system. This, underscoring the need to safeguard the accessibility and fairness of the domain name ecosystem.

Technological solutions

Block chain technology

Creating decentralised intellectual property registers by implementing block chain technology for intellectual; property registration can enhance transparency, reduce fraud and streamline the management of intellectual property assets. Block chain creates tamper-proof records, providing a secure and traceable way to establish ownership.

Digital Rights Management (DRM)

This refers to a set of technologies, strategies and tools designed to control and manage the access, use and distribution of digital content and intellectual property in the digital environment. Digital rights management (DRM) systems are employed to protect the rights

of content creators, distributors and copyright owners by preventing unauthorised copying, sharing and distribution of digital media. Key features and aspects of DRM include access control, encryption and content protection, copy protection, licence management, watermarking and tracking.

Ethical intellectual property practices

Fair licensing and collaboration

This is a strategic approach where intellectual property assets are shared or licensed in a manner that promotes equitable and mutually beneficial relationships. It involves negotiating licensing agreements that consider the interests of both parties, fostering innovation and creating a collaborative environment within industries or across sectors. The aim is to strike a balance between protecting intellectual property rights and encouraging a free flow of ideas and innovations for the benefit of all involved stakeholders.

Open innovation

Open innovation models encourage collaboration among organisations, researchers and industries. Platforms for sharing non-sensitive intellectual property can accelerate progress and address complex challenges. Establishing open innovation platforms allows companies to collaborate on research and development, fostering a culture of shared innovation. This approach encourages the cross-pollination of ideas while maintaining control over proprietary aspects.

Cybersecurity measures

Advanced security protocols

Given the increasing digitisation of intellectual property assets, robust cybersecurity measures are essential. In integrating such protocols, cutting-edge technologies, encryption methods, and security frameworks designed to safeguard data from unauthorised access,

breaches and cyber threats are utilised. Such protocols may include multi-factor authentication, encryption algorithms, secure socket layer (SSL) technologies, intrusion detection systems, and other advanced cybersecurity measures. The implementation of such protocols is crucial in mitigating risks and ensuring the confidentiality, integrity and availability of digital assets and information.

Education and awareness

Stakeholder training

Developing educational programmes and conducting training for employees, collaborators and the public on the importance of intellectual property enhances awareness among all stakeholders. This can lead to a culture of respect for intellectual property rights and increased awareness of potential infringement risks.

Public outreach

Engaging in outreach programmes to educate the public about the value of intellectual property not only raises awareness but also fosters a broader understanding of the role of intellectual property in driving innovation and creativity.

Strategic alliances and cross-industry collaboration

Shared intellectual property resources

Establishing strategic alliances and cross-industry collaborations allows companies to pool resources, share technologies and collectively protect common intellectual property interests. This approach is particularly beneficial in research-intensive industries.

Global networking

Actively participating in international intellectual property networks and collaborations, sharing best practices, staying informed about global developments and engaging in cross-border initiatives

can provide a more comprehensive approach to intellectual property protection.

Trade associations

Joining industry-specific trade associations and collaborating on initiatives that address common intellectual property challenges strengthen the collective protection of intellectual property.

Intellectual property valuation and monetisation

Intellectual property valuation services

Employing professional intellectual property valuation services can help individuals and companies assess the monetary value of their intellectual property assets, facilitate informed decision-making regarding licensing, sales or help leveraging intellectual property assets as collateral for financing.

Recommendations

To ensure the efficacy of intellectual protection in the creative industry in Kenya, it is imperative that we explore measures that ought to be taken into account in addition to considering best practices from other jurisdictions in tackling identified challenges. This will ensure that actionable steps are taken that propel the creative industry towards a future where intellectual property is not only protected but also poised for flourishing. These measures include:

Staying informed and updated. There is need to keep abreast with the latest developments in intellectual property laws and regulations, and understanding the requirements and procedures for obtaining and enforcing intellectual property rights.

Registration of intellectual property. Although registration is not mandatory, it is advisable to file for copyright, trade mark, and patent registrations where applicable. Registration provides stronger legal protection and establishes a clear record of your rights. Early registration

can help prevent potential conflicts and strengthen your position in case of infringement.

Implementing internal safeguards. It is crucial to develop and enforce internal policies and procedures to safeguard intellectual property assets. These may encompass aspects of controlled access to sensitive information, use of non-disclosure agreements (NDAs) and implementing security measures to protect trade secrets and confidential data.

Monitoring and enforcing intellectual property rights. Regularly monitoring the marketplace for unauthorised use or infringement of your intellectual property means one can act promptly when infringement is identified. Enforcement may be actualised by sending cease and desist letters, pursuing legal action, or seeking alternative dispute resolution methods.

Educating stakeholders. There is need to raise awareness about the importance of intellectual property protection, providing training on intellectual property rights, confidentiality, and proper handling of intellectual property assets and encouraging a culture of respect for intellectual property to ensure compliance with intellectual property laws.

Embracing technological solutions. Integrating technological solutions stands as a pivotal strategy in addressing the evolving landscape of intellectual property protection. This approach involves leveraging advancements in technology to fortify the safeguarding of creative assets and implement robust cybersecurity measures to safeguard intellectual property assets from digital threats.

Supporting legislative and policy initiatives. This measure is essential in fortifying intellectual property protection. Advocacy for robust laws and policies empowers creators, enforces rights and adapts regulations to the evolving digital landscape. This approach ensures a legal framework that fosters innovation, creativity and fair economic practices within the creative industry.

Fostering a culture of respect. Promoting ethical practices and respect for intellectual property rights within the creative industry will encourage consumers to support legitimate channels and discourage piracy or counterfeiting.

Public or civic education. This is a cornerstone in building a supportive and ethical creative environment. Educating the public about the value of creativity, the impact and consequences of intellectual property infringement is crucial. This involves raising awareness about the economic, cultural and societal impacts of piracy and unauthorised use thereby fostering a knowledgeable population with a better understanding on creators' rights and their responsibility towards protecting and safeguarding intellectual property rights.

Conclusion

The importance of intellectual property protection extends beyond mere legal rights. Its benefits are far-reaching, from fostering a climate of innovation, to rewarding and encouraging individuals and organisations to push boundaries and develop ground breaking technologies, artistic creations, and distinctive brands and to contributing to the overall economic prosperity.

As the creative industry evolves in response to technological advancements and global dynamics, a commitment to proactive intellectual property protection measures becomes increasingly imperative. This paper serves as a call to action, urging all stakeholders; creators, policymakers, businesses and consumers, to play a role in shaping a future where intellectual property not only survives but also flourishes.

Moving forward, a comprehensive approach that integrates technological solutions, international cooperation, educational initiatives, and a commitment to legal enforcement will be essential in fortifying intellectual property protection. As stakeholders in the creative industry continue to adapt to the evolving landscape, the synergy between innovation and robust intellectual protection will determine the industry's resilience and prosperity in the years to come.

An inquiry into the consistency of the Anti-Counterfeit Act with the TRIPS Agreement in relation to generic drugs

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Saeko Tekin Fidel*

Introduction

The Anti-Counterfeit Act (the Act) of Kenya received presidential assent law on 24 December 2008 and commenced operation on 7 July 2009. The effect of this Act was the introduction of laws to prohibit trade in counterfeit goods and the establishment of the Anti-Counterfeit Authority.[1] However, the commencement of this new law led to contention as its applicability in relation to access to generic medicines.[2]

In 2009, a number of persons living with HIV & AIDS lodged a petition in court claiming that their constitutional rights were under threat due to the enactment of the Anti-Counterfeit Act.[3] The crux of their case was that the Act limited access to affordable, essential and generic HIV and AIDS drugs and medicines thus violating their right to life,[4] right to dignity[5] and their economic and social rights.[6] This paper focuses on their application for conservatory orders to stay the application of Sections 2, 32 and 34 of the Act. The orders were granted to restrain the Anti-Counterfeit Authority (ACA) from enforcing

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*   Final year LLB candidate at Kabarak University and Intern, Gikera and Vadgama Advocates.

1   Anti-Counterfeit Act (No 13 of 2008), Section 3.

2   See *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party), Petition 409 of 2009, Judgement of the High Court at Nairobi, 20 April 2012 [eKLR].

3   *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party), Petition 409 of 2009, Judgement of the High Court at Nairobi, 20 April 2012 [eKLR].

4   Constitution of Kenya (2010), Article 26(1).

5   Constitution of Kenya (2010), Article 28.

6   Constitution of Kenya (2010), Article 43.

Sections 2, 32 and 34 of the Act in relation to the importation of generic drugs pending the determination of the Petition.

The petitioners' claim regarding Section 2 of the Act was that the definition of counterfeit goods proffered in the Act was vague and could be construed to include generic drugs.[7] The petitioners also submitted that Section 2 extended the application of foreign laws to Kenya by granting intellectual property owners in other countries the right to enforce their rights in Kenya without regard to or compliance with Kenyan laws.[8] In regards to Section 34 of the Act, the Petitioners' averred that the net effect of the seizure of the suspected drugs pending the court ruling would be devastating to them thus affecting the enjoyment of their constitutional rights.

The petition before the Court also challenged the implementation of Section 32 which prescribes offences under the Act. This paper particularly focuses on Section 32 (f) which prohibits the importation into, transiting through, exportation from or transshipping within Kenya, of any counterfeit goods.[9] The Petitioners claimed that the implementation of these provisions extended the scope and jurisdiction of the Anti-Counterfeit Authority to generic drugs.[10]

The Respondents, in response to the Petition, argued that the definition under Section 2 is 'clear and specific' and only targeted counterfeit drugs since they are not synonymous with generic medicine.[11] Additionally, they submitted that the proviso under Section 2 effectively safeguards and allows importation of generic drugs under the Industrial Property Act, thus, importing generic drugs will not derogate from the Anti-Counterfeit Act.[12] The Court, however, overlooked this assertion and issued orders to suspend the application of Sections 2, 32 and 34

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7 *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party), para 14.

8 *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party), para 18.

9 Anti-Counterfeit Act (No 13 of 2008), Section 32(f).

10 *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party).

11 *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party).

12 *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party).

of the Anti-Counterfeit Act.[13] In a case review regarding this case, Paul Ogendi and Jacinta Nyachae posit that the judgement cemented the supremacy of human rights over intellectual property rights.[14] They further opined that the net effect of this judgement was that the legislation is compelled to conform to the legal principles established by the court in this case.

In addressing the claims made by the Petitioners in this case, this commentary will analyse the provisions of the Act while juxtaposing them with Kenya's international obligations stemming from the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement). The salient areas of interest include the difference in the definition of counterfeit goods in the Act and the TRIPS Agreement, the remedies afforded to intellectual property owners against counterfeit claims, and the mandate of state parties to the TRIPS Agreement with regards to counterfeit goods in transit.

Definition of the term 'counterfeit goods'

The Act defines 'counterfeiting' as:[15]

taking the following actions without the authority of the owner of intellectual property right subsisting in Kenya or outside Kenya in respect of protected goods -

a) the manufacture, production, packaging, re-packaging, labelling or making, whether in Kenya, of any goods whereby those protected goods are imitated in such manner and to such a degree that those other goods are identical or substantially similar copies of the protected goods;

b) the manufacture, production or making, whether in Kenya, the subject matter of that intellectual property, or a colourable

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13   *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party).

14   Paul Ogendi and Jacinta Nyachae, 'Anti-counterfeiting and access to generic medicines in Kenya: Reviewing *Patricia Asero Ochieng and 2 Others v Attorney General* (2012)', 13(3) *ESR Review: Economic and Social Rights in South Africa* (2012) 12-15.

15   Anti-Counterfeit Act (No 13 of 2008), Section 2.

imitation thereof so that the other goods are calculated to be confused with or to be taken as being the protected goods of the said owner or any goods manufactured, produced or made under his licence;

c) the manufacturing, producing or making of copies, in Kenya, in violation of an author's rights or related rights;

d) in relation to medicine, the deliberate and fraudulent mislabeling of medicine with respect to identity or source, whether or not such products have correct ingredients, wrong ingredients, have sufficient active ingredients or have fake packaging.

The contentious words in this definition are: '*identical or substantially similar*' and '*colourable imitation*'. The Petitioners submitted that this definition affects generic drugs since they are often identical in composition and appearance to brand-name drugs. According to Mr Anand Grover, the United Nations Special Rapporteur on the Right to Health who was joined as an interested party in the Petition, this definition 'conflates' legitimately produced generic medicines with medicines produced in violation of intellectual property rights.[16] The adverse impact of this definition, he argued, is that it limits the availability, affordability, and accessibility of low-cost, high-quality medicines.

The Court agreed with the submissions of the Petitioners and Mr Anand Grover, that the definition of 'counterfeiting trademark goods' under the Act conflates with the definition of generic drugs. Omolo Agutu disagrees with Justice Mumbi Ngugi's judgement.[17] He states that the judge erred by focusing only on the descriptive part of the definition.[18] In Omolo's opinion, the elements for a counterfeit product include those produced through deliberate and fraudulent mislabeling with respect to identity or source, those produced with a lack of

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16   *PAO and 2 others v Attorney General: Aids Law Project* (Interested Party), para 35.

17   Joseph Agutu Omolo, 'Rethinking *Patricia Asero Ochieng and two others v Attorney General and another*', 1(1) *Journal of Intellectual Property and Information Technology Law*, (2021) 127.

18   Omolo, 'Rethinking *Patricia Asero Ochieng and Two Others v Attorney General and another*', 127.

authority of the owner of intellectual property rights, and those that fall within the definition of protected goods.[19] According to Omolo, the judge's opinion amounts to allowing the sourcing of deliberately and fraudulently mislabeled drugs as long as they have correct and sufficient active ingredients. He also avers that the proviso sufficiently limits the scope of the interpretation of the provisions of the Act including Section 2 within the tenets of the Industrial Property Act.[20]

The relationship between GATT and TRIPS, and Kenya's Anti-Counterfeit Act

Pursuant to the provisions of Article 2 of the Constitution of Kenya 2010, the TRIPS Agreement forms part of Kenyan law since Kenya has ratified the TRIPS Agreement. The definition provided under the TRIPS Agreement for counterfeit trade mark goods is:[21]

> … any goods, including packaging, bearing without authorisation a trade mark which is identical to the trademark validly registered in respect of such goods, or which cannot be distinguished in its essential aspects from such a trade mark, and which thereby infringes the rights of the owner of the trade mark in question under the law of the country of importation.

The difference in the definitions in the Act and the TRIPS Agreement is the use of the term '…which cannot be distinguished in its essential aspects from such a trade mark…'. This TRIPS definition imposes a technical obligation on the enforcers to use technical expertise in distinguishing the 'essential aspects' of a trade mark. The definition is specific to trade mark goods whilst the Act protects all items that bear intellectual property rights obligations including patents, copyrights, industrial inventions among others. The Act provides a wider scope of

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19   Omolo, '*Rethinking Patricia Asero Ochieng and Two Others v Attorney General and another*', 127.

20   Omolo, 'Rethinking *Patricia Asero Ochieng and Two Others v Attorney General and another*', 128.

21   Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement), Footnote 14 to Article 51.

protection on all intellectual property rights; however, this protection may curtail the availability of generic drugs.

The 2001 Declaration on the TRIPS Agreement and Public Health authorises states parties to the TRIPS Agreement to interpret the TRIPS Agreement in a manner that promotes their right to protect public health especially in terms of access to medicines for all.[22] This does not connote an obligatory mandate; however, it protects developing countries when making use of the flexibilities in the TRIPS Agreement to ensure access to medicines. While writing on the use of human rights impact assessment (HRIA) during trade negotiations, Paul Ogendi emphasises on the full utilisation of flexibilities under TRIPS pursuant to the provisions of the Doha Declaration and non-adoption of TRIPS-plus standards.[23] Consequently, the interpretation of 'counterfeit trademark goods' in the TRIPS Agreement should complement the provisions of the Declaration aimed at promoting public health. This interpretation should also translate into the domestic laws on counterfeit goods. As such, the definition of counterfeiting in the Act should be in a manner that excludes generic drugs.

Additionally, there is a need to have express provisions to bolster the 2001 Declaration of Fourth Ministerial Conference in Doha that promotes public health and access to medicines. Member states have different court systems with different interpretational rules. It is therefore prudent to ensure that there exists explicit provisions exempting generic drugs from anti-counterfeit laws. This will go a long way in eliminating any absurdities and uncertainties that may hinder access to affordable drugs.

Criminal procedures against trademark counterfeiting

The Anti-Counterfeit Act under Section 32 prescribes the offences that are subject to criminal procedures under the Act while Section 34 provides for the powers of the officers of the Anti-Counterfeit Authority.

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22   Declaration on the TRIPS Agreement and Public Health, 2001, para 4.
23   Paul Ogendi, 'Pharmaceutical trade policies and access to medicines in Kenya,' 19(2) *African Human Rights Law Journal*, 2019, 699.

The Petitioners challenged the implementation of these sections on grounds that the powers granted to the Anti-Counterfeit Authority officers and the prescribed offences are likely to inhibit the enjoyment of their constitutional rights. However, this paper does not delve into the constitutionality of the impugned provisions, rather, it analyses the provisions of the Anti-Counterfeit Act from the lenses of the TRIPS Agreement.

Article 41(1) of the TRIPS Agreement mandates member states to have enforcement procedures that provide for action against infringement of intellectual property.[24] The additional criminal and penal enforcement measures are not obligatory but serve to provide further protection for intellectual property rights holders.[25] Furthermore, this obligation is on condition that the procedures are done in a manner that avoids creating barriers to legitimate trade and provides for safeguards against the abuse of such procedures. A barrier to legitimate trade is a residual category of measures which restricts market access to goods.[26] Legitimate trade refers to a normative claim calling for the protection of interests that are 'justifiable' in the sense that they are supported by relevant public policies or other social norms.[27]

Inconsistency with TRIPS can only be inferred if the trade being inhibited is legitimate. This begs the question; is trade in generic drugs legitimate in Kenya? There is no express law in Kenya that prohibits the importation or exportation of generic drugs. Additionally, the Kenyan Ministry of Health has committed to promote the use of generic drugs in accordance with provisions of TRIPS in an effort to ensure availability of affordable health products.[28] The Pharmacies and Poisons Board has also adopted the World Health Organisation (WHO) guidelines

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24   TRIPS Agreement, Article 41(1).

25   Omolo, 'Rethinking *Patricia Asero Ochieng and Two Others v Attorney General and another*', 125.

26   Table of Contents of the Inventory of Non-Tariff Measures, Note by the Secretariat, TN/MA/S/5/Rev.1, dated 28 November 2003.

27   PR, *Canada - Patent Protection of Pharmaceutical Products*, WT/DS/114/R (2006).

28   Republic of Kenya, 'Ministry of Health, Guidelines on Management of Health Products and Technologies in Kenya', October 2020, 18.

regarding the approval for multisource generic pharmaceutical products.[29] However, from the Anti-Counterfeit Act, one can infer that the use of generic pharmaceutical products is prohibited, however, this paper alludes that the interpretation in the Act is subject to favourable interpretation. The Industrial Property Act exempts the registration of the patents of substances that are used for the prevention and treatment of serious health hazards or life-threatening diseases designated by the Cabinet Secretary for Health.[30]

The World Health Organisation has designated HIV, Tropical Diseases, Tuberculosis and Malaria as priority 1 areas of focus in its cooperation with Kenya.[31] It is therefore indisputable that these diseases are life-threatening and thus fall within the scope of Section 21 (3) (e) of the Industrial Property Act. The importation and trade in generic drugs to prevent these diseases suffices as legitimate trade that can be justified under Kenyan law. The measures applied to the fight against counterfeit goods therefore ought to exclude its application to trade in generic drugs.

Application of anti-counterfeit laws on goods in transit

Section 32(h) of the Anti-Counterfeit Act prohibits the transhipping of counterfeit goods in transit through Kenya. The petition challenged this provision based on the unfettered and excessive powers granted to the ACA officers. Goods in transit are goods whose passage across the territory of a contracting party 'is only a portion of a complete journey beginning and terminating beyond the frontier of the contracting party across whose territory the traffic passes'.[32] Each state party incurs obligations in relation to traffic in transit during the portion of the journey when such traffic passes through that state party's territory.[33]

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29   Republic of Kenya, 'Ministry of Health, Pharmacy and Poisons Board, Biopharmaceutics Classification System (BCS) of Various Drug Substance version 0, 2024.

30   Industrial Property Act (No 3 of 2021), Section 21(3)(e).

31   World Health Organisation, Country Cooperation Strategy, May 2017.

32   General Agreement on Tariff and Trade, 1947, Article V (1).

33   PR, *Russia – Measures Concerning Traffic in Transit*, para 7.

Article 52 mandates states parties to require that right holders making an application enforcing their intellectual property prove a prima facie infringement of their intellectual property rights under laws of the 'country of importation'.[34] States parties are also not compelled to enforce laws against infringing goods that are in transit.[35] This means that the enforcement of anti-counterfeit laws is based on the laws of the 'country of importation'. In such a situation, Kenya is not the country of importation.

The provision under Footnote 13 to Article 51 of the TRIPS Agreement connotes that Kenya is not obligated to enforce any laws against counterfeit goods in transit through its territory. However, the Agreement does not expressly prohibit countries from applying such laws on goods in transit. In most instances, members of the TRIPS Agreement have made bilateral agreements to cooperate in combatting the infringement of intellectual property rights. The provisions under Section 32 are therefore not inconsistent with TRIPS.

Conclusion

While it has been 16 years since the enactment of the Anti-Counterfeit Act and 12 years since Justice Mumbi Ngugi rendered judgment in *Patricia Asero Ochieng and Two Others v Attorney General and another*, no amendments have been made to the Act. Uncertainty on the legal state of the impugned provisions of the Act still remains, however, the Anti-Counterfeit Authority has been discharging its statutory mandate ever since.

The legal principles established by the court in the *Patricia Asero Ochieng* case are binding in nature and ideally the legislation should have been amended to that effect. However, it is still uncertain whether the Authority is interpreting the provisions of the Act in accordance with the 2012 judgement and the TRIPS Agreement. The government has not appealed the *Patricia Asero Ochieng* judgement and as such there

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34   TRIPS Agreement, Article 52.
35   TRIPS Agreement, Footnote 13 to Article 51.

is a need to include an express provision in the Anti-Counterfeit Act, exempting duly registered generic drugs from its application.