

UTILIZATION OF INDUSTRIAL DESIGNS AND UTILITY MODELS IN AFRICA: A CASE STUDY OF KENYA

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ABSTRACT

Most African countries have laws in place that protect industrial designs and utility models; however, the role of these intellectual property rights (IPRs) in the growth of the economy is yet to be known. The said IPRs are the first step towards the technological capability of a country. Industrial designs and utility models have made great contributions to the growth of many advanced countries. This paper determines the level of utilization of industrial design and utility model protection in Africa with specific reference to Kenya. The paper presents the key role of the utility model and industrial design applications for the development of local technological capabilities for cutting edge technologies and achieving the technological catch-up with more advanced countries. It is envisaged that this paper contributes to the design of instruments, processes and procedures allowing African countries to benefit from the global opportunities presented by the intellectual property (IP) system.

Key words: intellectual property, utility models, industrial designs, utilization, Kenya.

1. INTRODUCTION

Developed and some developing countries have, over the years, used the intellectual property (IP) system to foster their economic and technological development. Countries including the United States of America, Japan,

China, German, Brazil, India, Korea and Norway, amongst others, have become power houses in the knowledge-based economy as a result of using the IP system as a tool for economic development.

The role of IP in fostering growth can well be illustrated through the comparison of various countries which at one point had the same per capita GDP. For example, in 1957 Ghana and South Korea had about the same per capita GDP. Where South Korea had a national leadership focused on the development of state institutions concentrated on rapid, technology-intensive economic development, Ghana has had no programme of a similar nature on record. Taiwan's economy underperformed under Japanese colonial rule between 1895 and 1945.¹ In the 1950s, the country was an agrarian economy with the same living standard as Congo.² But by 2010, it had overtaken its former colonial master to become the number one producer of semi-conductors in the world.³

Whereas there are other factors which led to the growth of these countries, the effective use of IPRs to foster innovation, creativity and economic development cannot be understated.

Industrial designs are the rights granted by many countries upon registration to protect the original ornamental and visual appeal of articles manufactured in an industrial manner. Protection of industrial designs rewards and serves as an incentive to the investment of resources in fostering the design element of production.⁴

A utility model, on the other hand, is a form of patent-like protection granted for minor or incremental innovations

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¹ Sandile Swana and Lumkile Mondli, 'What's needed to take Africa from Third to First World in 25 years'(University of Witwatersrand Johannesburg July 2016)<<https://www.wits.ac.za/news/latest-news/in-their-own-words/2016/2016-07/whats-needed-to-take-africa-from-third-to-first-world-in-25-years.html>>accessed 7 May 2018

² Sandile and Lumkile (n 1).

³ Sandile and Lumkile (n 1).

⁴ Kenya Industrial Property Institute, 'Industrial Designs' (KIPI) <<https://www.kipi.go.ke/index.php/industrial-design>>accessed 10 May 2018.

that do not meet the three criteria of patentability but are novel and industrially applicable.⁵

Utility models systems vary from country to country with regards to areas and terms of protection. Protection for utility models is shorter than patents and varies from country to country; for example, in France, utility models are protected for six years⁶ while in Brazil, they are protected for a longer period of fifteen years.⁷

Utility models provide innovators with many advantages including: granting exclusive rights to the owner; enabling securing protection for innovation that do not meet the stricter novelty and inventive step requirements of patent law; protection makes it possible to increase the role of traditional innovators and artisans in economic development; acts as a catalyst to enhance levels of innovation; utility models are cheaper to acquire than patents and contribute to the technological information.⁸

Currently, a significant number of countries such as Germany, Denmark, France, Italy, Netherlands, Finland, Spain, Portugal, Japan, China and Korea, to mention a few, provide for utility model protection. These countries have used utility models successfully to promote their technological development.⁹

However, despite the existence of laws protecting industrial designs and utility models in most African countries, their role in contributing to the growth of the economy is unknown to date.

This paper attempts to analyze the level of utilization of industrial designs and utility models protection in Africa. To achieve this, an analytical review, drawn from current research on the level of utilization of industrial designs and utility model protection in Kenya is carried out.

Analysis of data from Kenya Industrial Property Institute for the period 2000 to 2017 complimented with other

literature review to give insights into innovation, research and development (R&D) happening in Kenya with a view of getting in-depth information on the legal frameworks, the trends of industrial designs and utility models applications and to identify the conceptual issues and challenges for policy formulation of an effective IP regime in Kenya.

Comparison with countries such as Germany, China, Japan, South Africa, Nigeria, Tunisia, Egypt and Ghana are used to put forward the arguments, draw conclusions and make recommendations for strengthening the IP system in Kenya.

The paper therefore provides a synthesis of the findings on the level of utilization of industrial designs and utility models in Kenya and has four parts. The first part is comprised of the introduction, the background to the study, a synopsis of the problem, justification, methodology and scope and limitations of the study. The second part conceptualizes IP, putting the study within context. Part three provides the findings, analysis of the results and discussion. The fourth part concludes with the IPR needs and gives recommendations based on study findings.

2. LEGAL FRAMEWORKS FOR PROTECTION OF INDUSTRIAL DESIGNS AND UTILITY MODELS IN KENYA

2.1. International and Regional Treaties on Industrial Designs and Utility Models

At an international level, Kenya is signatory to IP treaties that govern protection of industrial designs and utility models and are administered by the World Intellectual Property Organization (WIPO) including the Paris

⁵WIPO, 'Utility Models' (WIPO) <https://www.wipo.int/patents/en/topics/utility_models.html > accessed 12 May 2018.

⁶Intellectual Property Code (consolidated version as of June 1, 2019).

⁷"[A] utility model patent [shall remain in force] for a period of 15 (fifteen) years from the date of filing." Law No. 9,279 of May 14, 1996 [hereinafter "Brazilian Law No. 9,279] art. 40,

⁸ WIPO, 'Protecting Innovations by Using Utility Models' (WIPO) <http://www.wipo.int/sme/en/ip_business/utility_models/utility_models.htm> accessed 20 April 2018.

⁹ Suthersanen Uma, 'Utility Models and Innovations in Developing Countries' (2006) <http://unctad.org/en/docs/iteipc20066_en.pdf> accessed on 13 March 2018.

Convention,¹⁰ the Hague Agreement,¹¹ the WIPO Convention¹² and the Locarno Classification¹³.

At a regional level, Kenya is a signatory to the Harare Protocol¹⁴ and the Lusaka Agreement.¹⁵ The African Regional Intellectual Property Organization (ARIPO) protects industrial designs and utility models for the English-speaking countries through the Harare Protocol on Patents and Utility Models. The Harare Protocol empowers ARIPO to grant patents and register industrial designs as well as utility models on behalf of the 19 member contracting states.

2.2. National Laws on Industrial Designs and Utility Models in Kenya

The industrial design and utility model legal frameworks in Kenya include the constitution,¹⁶ various laws,¹⁷ regulations,¹⁸ statutes,¹⁹ guidelines²⁰ and rules²¹ all of which are administered by the Kenya Industrial Property Institute (KIPI).

The Industrial Property Act 2001 of Kenya provides for the definition of industrial design. 22 A registered design provides exclusive rights to the registered owner for up to

a maximum of 15 years from the filing date of the application.

The above Act provides that a utility models certificate is granted for an invention²³ that is new and industrially applicable. The owner of the utility model shall have the right to preclude any person from exploiting the protected invention without prior authority from the right owner.²⁴ A registered utility model provides exclusive rights to the registered owner for ten years.²⁵

3. FINDINGS, ANALYSIS OF RESULTS AND DISCUSSIONS

3.1 Summary of findings

The findings of the study have been summarized in three tables obtained from the Kenya Industrial Property Institute (KIPI) data base.²⁶ The tables also provide the numbers for residents, non-residents and applications filed through ARIPO.²⁷

¹⁰ Paris Convention for the Protection of Industrial Property, adopted in 1883.

¹¹The Hague Agreement governs the international registration of industrial designs. First adopted in 1925, the Agreement effectively establishes an international system – the Hague System– that allows industrial designs to be protected in multiple countries or regions with minimal formalities.

¹²The WIPO Convention, the constituent instrument of the World Intellectual Property Organization (WIPO), was signed at Stockholm on July 14, 1967, entered into force in 1970.

¹³The Locarno Classification, established by the Locarno Agreement 1968, is an international classification used for the purposes of the registration of industrial designs.

¹⁴Harare Protocol on Patents and Industrial Designs within the Framework of the African Regional Intellectual Property Organization (1982).

¹⁵Lusaka Agreement on the Creation of African Regional Intellectual Property Organization (ARIPO).

¹⁶ The 2010 Constitution of Kenya recognizes intellectual property rights.

¹⁷ Laws include Industrial Property Act of 2010 as amended up to Act No. 11 of 2017 and the Industrial Property Act, 2001 (Act No. 3 of 2001).

¹⁸ Industrial Property Regulations, 2002 (Revised Edition 2016)

¹⁹ Statutes includes: The Statute Law (Miscellaneous Amendments) Act, 2017; The Statute Law (Miscellaneous Amendments) Act, 2007; The Statute Law (Miscellaneous Amendments) Act, 2002.

²⁰ Guidelines for the Examination of Patents, Utility Models, and Industrial Designs 2007.

²¹ Industrial Property Tribunal Rules, 2002.

²²“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 pattern for a product of industry or handicraft”.

²³ An invention means a solution to a specific problem in the field of technology.

²⁴ (a) when the utility model has been granted in respect of a product— (i) making, importing, offering for sale, selling and using the product; or (ii) stocking such product for the purposes of offering it for sale, selling or using the product. (b) when the utility model has been granted in respect of a process— (i) using the process; or (ii) doing any of the acts referred to in the Act.

²⁵ “A registration certificate for a utility model shall expire at the end of the tenth year after the date of filing of the application in respect thereof, and shall not be renewable”.

²⁶ Kenya Industrial Property Institute, ‘Kenya IP Statistics 2000-2018’ (KIPI) <
<https://www.kipi.go.ke/images/docs/Kenya%20IP%20statistics%202000-2018.pdf>> accessed 10 May 2018.

²⁷ It should be noted that numbers for industrial designs applications from ARIPO are from 2010 to 2017. ARIPO did not send online data applications to WIPO immediately it started operating.

3.1.1 UTILIZATION OF INDUSTRIAL DESIGNS IN KENYA

The levels of utilization of industrial designs by various actors are presented in Table 1 and 2 below.

Table 1: Industrial Designs Applications for Period 2000-2015

Year	Residents	Non-Residents	ARIPO
2002	73	12	-
2003	43	10	-
2004	44	11	-
2005	102	15	-
2006	54	18	-
2007	42	32	-
2008	39	10	-
2009	76	14	-
2010	69	7	17
2011	86	28	38
2012	93	10	118
2013	78	8	165
2014	78	17	19
2015	73	12	67
Total	950	206	424

Table 2: Industrial Designs Registered for the Period 2002-2015

Year	Residents	Non-Residents	ARIPO
2002	1	0	-
2003	8	8	-
2004	5	0	-
2005	59	7	-
2006	34	13	-
2007	16	19	-
2008	33	15	-
2009	90	13	-
2010	39	11	21
2011	38	9	27
2012	31	12	33

2013	30	8	107
2014	31	3	213
2015	52	5	83
Total	467	123	484

Table 1 and 2 above provides industrial designs applications and registrations respectively. It should be noted that in some instances the number of registrations is more than applications. In the year 2015 a total of 67 applications were received through ARIPO yet in the same year a total of 83 applications were registered. This is attributed to the fact that not all applications received in a given year are registered in that year. For example an application that does not meet formality examination will have a back and forth communication between the applicant and the ARIPO as opposed to an application that meets all the formality requirements. Applications with corrections will therefore delay even in registration and hence the same may not be captured in the year it was filed but at a later date.

3.1.2 Utilization of Utility Models in Kenya

The number of utility model applications and registrations are presented in Table 3 below.

Table 3: Utility Models Application

Year	Residents	Non-Residents	ARIPO
2002	14	0	
2003	12	0	
2004	13	0	
2005	11	0	
2006	19	0	
2007	16	0	
2008	18	1	
2009	29	1	
2010	28	0	0
2011	51	0	1
2012	68	0	2

2013	78	0	3
2014	53	0	4
2015	114	1	0
Total	453	3	10

More than 90% of utility model applications were by the residents from 2002 to 2015. A review of the KIPI records indicate that during the period, a total of 95 utility model applications were registered as follows: residents 85, ARIPO 10 and no application was received for non-residents. There is a significantly low number of utility models applications translating to registrations.²⁸

3.2 Analysis of Results and Discussions

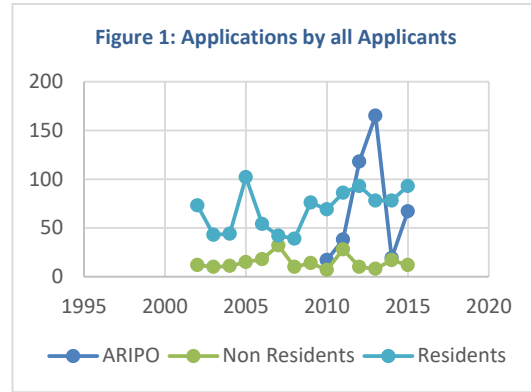
This section provides analysis of the results and discussion of those results.

3.2.1 Trends in Industrial Designs Applications in Kenya

Figures 1, through 5 provides a clear picture of the level of utilization of industrial designs by the various actors and addresses the key issues such as the sources of applications, success rates of such applications, major players in the field, main Locarno classes utilized and implications of said classes on Kenya’s economy.

A. Sources of Industrial Design Applications

It is evident from Figure 1 on applications by all applicants that Kenyan residents are the main applicants for industrial designs, constituting 60% of the applications with non-resident applicants doing poorly.²⁹ The key applicants in the industrial designs in Kenya are the small and medium enterprises (SMEs), constituting 70% of industrial designs applications.



B. Top Three Foreign Applicants

From 2010-2017, Unilever,³⁰ Gillette Company³¹ and Watertec Malaysia³² were the main foreign companies leading in industrial designs applications in Kenya.

C. Success Rate of Industrial Design Applications

From 2002 to 2015, out of 1580 industrial designs applications, 1074 have been registered and the success rate of industrial design applications is 67%.

D. Intellectual Property Rights Commonly used by Residents

In terms of ranking based on level of applications, trademarks, patents, and industrial designs took the 1st, 2nd and 3rd positions respectively. In some years, such as 2004, 2005, 2007, 2008 and 2009 the number of applications went down for patents, trademarks and utility models. Generally, the trends of applications by residents in the three mentioned IP rights have been growing. The highest numbers of applications were received in 2006, with the lowest number of applications received in 2009.

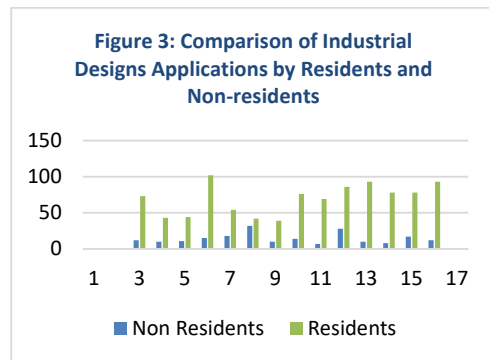
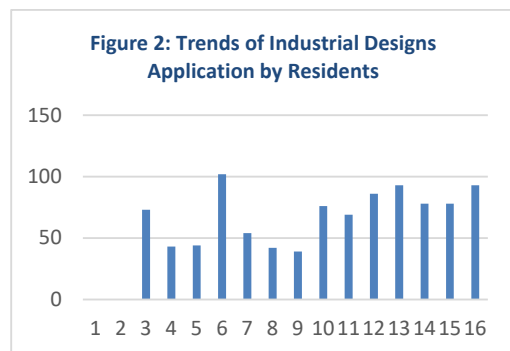
²⁸ Whereas the office received a total of 463 applications, only 95 applications were registered. This may be attributed to poor drafting of utility model applications, applications that do not meet the utility models registration requirements for instance not being novel amongst others

²⁹ Whereas during the period the residents made a total of 980 industrial designs applications, the non-residents had only 206 applications

³⁰ Unilever had filed a total of 12 industrial designs

³¹ Gillette company had filed a total of 7 applications

³² Water Tec Malaysia had filed 4



During the period of review, the numbers of industrial design applications from residents were more than those from foreign applicants.

E. Performance of Industrial Designs Applications in the Various Locarno Classes

The Locarno classification includes 32 classes of industrial designs. Analysis of industrial designs applications for 2014, 2016 and 2017 from the Kenya Industrial Property Journals revealed a total of 12 classes did not receive any applications during the three-year period. These classes were 1,4,14,15,16,17,22,24,29,30,31 and 32. The inactive classes constitute 37.5% of Locarno classes.

Some Locarno classes may seem on the face to have performed better than other classes in terms of the number of applications, as is the case of classes 20, 25 and 26, with total applications of 27, 28 and 22 when compared to class 2 that only received a total of 15 applications from 12 different applicants; however, in terms of the number of individual clients that filed in a

given class, class 2 received more clients than class 20, 25 and 26 whose bulk of applications were from one company, Adopt A Light, with 19 applications targeting the three classes.

Key Sectors in Industrial Designs Applications

The highest number of industrial design applications in 2014, 2016 and 2017 were in Locarno class 9 (67 applications), followed by class 7 (30 applications), and class 2 (18 applications). Consequently, the top 3 Locarno classes accounting for the major shares in Kenya were class 9 (26%), class 7 (12%) and class 2 (7%).

Grouping Locarno classes into industry sectors highlights the most important sectors for industrial design in Kenya as: packages and containers for the transport or handling of goods (26%); household goods, not elsewhere specified and especially china, glassware, dishes and other articles of a similar nature (12%); and articles of clothing and haberdashery (7%). More than 45% of all industrial designs applications belonged to the three sectors.

F. Poor Performance of Furniture Sector in Kenya

In 2016, the Locarno classes accounting for the largest shares of the world total were furnishings (10.8%), articles of clothing (8.6%) and packages and containers (7.3%). More than a quarter (26.7%) of all design applications belonged to one of these three classes.³³

Despite the furniture sector performing well in the world chart of industrial applications, the said sector ranked 7th in Kenya based on the total number of applications in 2014, 2016 and 2017. This sector filed a total of 13 applications in 2014, 2016 and 2017. Out of the 13 applications, 6 were from one company.³⁴

G. Plastic Bottles as Major Industrial Player

Packages and containers for the transport or handling of goods is the main player in industrial design applications in Kenya. Plastic bottles constituted more than 80% of

³³ WIPO, *World Intellectual Property Indicators 2017* (WIPO 2017)153

³⁴ During this period Ali Baba Furnishers, a company manufacturing furniture filed a total of 6 industrial designs

industrial designs applications in this sector in 2014, 2016 and 2017. This sector seems to be very competitive with a lot of innovative design created by the various players.

H. Companies that are Key Players in Industrial Design Applications

Interestingly, most of the previous key applicants of industrial designs from 2002-2009³⁵ are no longer the major players and new entrants have emerged.³⁶ Analysis of the top ten small and medium enterprises for industrial designs applicants from KIPi's monthly Journal for 2010-2017 were as follows: Adopt A Light³⁷ (19); Safepark³⁸ (19); Mahesh Chandaria³⁹ (13); Unilever (12); Paul Muimi Mutemi (10); Sameer Africa (9); Kenstar Plastic Industries (9); Umoja Rubber (7); J.L. Pearl Limited (7); John Paul (6); Alibaba (6); and Royal Mabati Factory (6).

I. Frequency of Industrial Design Applications

From 2010 to 2017, 75% of the applicants only filed one application. The study shows a tendency of companies' filing more than one application at once and then the companies no longer file any applications⁴⁰. It was noted further that only a few companies continued over the years to file for industrial design registrations⁴¹. Since innovations takes place at a firm level, the low number of repeated industrial design applications could be an indication of low levels of incremental innovations on industrial designs taking place in Kenya.

The top five industrial designs applicants according to the frequency of applications from 2010-2017 were: Safepark (8); Kenstar Plastic Industries (7); Unilever (6); Mahesh Chandaria, Umoja Rubber Products and Paul Muimi Mutemi with (4). This shows that most of the industrial

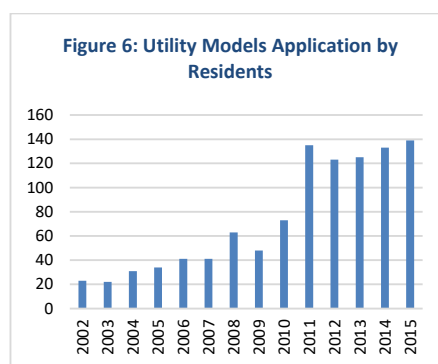
designs registrations are from the same applicants. This can be attributed to existing knowledge amongst the applicants on intellectual property.

3.2.2 Trends in Utility Model Applications

Figures 6, 7, 8, 9, 10 and 11 provide a clear picture on the level of utilization of utility models by the various actors. The figures clearly illustrate key issues such as the sources of applications, success rates of such applications and performance of utility models relative to other IPRs and implications of the said findings on the utility model system in Kenya.

A. Utility Models Applicants

The steady increase in the number of utility model applications over the years indicates increased technological innovation activities across firms in Kenya.



B. Trends of Utility Model Applications by Universities and Research Institutions

There is a growing trend in utility model applications compared to patents by universities and research institutions in Kenya.⁴²

³⁵ During the period 2002 to 2009 the key players in the industrial designs applications were companies such as Crown Foods, Kentainers.

³⁶ The new entrants in the industrial designs applications include Safepark Company limited, Chandaria Industries Limited and Adopt A Light.

³⁷ Adopt A light is a company mainly dealing with street lights filed 19 industrial designs applications.

³⁸ Safepark a company manufacturing plastic related products filed 19 industrial designs application

³⁹ Chandaria Industries Limited deals mainly with Tissue and Hygiene products manufacturer in Kenya, East and Central Africa. The company had filed 13 industrial designs applications

⁴⁰ Companies such as Adopt a light and Ali Baba Furnishers amongst others visited the national IP office once and filed many industrial designs applications.

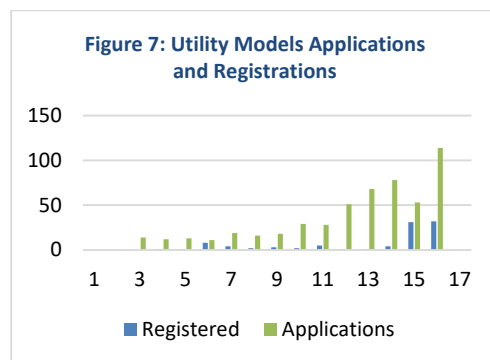
⁴¹ Companies such as Safepark limited, Umoja rubber shoes, Mahesh Chandaria have over the years continued to file industrial designs applications.

⁴² For instance in 2016, the total number of utility models applications from universities and research institutions was 29 against a total of 25 patent applications from these institutions.

This could partly be attributed to the removal of substantive examination for utility models in 2014⁴³ which initially was a big hindrance to protection and further, the many IP sensitization programs to the public, including academics, by the KIPI. Many innovators presently find utility models a better option for protection as opposed to patents due to the significantly lower cost involved in protection, fast processing of getting a registration certificate within one year and protection granted for ten years

C. Success Rate of Utility Model Applications

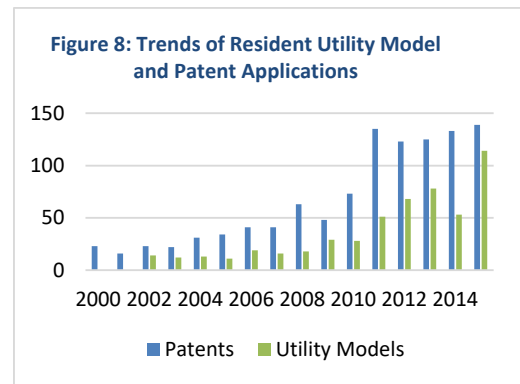
Prior to 2015 when substantive examination was carried out on utility models, the success rate of the applications was very low. For example, out of 450 utility model applications, only 85 were registered. The success rate therefore was 18.8%. This could be an indication of inadequate skills in drafting applications and inadequate skills in responding to office actions.



In Figure 7, the numbers 1-16 on the horizontal axis represent the years 2001 to 2016.

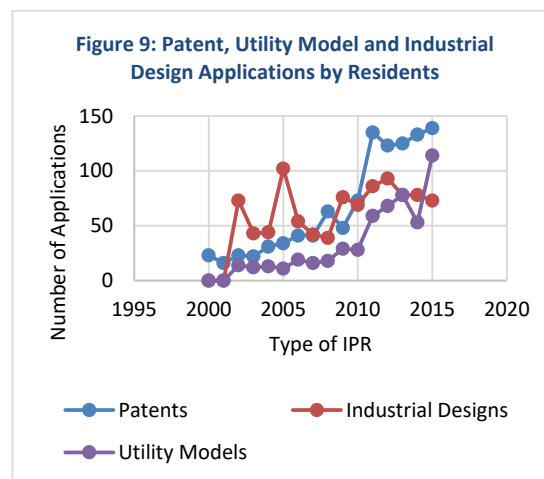
D. Performance of Utility Models in Comparison to other Intellectual Property Rights

Compared to patents and industrial designs, the use of utility model is still low by residents,⁴⁴ as shown in Figures 8 and 9.



Some of the factors potentially contributing to the low level of utilization of utility models were previous continuous over-emphasis by the national IP office on the desirability of patent and industrial designs applications as opposed to utility models.

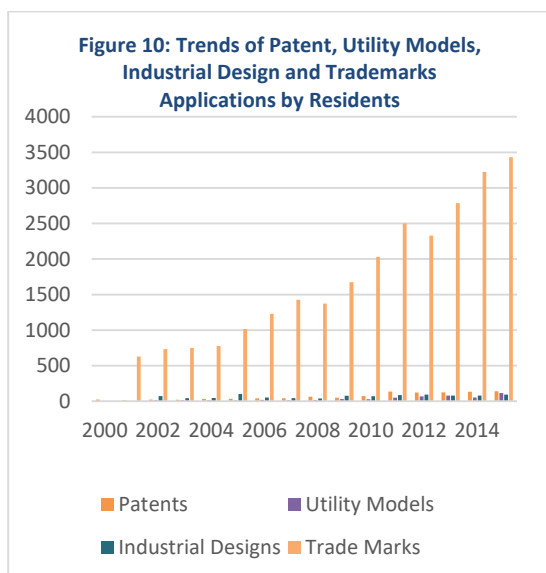
This resulted in a negative perception of utility models as a lesser form of innovation with a weak level of protection.



Similarly in 2017, the number of utility models applications were 22 compared to 19 patents.

⁴³ The 2014 April edition of the Kenya Industrial Property Institute (KIPI) journal, announced that KIPI will no longer do any substantive examination of Utility Model Certificate (UMC) applications.

⁴⁴ During the period of study a total of 453 utility models applications were made compared to 1070 for patents and 950 industrial designs.



From Figure 10, it is evident that residents are very active in filing trademarks,⁴⁵ patent, industrial designs and utility models, in that order. The number of patent applications is almost the same as those of industrial designs. The large number of trademark applications compared to the other industrial property rights could be attributed to the immediate commercial value of trademarks as perceived by the residents. It gives them a faster way to enter the market. Most businesses have a name for their products and services.

3.3 Comparison of Trends in Patents and Utility Models Applications in Various Countries

Having discussed the Kenyan scenario on the trends of patents, utility models and industrial designs applications, comparisons of the trends in various other countries such

as Germany, China, Japan, South Africa, Tunisia, Egypt, Nigeria and Ghana is necessary.

Germany⁴⁶, China⁴⁷ and Japan⁴⁸ have, over the years, had high numbers of utility models, patents and industrial design applications by residents. Thus, trends in the number of applications for the three types of industrial property applications would provide lessons for Kenya to learn.

Nigeria and South Africa are considered economic giants in Africa. These two countries do not carry out substantive examination for patents applications. The trends in the number of patent and utility model applications in these countries, especially by residents, would provide an insight regarding the role of substantive examination on the level of functional designs and patents applications.⁴⁹

Egypt⁵⁰ and Tunisia⁵¹ have done considerably well with high numbers of industrial property applications compared to Kenya.⁵² Similar to Kenya⁵³, the IP laws for Egypt⁵⁴ and Tunisia⁵⁵ provide for substantive examination of patent applications. Hence, the trend in patents and utility models applications in these countries would interest Kenya in establishing a similarity in the level of innovation in these countries or otherwise.

Ghana is the least developed country, the trends in patent, utility model and industrial design applications in Ghana will be compared to ascertain whether it follows any of the above countries.

⁴⁵ Trademarks applications from residents during the period of 2000 to 2015 were a total of 25,914.

⁴⁶ WIPO, 'Statistical Country Profiles- Germany' (WIPO 2017) <https://www.wipo.int/ipstats/en/statistics/country_profile/profile/profile.jsp?code=DE> accessed 8 May 2018.

⁴⁷ WIPO, 'Statistical Country Profiles- China' (WIPO 2017) <https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=CN> accessed on 9 May 2018.

⁴⁸ WIPO, 'Statistical Country Profiles- Japan' (WIPO 2017) <https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=JP> accessed 9 May 2018.

⁴⁹ Patents and the Designs Act 195 of 1993 for South Africa does not have a system to protect utility models but the same are referred to as functional designs.

⁵⁰ WIPO, 'Statistical Country Profiles- Egypt' (WIPO 2017) <https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=EG> accessed 13 May 2018.

⁵¹ WIPO, 'Statistical Country Profiles- Tunisia' (WIPO 2017) <https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=TN> accessed 13 May 2018.

⁵² WIPO, 'Statistical Country Profiles- Kenya' (WIPO 2017) <https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=KE> accessed 13 May 2018.

⁵³ Industrial Property Act 2001.

⁵⁴ Law No. 82 of 2002 on the Protection of Intellectual Property Rights.

⁵⁵ Law No. 2000-84 of August 24, 2000, on Patents for Tunisia.

A. Germany

In Germany, utility model law was established in 1891⁵⁶ and is the oldest. The law provided protection to such inventions which had low levels of inventiveness, non-substantive examination systems and gave shorter periods of protection. As a result, utility model applications for a long period were more than patent applications.⁵⁷

The numbers of patent, utility model and industrial design applications by residents from 2007 to 2016 were as follows: patents 663,759; utility models 124,567 and industrial designs 617,139.⁵⁸ The high number of patent applications compared to utility models is an indication that as a country advanced technologically,

B. Japan

Japan has had the utility model system as part of the business strategy since 1905.⁵⁹ In fact, the system was designed to encourage incremental and adaptive innovations. The utility model law has been fully utilized by Japanese companies to enhance competitiveness and to advance technology.⁶⁰ Today, Japan stands very high in technological development, with the number of applications for the grant of patents continuously and rapidly increasing.⁶¹

The number of patents, utility models and industrial designs applications by residents during the period of 2007 to 2016 were as follows: patents 2,880,370; utility models 64,936 and industrial designs 272,811.⁶²

C. China

The Patent Law in China was adopted on March 12, 1984 but came into force April 1, 1985.⁶³ The law governs patents, utility models and industrial designs. The utility model and industrial design system has been utilized very effectively in China since the number of applications filed by residents for these IP rights have been more than those filed by non-residents. From 2004 to 2008, the numbers of patent applications by residents were more than those of utility models. Similarly, during the same period, the number of patent applications by non-residents was higher than those of utility models. The average filing of patents in the last ten years indicates that 84% of applications are filed by residents and 16% by foreign applicants.⁶⁴

The numbers of patent, utility model and industrial design applications by residents from 2007 to 2016 were as follows: patents 5,018,465; utility models 6,770,071 and industrial designs 4,827,032.⁶⁵ These figures were better than those applications filed by non-residents.⁶⁶ More industrial designs applications were filed abroad by Chinese applicants as compared to those filed by residents and non-residents within the country.⁶⁷

D. South Africa

The Patents Act 57 of 1978 provides for the protection of patents and the Designs Act 195 of 1993 provides for the protection of industrial designs, which includes aesthetic and functional designs. The Patents Act and the Designs Act provide for the registration of patents and designs upon the applications meeting the formality examination.

⁵⁶ Suthersanen Uma, 'Utility Models and Innovations in Developing Countries' (2006) <http://unctad.org/en/docs/iteipc20066_en.pdf> accessed on 13 March 2018.

⁵⁷ Suthersanen (n 57).

⁵⁸ WIPO, 'Statistical country profiles' (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=ZA> accessed 13 May 2018.

⁵⁹ KS Kardam, *Utility model –A tool for economic and technological development: A case study of Japan (IPIndia 2007)* 44.

⁶⁰ Kardam (n 44).

⁶¹ WIPO, *WIPO IP Facts and Figures 2018 (WIPO) 13*.

⁶² WIPO, 'Statistical Country Profiles- Japan' (WIPO 2017) https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=JP accessed 13 May 2018.

⁶³ Patent Law of the People's Republic of China (promulgated by the Presidential Order No. 11 of March 12, 1984.

⁶⁴ Suthersanen Uma, 'Utility Models and Innovations in Developing Countries' (2006) <http://unctad.org/en/docs/iteipc20066_en.pdf> accessed on 13 March 2018.

⁶⁵ WIPO Statistical country profiles-China (WIPO 2017) http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=CN accessed 13 May 2018.

⁶⁶ WIPO (n 66).

⁶⁷ Ibid at 66.

The numbers of patent and industrial design applications by residents from 2007 to 2016 were as follows: residents - 9794; non-residents - 66326 and filings abroad 12,474 for patents. During this period, a total of 106 utility models were filed abroad with none locally. Similarly, the number of industrial designs applications were as follows: residents 8,367; non-residents 10,773 and abroad 15,566.⁶⁸

This is not an indication of the preference by the residents to file patents in South Africa as opposed to utility models, as no system for utility model protection exists in South Africa. The functional design protection only pertains to the pattern, shape or configuration having features necessitated by the function which the article to which the design applies is to perform.⁶⁹ It is significant that South Africans file utility models abroad. This is an indication that there are technologies that can be protected as utility models, but since the country does not have law in place to protect utility model, the South Africans protected utility models abroad

As opposed to the trend of industrial design filing in other countries like Nigeria, Egypt and Kenya, where more applications are received from the residents, the situation in South Africa is different since the applications received from non-residents were more than those of residents.

The small difference in industrial designs applications between residents of South Africa and non-residents is an indication that South African residents' products are competing comparatively well with those of non-residents.

From the above figures, it is evident that more South African residents are filing patents and designs abroad compared to those filed within the country. This is an indication of the expansion of South Africa products to other markets. It could also be an indication that the formal patent examination in South Africa is inadequate.

E. Nigeria

The history of patent and designs law, like trademark and copyright law and most other laws in Nigeria, finds its roots in the common Law of England, the Doctrines of Equity and Statutes of General Application, enacted as of 1st January 1900. The other statutes enacted after that date could be extended to apply in Nigeria by an enabling Order-in-Council. Patent law was first enacted in 1900 for the Colony of Lagos and Southern Nigeria and then in Northern Nigeria in 1902.⁷⁰

The Patents and Designs Act Chapter 344 Laws of the Federation of Nigeria 1990 contain comprehensive provisions for the registration and proprietorship of Patents and Designs in Nigeria.

Section 4 sub section 2 provides that:

'Where the examination mentioned in subsection (1) of this subsection shows that a patent application satisfies the requirements of section 3(1) and (3) of this Act, the patent shall be granted as applied for without further examination and, in particular without examination of the questions as to whether:

- (a) the subject of the application is patentable under section 1 of this Act;
- (b) the description and claims satisfy the requirements of section 3(2) of this Act; and
- (c) a prior application, or an application benefiting from a foreign priority, has been made in Nigeria in respect of the same invention, and whether a patent has been granted as a result of such an Nigeria and other matter ancillary thereto.⁷¹

In a nutshell, Nigeria grants patent certificates when the applications meet the formality requirement.

From 2007 to 2017, patent applications were filed as follows: residents 156; non-residents 2,292 and abroad

⁶⁸ WIPO, 'Statistical Country Profiles- South Africa' (WIPO 2017) < https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=ZA > accessed 13 May 2018.

⁶⁹ Patents and the Designs Act 195 of 1993.

⁷⁰ Patents Ordinance No. 17 of 1900 and the Patents Proclamation Ordinance No. 27 of 1900.

⁷¹ Patents and Designs Act Chapter 344 Laws of the Federation of Nigeria 1990.

197. During the same period, there were 3 utility models filed. Similarly, industrial designs were filed as follows: resident 2,265; non-resident 356 and abroad 390.⁷²

Patent filings are still low by residents compared to non-residents. There is a preference by Nigerians for filing of patents abroad.

The trend of industrial designs applications indicates that residents file more applications than non-residents and prefers Nigeria as a market compared to those markets abroad. This is an indication that Nigerian designs have not penetrated other markets outside the country.

F. Egypt

The roots of Intellectual Property in Egypt go back to 1951 when it was established by Law No. 132/1949.⁷³

Currently, protection for patents and utility models in Egypt are provided for in Law No. 82 of 2002 on the Protection of Intellectual Property Rights.⁷⁴

A summary of the patent and utility model applications from 2007 to 2011 in Egypt show a total of 22,288 patent applications were filed as follows: residents 6,422; non-residents 14,804 and abroad 1,062. During the same period, a total of 14 utility model applications were filed abroad. No utility model applications were filed by the residents and non-residents within the country. Industrial design applications were filed as follows: residents 21,248; non-residents 15,808 and abroad 2,181.⁷⁵

The low number of patent applications abroad is an indicator of a preference by Egyptians to file within the country. Similarly, the lack of utility model applications in the country indicates non utilization of utility models as a means of protection.

The low number of industrial designs filed abroad indicates a greater preference by residents to protect in the local market rather than abroad. As a result, few Egyptian products are competing in the global market.

G. Tunisia

In Tunisia, patents and industrial designs are protected through two separate laws: Law No. 2001-21 of February 6, 2001 on the Protection of Industrial Designs and Law No. 2000-84 of August 24, 2000, pertaining to patents.

A summary of the filing from 2007 to 2017, patent applications were as follows: residents 1063; non-residents 4592 and abroad 331. There were 3 utility models filed. Industrial designs applications during the same period were: residents 1,279, non-residents 10,461 and abroad 1,354.⁷⁶

The trend in industrial designs applications by residents in Tunisia is similar to those of South Africa, where the number of applications by residents are less than those of non-residents. The number of industrial designs applications by non-residents is 9 times that of residents, which could imply more foreign products exist in the Tunisian market.

H. Ghana

In Ghana, the Patent Act of 2003 (Act 657) provides for protection of patents and utility models. For a long time, the National IP office did not receive any patent applications; as such, from 2006 to 2015, patent applications were mainly filed abroad. The total number of applications filed abroad during this period was 47. In 2016, the National IP Office in Ghana received patent applications as follows: resident 14 and non-resident 17. During the same year, a total of 103 patents were filed in

⁷² WIPO, 'Statistical country profiles-Nigeria' (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=NG> accessed 13 May 2018.

⁷³ Egyptian Patent Office, 'Academy of Scientific Research and Technology' <<http://www.asrt.sci.eg/index.php/asrt-departments/egpo>> accessed 13 May 2018.

⁷⁴ Egypt Law Number 82 on the protection of intellectual property rights.

⁷⁵ WIPO, 'Statistical country profiles-Tunisia' <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=TN> accessed 13 May 2018.

⁷⁶ WIPO, 'Statistical country profiles-Tunisia' (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=TN> accessed 13 May 2018.

other countries by citizens of Ghana. There were only 2 utility models filed in total in 2016.⁷⁷

3. LESSONS FROM COUNTRIES OF COMPARISON

The countries' comparisons have provided very interesting insights and lessons regarding the trends on the utilization of patents, utility models and industrial designs, as discussed below.

A. General Trends in Utility Models and Patents Application in Germany, China and Japan

Looking at the trends of patents and utility models applications in Japan (1905-1980), Germany (to 2016) and China (1985-2003), there were more utility model applications by residents compared to patent applications by residents.

Comparisons of the three countries from 2007 to 2016 reveal a very interesting scenario. In Germany⁷⁸ and Japan,⁷⁹ the number of utility model applications by residents has been decreasing. During this period, the number of utility model applications was significantly lower than patents. Interestingly, the reverse is shown in China. During the same period, the number of utility model applications from Chinese residents was more than the patent applications and are in the tens of thousands.⁸⁰

B. Relationship between Utility Models and Technological Development of a Country

Although there is no evidentiary proof that utility model applications have any relationship with the technological and economic development of Japan, there is a trend in the growing number of utility model applications in Japan from the time when utility law was established in 1905 to

1981 that provides some indication of growth. For instance, during this period, Japan's economy was growing at a very high rate.⁸¹

Since the technological innovations created by Japanese innovators were of the nature which was not protected under patent law, the utility model law was fully utilized to protect such small inventions.⁸² Therefore, it can be inferred that utility model protection played a very important role in the economic as well as technological development of Japan.

C. Trends in Industrial Design Applications in Africa

The comparison of the use of industrial designs and utility models points to the fact that most African countries such as South Africa, Tunisia, Egypt, Ghana, Nigeria and Kenya have had continuous growth in the number of industrial design applications. Except in South Africa and Tunisia, the residents in these countries are major players in industrial designs applications.

D. Control of Local Markets

It is emerging from the comparison on the utilization of industrial designs and utility models that most of the African countries are trying to grow and protect their own products and hence, they are laying foundations for technological development in the near future. A case in point is Kenya, Egypt, Nigeria and Ghana, where residents file more industrial design applications than non-residents.

Even though in South Africa, the number of industrial design applications by residents is less than those of non-residents, the difference is narrow.⁸³ While in Tunisia, the gap between the residents and non-residents filings is

⁷⁷ WIPO, 'Statistical country profiles-Ghana' (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=GH> accessed 13 May 2018.

⁷⁸ WIPO, 'Statistical country profiles-Germany' (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=DE> accessed 13 May 2018

⁷⁹ WIPO, 'Statistical country profiles -Japan' (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=JP> accessed 13 May 2018.

⁸⁰ WIPO, "Statistical Country Profiles-China (WIPO 2017) <http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=CN> accessed 10 May 2018.

⁸¹ KS Kardam, *Utility model -A tool for economic and technological development: A case study of Japan (IPIndia 2007) 40.*

⁸² Kardam (n 81).

⁸³ Number of industrial designs applications by residents in South Africa was 8367 compared to non-resident of 10773 there is a narrow margin of 2406 between applications by residents and non-residents

significant.⁸⁴ Comparatively, South African residents are doing better than Tunisia residents whose markets seems to be largely controlled by foreigners going by the high number of non-resident applications of industrial designs that is 9 times that of residents.

E. Reversed Trends of Patents and Utility Models Applications in Most African Countries

Interestingly, in Kenya from 2001 to 2015, the trend is that the number of patent applications by residents has been more than utility models. The same trend is found from 2006 to 2016 in South Africa, Tunisia, Egypt, Ghana, Nigeria, Japan and Germany. However, the trend is the reverse for China, where the number of utility model applications are more than those of patents from 2007 to 2016.

F. Role of Substantive Examination on Filing of Patents and Utility Models by Residents

The low level of utility model applications compared to the high number of patent applications in South Africa and Nigeria indicates a preference by residents to file for patents as opposed to utility models. This could be a result of ease of obtaining patents due to lack of substantive examination for patent applications in those regimes.

3.5 Future Trends of Patents and Utility Models Applications by Residents in Kenya

From the analysis of the results on patent and utility model applications in Kenya in comparison to other countries discussed, it is projected that with time the trends in the number of utility model applications by residents in Kenya will increase steadily and surpass those of patents (that will also continue to grow but at a level lower than utility models.) It is expected the high number of utility model applications will result in an increased level of technological development that will subsequently

lead to the re-emergence of high numbers of patent registration.

4. CONCLUSIONS

Lessons from Germany, Japan and China show that industrial designs and utility models have the potential to act as tools to spur innovation; this will ultimately promote local industrial growth by residents.

Given the number and low level of applications in the five countries namely Nigeria, South Africa, Egypt, Tunisia and Ghana, it is evident from the study that African countries do not adequately use utility models. The low level of success rates for industrial design and utility model applications by residents in Kenya could be the result of lack of skills and capacity in drafting utility model specifications and preparing documentation for industrial design applications.

WAY FORWARD

A. Policy Orientation

African countries should develop policies with emphasis on the use of industrial designs and utility models by residents.

B. Use of Multi- Faceted Approach

Promote a complementary use of patents, utility models and industrial designs. African countries should promote the use of patents, utility models and industrial designs by residents to protect the various features of innovations. The IPRs should be used to complement one another and as one package and not separately, since they all depend on each other; such an approach will increase the effectiveness of the IP system.

C. Sectorial Approach in IP Sensitization

There is need for increased sensitization by the IP offices on the use of utility models and industrial designs by SMEs.

⁸⁴ Number of industrial designs applications by residents was 1,279 compared to non-resident of 10,461, there is a wider

margin of 9,182, between applications by residents and non-residents

Given the 12 inactive Locarno classes in Kenya, it is evident there is a need for targeted sectorial IP sensitization to these industrial sectors. Through the analysis of inactive Locarno classes, countries can identify these sectors, presenting opportunities for targeted IP sensitization programs by the National IP Offices.

D. Capacity Building

There is need for capacity building in preparing documents for Industrial Design applications and drafting Utility Model applications. National IP Offices should make industrial design protection easier by reducing the numerous filing requirements. This will increase the number of industrial design registrations.

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