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Utility Model Protection in Kenya: The Case for Substantive Examination

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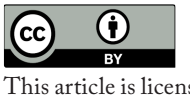
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Abstract
The patent-granting authority of the Kenyan government ceased examining applications for utility model certificates (UMCs) in 2014, after 20 years of examination. This event resulted in an immediate and dramatic increase in the number of granted UMCs. The authors reviewed a selection of UMCs, some of which were granted after substantive examination and some of which were granted without substantive examination. Errors were found in both groups, and the overall quality of granted UMCs declined after cessation of substantive examination. The authors conclude that a return to substantive examination of UMC applications would, on balance, be beneficial to Kenya's innovative ecosystem, and recommend that such examination be reinstated.

Keywords
intellectual property, utility model certificates (UMCs), patents, examination, registration, developing countries, patent offices, Africa, Kenya

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1. Introduction

Patents versus utility models

Patents protect advancements in technology that meet a relatively high threshold of requirements, that is: novelty, inventive step (non-obviousness), and industrial applicability (Brack, 2009).[1] Modern patent laws originated and developed from the Venice patent law of 1474. Utility model protection is more recent and less widely available, and was developed in response to the perceived need for patent-like protection of less inventive advancements (Suthersanen, 2006). Although utility models were first available in modern-day patent powerhouses such as Germany and Japan (Suthersanen, 2006), the majority of African countries have now adopted this form of intellectual property (IP) (Adams & Adams, 2012). In general, compared with patents, the requirements for utility models are less restrictive, both substantively and formally (Brack, 2009). Utility model certificates (UMCs) are typically granted for applications describing novel innovations that are industrially useful, but there is no requirement that the innovation satisfy an inventive step. This lower threshold has meant that UMCs are often known by alternative names such as "petty patents", or "minor patents". In the United States and the European Patent Office, a lesser form of patent protection such as the Utility Model Certificate is not available to applicants.[2]

Historical development of utility model protection

A thorough history of utility model protection has been written elsewhere (Richards, 2010); here it will suffice to provide a brief history for perspective. The German Patent Law of 1891 is among the earliest-known national laws recognising the utility model as a form of IP protection (Kardam, 2007; Richards, 2010). In 1905, Japan introduced a utility model law that was modelled after the German Patent Law, but with a broader scope of application (Kardam, 2007; Richards, 2010). Today, national-level utility model protection is available in several dozen countries worldwide (Brack, 2009). At least 30 countries in Africa provide utility model protection,[3] and many of the remaining 25 jurisdictions also provide alternative forms of patent protection (e.g., certificates of addition) (Adams & Adams, 2012).

In international treaties, the utility model was first mentioned in the 1911 Washington revision of the Paris Convention of 1883, and was included among patents and design rights (Kardam, 2007). Utility models remain in the current (1979) version of the Paris Convention. The Patent Cooperation Treaty (2001 version) includes utility

1 Despite the territorial nature of patents, patentability requirements are largely harmonised in law if not in interpretation. Terms that are substantially similar to "novelty", "inventive step", and "industrial applicability" are used in patent laws throughout the world.

2 Somewhat confusingly, the United States uses the term "utility patent" to refer to a full patent – i.e., one that requires inventive step as well as novelty.

3 Sixteen of the 30 African countries providing utility model protection do so as per their membership in the Organisation Africaine de la Propriété Intellectuelle (OAPI).

models in the definition of an "application" and in the definition of a "patent", thus allowing such terms to refer to national-level patents and/or UMCs. In contrast, there are no mentions of utility models in the World Trade Organisation (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). In fact, it may be that utility model protection is inadequate to satisfy the TRIPS requirements pertaining to patents, not least for failing to provide sufficient duration of protection. Article 33 of TRIPS states that the term of patent protection must be 20 years from the filing date of an application for protection, while most national-level UMC legal provisions provide for a term significantly shorter than 20 years from the filing date of a UMC application. Kenya's UMC provisions,[4] for example, provide for a term of 10 years from the grant of the UMC. Ugandan[5] and Tanzanian[6] law provides for a term of seven years from the date of filing. Accordingly, these and similar national UMC laws, by themselves, are not TRIPS-compliant, necessitating that countries operate a dual system of patent protection and utility model protection.

Utility model certif icates (UMCs) as protection for incremental innovations

Essentially, all advancements in technology build on preceding developments. The extent to which a specific advancement departs from prior technologies is often used to characterise that advancement as an invention or an innovation (WIPO, 2006). Substantial advancements that depart significantly from prior technologies are typically labelled as inventions, and are considered suitable for patent protection. In the statutory language of patents, such advancements are said to be "novel" and "inventive" in respect of prior technologies (WIPO, n.d.).

In contrast, an incremental advancement that only marginally advances a known technology is often insufficiently different to qualify for patent protection. In the statutory language of patents, such incremental advancements are often not "inventive", but are nonetheless "new", and may often therefore be referred to as "innovations" rather than "inventions". The UMC is specifically designed to provide patent-like protection to such innovations. Inventive step is not a requirement for grant of a UMC, but the other requirements found in the patent law remain (Boztosun, 2010). In some cases, an incremental advancement may be exceptionally beneficial but only marginally different from prior technologies. This is often and particularly the case when existing technologies are adapted to the local context of developing countries (Suthersanen, 2006). Although the adapted technology is inspired by, and very similar to, the prior technology, small but important differences in the local situation necessitate the modifications that allow the adapted technology to be successful. Such small differences are not "inventive" but are sufficiently "new", and hence may qualify for UMC protection (Boztosun, 2010).

4 The Industrial Property Act (2001) s. 82 (3)
5 The Patents Act (Cap 216) s. 43
6 The Patents (Registration) Act (Cap 217) s. 74 (5)

It should be noted that both patent and UMC applications must include a proper disclosure of the advancement for which protection is sought (Boztosun, 2010). A proper disclosure is one that teaches an ordinary artisan in the same technical field how to make and/or use the disclosed advancement (WIPO, 2006). Such disclosure fulfils the applicant's duty and is foundational in justifying the time-limited, government-backed protection that accompanies a granted patent or UMC (Brack, 2009).

Boztosun (2010) highlights the following benefits of the utility model system:

- contribution to the creation and fostering of domestic technology and industrial base;
- enabling small and medium-sized enterprises (SMEs) to make use of the IP system;
- promoting research into small but practical and useful solutions;
- facilitating expansion and diffusion of knowledge to inventors through disclosures of protected inventions; and
- channelling follow-on innovations to certain sectors by restricting or widening the scope of the subject matter of protection (e.g., encouraging new products by limiting protection of processes).

Whether UMCs actually provide any or all of these benefits in practice can be debated (Leith, 2000). In particular, the exceptionally low level of utilisation of the UMC framework in developing countries (Mwiya, 2012) appears to contradict the idea that their availability promotes research, facilitates diffusion of knowledge, and contributes to the creation of technology.

Despite the doubtfulness of the efficacy of UMCs in fostering the above goals, one thing is certain: from a legal perspective, valid UMCs are preferable to invalid UMCs. A "valid" UMC is one that satisfies the statutory requirements of novelty, industrial usefulness, and proper disclosure, whereas an "invalid" UMC is one that is granted but fails to satisfy one or more such requirements. Primarily, a UMC is invalidly granted in one of two circumstances: the competent authority falls short in a substantive examination of the UMC application; or the competent authority does not carry out a substantive examination of the UMC application. The latter situation may be as mandated by law (i.e., where the national UMC law does not authorise, or expressly prohibits, substantive examination) (Boztosun, 2010), or by situation (e.g., where the competent authority lacks resources or elects not to substantively examine applications). Regardless of the reason, an invalidly-granted UMC has many potential drawbacks that will be discussed in more detail below. Put another way, substantive examination, although relatively less common for utility model regimes, potentially serves the important function of gatekeeping against granting applications that fail to meet statutory requirements. Previously, however, it has been very challenging to draw reliable conclusions when comparing examination regimes with registration

regimes in the context of UMCs. The main source of this challenge stems from such comparisons necessarily involving at least two national patent offices in two countries, thereby introducing many other variables into the comparison.

This article outlines our attempt to generate some preliminary insights into the workings of the UMC system in Kenya. The Kenyan UMC context is potentially instructive, because while substantive examination of utility models was carried out for 20 years from 1993 to 2014, in May 2014 the competent authority discontinued examination and switched to a pure registration system. Fortunately, this decision to discontinue examination allows us to compare an examination regime against a registration regime while holding constant many other variables. The next section of this article explores the Kenyan legal framework in respect of UMCs, UMC examination, and the role of the competent authority. Section 3 outlines the potential benefits, and drawbacks, of substantive examination of UMCs in general and in the Kenyan context, including a statement of our view that examination is preferable to registration. Section 4 provides data from our evaluation of Kenya's UMC records, and Section 5 offers our conclusions and recommendations, based on the findings from both the legal doctrinal data and the UMC applications data, in respect of the current and future roles of UMCs in the Kenyan innovation ecosystem.

2. Kenyan law and the discontinuation of UMC examination

Patents and UMCs in Kenya are regulated by the Industrial Property Act (IPA), 2001 (Republic of Kenya, 2001), and the associated Regulations of 2002 (Republic of Kenya, 2002). The competent authority for accepting, examining, and granting patent and UMC applications is the Kenya Industrial Property Institute (KIPI). An examiner corps is maintained by KIPI for the purpose of conducting substantive examination of patents and, at least until May 2014, for the purpose of conducting substantive examinations of UMC applications. From 1994 until 2001 (i.e., the period prior to the IPA of 2001), KIPI and its predecessor carried out similar operations under the previous Industrial Property Act, 1989 (Kameri-Mbote, 2005; Odek, 1994).

Sections 81-83 of the IPA of 2001 pertain to utility models. Section 82 specifically pertains to examination, stating: "Section 22, 24, 43, 44 and 60 shall not apply in the case of applications for utility model certificates."[7] Section 22 of the IPA states that an invention is patentable if it is new, involves an inventive step, is industrially applicable or is a new use, while section 24 provides a definition of inventive step. These sections "shall not apply" to applications for UMCs because the requirement of inventive step conflicts with section 82(1), which provides that "[a]n invention qualifies for a utility model certificate if it is new and industrially applicable." Thus, exclusion of sections 22 and 24 for UMC applications is clear.

7 Section 60 of the IPA of 2001 pertains to patent term, and is not relevant for this discussion.

It is less clear, however, how to interpret the exclusion of sections 43 and 44. Section 44(1) provides that "[t]he Managing Director may […] (a) direct that applications for patents relating to a specified field or specified technical fields shall be the subject of an examination as to substance [...]", and section 43(1) provides that "[t] he Managing Director may instruct that any application found in order as to form be the subject of an international type search." The remaining portions of sections 43 and 44 provide details regarding substantive searches.

It is important to note that both sections 43 and 44 indicate that the Managing Director of KIPI "may" subject patent applications to substantive searches and examination, i.e., such processes are optional. As is discussed below, section 82 of the IPA, as read with sections 43 and 44, allows several possible interpretations with respect to substantive examinations of UMC applications – and the decision whether or not to substantively examine has substantial consequences for stakeholders. We turn first to the official KIPI policy with regard to substantive examinations, and then discuss the legality of such policy, and consider alternative policies.

KIPI discontinuation of substantive examination of UMCs

From 1994 until 2014, patent and UMC applications in Kenya were subjected to formalities and substantive examinations. However, in 2014, KIPI ceased substantive examinations of UMC applications. According to the official KIPI journal, in its issue dated 30 April 2014:

> Following a review of the practice in the Institute with regard to the processing of utility model applications, the Institute has decided to discontinue the carrying out of substantive examinations in relation to utility model applications with effect from 1 May 2014 in order to align the practice with the Industrial Property Act, 2001. However, such applications shall continue to be subject to examination for compliance with all the other requirements of the Act and Regulations.
>
> In particular, the applications shall be examined for compliance with filing date and formality requirements as well as for inventions that are excluded from protection and for non-patentable inventions under sections 21(3) and 26 respectively. Upon compliance with formality requirements, the applications shall be published as provided under section 42 of the Act. A Utility Model certificate shall then be granted and a certificate issued to the applicant as provided under sections 45 and 46 of the Act. (KIPI, 2014)

Since May 2014, official KIPI notices for allowed UMC applications have included the following statement:

> The applicant is invited to note that, following the decision of the Institute as published in the Industrial Property Journal no. 2014/04 of 30th April

> 2014 to discontinue substantive examination of Utility Model applications, this application has not been examined to determine whether or not the invention disclosed therein is novel or industrially applicable. (KIPI, n.d.)

As is discussed below, the cessation of substantive examination has, inter alia, resulted in a dramatic increase in the number of granted UMCs.

Interpreting the Act in respect of KIPI's treatment of UMCs

As indicated above, KIPI's decision to cease examination is based on an interpretation of the IPA. It is instructive to analyse that interpretation and to determine whether there are other valid and contrary interpretations of the IPA. On the face of it, there appear to be three reasonable interpretations of sections 82 and 44 of the IPA read together – i.e., interpretations of the meaning of the section 82 provision that section 44 (on examination) "shall not apply" in the case of UM applications. The choice of interpretation has potentially significant implications for UMC validity, UMC applicants, legal procedures, and, in turn, the country-wide innovation ecosystem.

First interpretation

The first interpretation is that the *content* of section 44 is *forbidden* from being applied to UMCs. In this interpretation, the substantive examination that is described in section 44 must not be applied to UMCs. The result of this interpretation is that UMCs are necessarily not substantively examined.

Second interpretation

In a second interpretation, recalling that section 44 provides for *optional* substantive examination (i.e., the KIPI Managing Director "may" subject the application to substantive examination), the optional substantive examination of section 44 does not apply. In this interpretation, the competent authority (KIPI) is tasked with issuing valid UMCs and is thereby required to carry out a substantive examination to determine such validity. The result of this interpretation is that UMCs are necessarily substantively examined.

Third interpretation

In the third interpretation, the contents of section 44 do not apply and, furthermore, that section has no bearing on UMC applications, i.e., it is as if the section does not exist with respect to utility models. In this interpretation, whether substantive examination is required is unspecified, and therefore left to the discretion of the competent authority, or is to be specified in Regulations. This interpretation is the opposite of the first interpretation. Here, section 44 per se does not apply but the content of section 44 may apply. The result of this interpretation is that the competent authority may validly choose whether or not to substantively examine UMC applications.

Meanings of "shall"

Determining the most valid interpretation may hinge to some extent on interpretation of the intent of the term "shall" (in "shall not apply" in section 82(2)). In a legal context, "shall" has two possible meanings (The Law Dictionary, n.d.): (1) imperative or mandatory; *or* (2) permissive or directory (as equivalent to "may"). The first meaning is consistent with the plain common meaning and the canons of legislative interpretation: i.e., "shall" signifies an imperative for the competent authority to not apply section 44 to section 82(2). The second meaning provides the authority with an alternative: to ignore the plain common meaning if such meaning clearly contravenes the intention of Parliament.

The available legislative history for the IPA of 2001 is not helpful in interpreting the sections relevant to UMCs, as Parliamentary discussions of the Bill that led to the Act were essentially limited to the question of whether or not to include compulsory licensing provisions. Accordingly, Parliament's intent can only be surmised. Given that both UMCs and patents have a substantive requirement of novelty, and that Parliament required substantive examination for patents, it is reasonable to conclude that Parliament also intended for UMCs to be substantively examined. The second meaning of the word "shall", i.e., as not necessarily an imperative, is further supported by Kenyan judicial precedent. In the words of Ringera J in *Standard Chartered Bank Ltd v Lucton (Kenya) Ltd* (1997):

> There appears to be a common belief by many in these courts that the use of the word "shall" in a statute makes the provision under construction a mandatory one in all circumstances. That belief in my discernment of the law is a fallacious one. As I understand the canons of statutory interpretation, the use of the word "shall" in a statute only signifies that the matter is prima facie mandatory. The use of the word is not conclusive or decisive. It may be shown by a consideration of the object of the enactment and other factors that the word is used in a directory sense only.

Under this interpretation of the meaning of "shall", the IPA of 2001 provides some discretion: KIPI is not obligated to omit substantive examination, but may do so if desired. The function of KIPI, as provided in section 5 of the IPA, is "[to] consider applications for and grant industrial property rights". By use of the word "consider", the IPA implies that KIPI is not required to grant all applications and is therefore more than merely a registration body. In fact, inclusion of the function of "considering" applications for industrial property rights supports an interpretation whereby KIPI is invited (or, perhaps, is *required*) to apply the patentability requirements prior to granting such rights. Substantive examination is the only way for KIPI to assess whether an application satisfies the relevant requirements prior to grant.

Judicial decisions, international norms

To date, we are not aware of any Kenyan High Court or Intellectual Property

Tribunal decisions that mention or interpret the UMC provisions of the IPA. In respect of international norms, in the latest (1979) revision of the Paris Convention, Article 4 provides guidance in the administration and function of utility models, and is potentially relevant to interpretation of the national law in Kenya. Specifically, Article 4A of the Paris Convention states that "[a]ny person who has duly filed an application for a patent, or for the *registration* of a utility model [...] shall enjoy […] a right of priority during the periods hereinafter fixed" (emphasis added). The use of the word "registration" with respect to utility models, and not for patents, indicates that the drafters of the Paris Convention considered these filing processes to be distinct. The Paris Convention's Article 4A is not explicit or prescriptive, but could be interpreted to favour a UMC system without substantive examinations.

In summary, several interpretations of the IPA appear to be valid in respect of whether or not UMC applications are to be substantively examined in Kenya. With the existence of multiple interpretations, we turn to an investigation of the implications of an examination system versus a mere registration system. As will be seen below, such investigation provides support for selecting an interpretation of the IPA that provides for an examination system of utility model certificates.

3. UMC examination versus registration

As with all patent and patent-type rights, UMCs distort the natural economy by encouraging government-backed monopolistic behaviour by the owner of the right (Boztosun, 2010). Such distortions are generally recognised as undesirable but for the potential of the protection to encourage innovation and product development (see Boztosun's list of potential benefits, discussed above).

Patent rights are, in part, economically undesirable for imposing artificial (i.e., merely legal rather than technical) restrictions on trade (Condon & Sinha, 2008; Maina, 2007). As such, they are intended to be granted for a limited period of time and only when justified. Patent rights become more easily justified when, among other things, the patent applicant through a patent application satisfies the legal requirements pertaining to novelty, usefulness, and disclosure. Where a UMC application complies with its necessary requirements, and the UMC is granted and published, the general public reaps the benefit of the disclosure, particularly once the term of the UMC expires and the subject matter of the UMC enters the public domain.[8] Failure of a UMC application to adequately define and enable an advancement in technology leaves the general public without such benefits, and the case for granting the government-backed exclusionary rights that a UMC provides is correspondingly less justifiable. This partly explains and adequately justifies the fact that, in all patent and UMC systems that include substantive examination, the number of applications

8 This discussion is necessarily simplified and ignores potential complicating factors such as multiple patents (including the practice of "evergreening"), non-patent rights, and know-how.

exceeds the number of granted patents/UMCs granted (Correa, 2011). Substantive examination is used to "weed out" the applications that fail to comply with the legal requirements and therefore fail to provide the benefits expected from the general public.

The potential benefits of an examination system for UMCs therefore lie chiefly in the increased legal certainty provided (Brack, 2009). Assuming that substantive examination is effective in increasing the quality of granted applications, the overall number of granted UMCs is fewer, meaning that the extent of exclusionary rights and the limitations on commerce are reduced (Correa, 2011). And in respect of those UMCs that are granted, the UMC-holders and the general public have a higher degree of certainty (higher than where there is no substantive examination) as to the scope of valid, enforceable, exclusionary rights that are conferred by the certificates (Brack, 2009).

Enhanced certainty in the validity of a granted UMC is important for several reasons. According to Kenyan judicial precedent in respect of patents, when there is substantive examination of applications, granted patents are afforded a very high degree of credibility in an infringement or validity proceeding. In the decision on *Sanitam Services (EA) Ltd v Rentokil (K) Ltd & another* [2000] eKLR, Judge Waweru HPG states:

> I will start with the question of the validity of the patent. The applicant has produced a copy of the same patent and on its face value it was duly registered by a recognized body. The first respondent says the patent was registered by mistake because first defendant had obtained a patent for the foot operated litter sanitary disposal bin on 20th February 1995 under certificate of registration No 2042739. The second respondent says it was not properly registered because the objection to its registration had been lodged with Kenya Industrial Properties Office (KIPO) who were
>
> expected to inform ARIPO before it could be registered. In my humble opinion, and with respect, these are not for me to consider as these are matters between the registering bodies and the respondents. I cannot sit on judgment upon the actions of KIPO and ARIPO as that aspect is not before me. Neither can I legally stop the applicant in its application on grounds that there are objections lodged against the registration of its patent as these objections are not before me for decision. I find that as far as I am concerned, what is before me as a duly registered patent is valid and will remain so valid till the same validity is revoked by the right bodies.

A potential infringer who is sued for infringement of a UMC could elect to challenge the validity of the UMC. With an examination system in operation at the competent authority, the ruling cited above suggests such a challenger would face an uphill

task in convincing the presiding judge to overrule KIPI's informed determination of validity. Put simply, a holder of a UMC granted prior to May 2014 has a relatively high degree of certainty that the UMC would not be overturned by a Kenyan court in an infringement proceeding. In contrast, in a court proceeding involving a recently granted (i.e., not substantively examined) UMC, a judge could not assume validity of the UMC and would therefore be forced to evaluate the merits of the original application. Thus, a holder of a Kenyan UMC granted on or after 1 May 2014 has no degree of certainty that their UMC would withstand a challenge of validity in an infringement proceeding.

The potential drawbacks of examining UMC applications are few (and, in our opinion, outweighed by the benefits), but still noteworthy. Certainly, fewer UMCs are likely to exist under an examination system than under a registration system, as the examination process eliminates unsuitable applications (Correa, 2011). Although examination is positive for providing enhanced clarity regarding the exclusionary rights in the market, it can be argued that it has a dampening effect on the *quantity* of innovation. (This argument relies on the position that UMCs are inherently an incentive to innovation, a position that, as stated in the opening section of this article and further discussed below, we do not support.) Another potential drawback of an examination system is that it is presumably more costly and time-consuming for the competent authority compared to a registration system (Pouris & Pouris, 2011). The system is also presumably more costly to applicants, as the existence of an examination barrier typically necessitates that applicants hire legal counsel for preparing a UMC application.

Indeed the examination system in the Kenyan context highlights the recurrent problem, for innovators and inventors, of identifying qualified legal assistance. KIPI maintains a registry of patent agents: individuals authorised to practice before KIPI on behalf of patent and UMC applicants. The requirements for becoming an agent are provided in Part XV of the Industrial Property Regulations, 2002. In essence, an agent is either an advocate practising in Kenya or "has a university degree in science or a technical field and is conversant with industrial property matters" (Republic of Kenya, 2002). KIPI does not administer an exam when admitting agents. Furthermore, in Kenya, law is an undergraduate degree and advocates are not typically trained in a field of science or technology. The majority of Kenyan patent agents are thus familiar with the administrative aspects of filing patent and UMC, but not with the substantive process of drafting applications.

A registration system for UMC applications (i.e., one without substantive examination) results in a nearly one-to-one ratio of applications to granted UMCs (Correa, 2011). In such a system, the primary barrier to grant is a non-substantive examination by the competent authority for compliance with legal formalities, i.e., formatting of the application and the presence or absence of required sections

(regardless of the technical adequacy of such sections). This is a very low threshold that can be surmounted by nearly all applicants. In such a system, UMC protection becomes, essentially, a guaranteed right. Applicants need not hire costly legal services to produce an application that is substantively compliant with the IPA, and applicants are virtually guaranteed that the payment of official filing fees will result in a granted UMC. If formal IP rights were indeed an incentive to innovation in Kenya (an assumption that we rebut herein), the registration system would likely be more effective than an examination system, by providing a lower barrier to obtaining such rights.

It is instructive to look to South Africa as an example and a warning against registration-only systems in granting of patent-type rights (Correa, 2011; Pouris & Pouris, 2011). The registration system for patents in South Africa has come under heavy criticism from several sources, most notably access to medicines advocates (Correa, 2011; Pouris & Pouris, 2011; Wen & Matsaneng, 2014). Unexamined patents, it is argued, are prone to abuse and overuse (Boztosun, 2010), resulting in the existence of many patents that would not have been granted in an examination system. "Evergreening", the practice of extending patent term for pharmaceuticals by filing follow-on applications near the end of the original term of coverage, is a simple, obvious, and likely effective strategy when the follow-on applications are granted without examination (Correa, 2011). The registration patent system shifts the burden of validation of patent applications to courts and to defendants challenging such validity, resulting in the necessity of costly litigation over potentially invalid patents.[9] For these reasons, substantial efforts have recently been made in South Africa to convert the registration system to an examination system (Wen & Matsaneng, 2014).

From a theoretical perspective, a UMC examination system arguably has both benefits and drawbacks. While our view is that the potential benefits clearly outweigh the potential drawbacks, we sought, with this study, to move beyond the theoretical realm and get a sense of how Kenya's UMC system is currently operating in practical terms.

4. Evaluation of UMCs granted in Kenya

Rate of UMC grants

The cessation of substantive examination of UMCs in Kenya in May 2014 has had at least one clear result: a substantial increase in the rate of granting UMCs. KIPI began accepting UMC applications in 1993. Between 1993 and 30 April 2014 (when substantive examination ceased), KIPI received 412 applications for UMCs (i.e.,

9 The situation is similar to the problem of non-practising entities (NPEs, also sometimes referred to as "patent trolls") in the US, where granted software patents of questionable validity are frequently asserted against a large number of defendants. The vast majority of such lawsuits end in out-of-court settlements in order for the defendant to avoid the cost and time of litigation.

roughly 20.5 applications per year). From those applications, using the substantive examination procedure, KIPI granted 51 certificates, resulting in an overall grant rate of 12% of all applications for this 20-year period. The pace of grant for this period was approximately 2.5 UMCs per year. Such applications were determined by KIPI examiners to satisfy all legal requirements for a UMC, including novelty, industrial use, and proper disclosure.

In contrast, between 1 May 2014 and 21 April 2016, KIPI granted 57 UMC applications (without substantive examination), bringing the total number of granted UMCs to 108.[10] This granting of 57 UMCs in two years represented a rate of grant of approximately 28.5 UMCs per year, a rate increase of over 1,100% from the average rate of grant for the previous years.

We determined that KIPI received 217 applications between 1 May 2014 and 21 April 2016 (i.e., roughly 108.5 applications per year, an increase of 525% in the annual rate over the rate for the preceding 20-year period). It is expected that most of these applications will eventually become granted UMCs. (Possible reasons that a UMC application would not be granted include: failure to comply with the formality requirements; and failure to pay grant fees. But due to the lag between application and publication, the grant rate of recent UMC applications will not be knowable for some time. Section 42 of the IPA requires a waiting period of 18 months between the priority filing date and the publication of an application. There is no provision in the IPA for requesting early publication.

Quality of UMC applications

For the 57 UMCs granted since 1 May 2014, the lack of substantive examination means that these granted UMCs may lack novelty, industrial use, and/or proper supporting disclosure – or, in fact, they may fully satisfy all of these requirements. In order to determine the quality of granted UMCs, and whether such quality has been affected by the cessation of substantive examination, we evaluated the granted claims of 39 out of the 108 total granted UMCs: 17 claims that were granted before 1 May 2014 (i.e., based on substantive examination) and 22 claims that were granted from 1 May 2014 onwards (i.e., not based on substantive examination). For this analysis, we selected, at random, an average of 3.5 granted UMCs from each numerical decade (i.e., one UMC was selected from the UMCs numbered 1-10, three were selected from those numbered 11-20, four were selected from those numbered 21-30, four were selected from those numbered 31-40, and so on for the 11 total decades).

The criteria we used for evaluating the set of claims in each successful UMC were

10 Fifty of the 57 UMCs granted since May 2014 (representing 88%) were filed as final applications prior to May 2014, and were therefore filed by applicants expecting substantive examination of such applications. This may have bearing on the quality of such applications although it is beyond the scope of this paper to determine the intent of the UMC applicants.

mostly selected from Regulation 14 of the Industrial Property Regulations of 2002, and they were selected due to their objectivity. We used the following inquiries for each claim in the set of claims contained in a UMC application: (1) whether the features of the claim were preceded by the words "characterised in that" or "characterised by", or any words to the same effect as required by Regulation 14(3); (2) whether the claim relied on a reference to a drawing as prohibited by Regulation 14(4); (3) whether the claim was consecutively numbered in relation to the other claims in the application using Arabic numerals as required by Regulation 14(7); (4) whether the claim was a single sentence with only one full stop; (5) whether dependent claims were properly formatted as dependent claims; and (6) whether all limitations had proper antecedent basis.

We found that only six out of the 39 reviewed UMCs were based on a set of claims containing no errors.[11] Most of the errors we found were substantial enough that they would (or should) result in a claim rejection or objection during a substantive examination. The data are summarised in Table 1.

Table 1: Claim errors identified among 39 Kenyan UMCs, 1993 to April 2016

UMC number range	A claim lacks transition word	A claim contains critical reference to a drawing	Claims not consecutively numbered	Claims not a single sentence	Improper dependency format	Antecedent basis problem	Total errors found
1-51[a]	8	0	0	3	9	11	31
52-108 [b]	4	2	1	6	10	13	36
Overall	12	2	1	9	19	24	

Source: authors' data collection

[a] In this range, UMCs were subjected to substantive examination. Seventeen of these UMCs were reviewed.

[b] In this range, UMCs were not subjected to substantive examination. Twenty-two of these UMCs were reviewed.

The data show that most granted UMCs in Kenya contain claims with errors, regardless of whether or not the claims were subjected to substantive examination. In some cases, the errors are minor ones, such as omissions of full stops and minor antecedent basis errors. Minor errors are easily correctable during examination, and correction rarely raises issues such as violation of the prohibition against addition of new matter during prosecution. In other cases, the errors are major ones, such as a complete lack of structure – e.g., claims written in a multiple-sentence narrative format. Such errors are often quite difficult to remedy during prosecution without

11 Of the six error-free UMCs, two were subjected to examination (i.e., are pre-2014) and four were not subjected to examination (i.e., are from 2014 onward). A substantial number (seven) of the claims we examined were missing a full stop at the end of the claim, but we did not record this error as we regarded it as too minor.

adding new matter to the application. Narrative-style claims were observed in post-1-May-2014 UMCs but not in pre-May-2014 UMCs.

The average number of errors did not increase in the claims for UMCs issued after substantive examination was discontinued. Out of the 17 UMCs reviewed with grant dates prior to 1 May 2014 (i.e., UMCs subjected to substantive examination), we observed 31 errors, resulting in an average rate of 1.8 errors per UMC. For the 22 UMCs reviewed with grant dates after 1 May 2014 (i.e., UMCs not subjected to substantive examination), we observed 36 errors, resulting in an average rate of 1.6 errors per UMC. However, in addition to the six factors mentioned above, a variety of other issues were noted in our review. In one UMC (filed and granted after 1 May 2014), the claims were clearly directed to a perpetual motion machine (i.e., a device that generates more energy than it consumes). Patent claims to such devices are typically prima facie invalid for claiming a device that is physically impossible. In at least three UMCs granted after 1 May 2014, we found that the applications were initially filed as patent or utility model applications but then, upon receiving a rejection from KIPI during the substantive examination of the patent claim, the applicant converted the application to a UMC application and the claims were granted without amendment.[12]

We conclude from our review of granted UMCs that:

- substantive examination improves the quality of granted claims;
- presence of substantive examination does not guarantee that the granted claims are compliant with even the formalities requirements of the IPA of 2001; and
- lack of substantive examination allows prima facie invalid claims to be granted.

UMC applicants: Local versus foreign entities

In addition to reviewing the claims as described above, and in order to ascertain the local versus foreign distribution of UMC applicants, we reviewed the biographical data for 100 of the 108 granted UMCs.[13] For all but one granted UMC that we reviewed (i.e., 99%), the owner was listed as having a Kenyan address. This was substantially different from the situation for patents, in which 573 out of the first 655 granted patents (i.e., 87.5%) had owners with a foreign address.[14] This indicates that, unlike patents, UMCs are almost exclusively filed and held by local Kenyan applicants.

12 A substantive examination of the claims (i.e., for novelty, clarity, sufficient support by the specification, etc.) was beyond the scope of this investigation. Anecdotally, however, from our review we expect that many of the non-examined claims would fail such an examination.

13 Data were unavailable for eight of the first 25 granted UMCs.

14 At the time of writing in April 2016, roughly 800 patents have been granted by KIPI. We examined the biographical data from patents numbered 1-655.

The identities of the owners of the 99 locally owned UMCs were also investigated. Local universities were named as owners of seven granted UMCs. For 43 of the UMCs reviewed, the owner and the inventor were the same, indicating that an individual (as opposed to a corporation) filed the application. The remaining 50 UMCs were owned by local corporations, and of those, 24 were owned by a single applicant.

From our analysis of UMC ownership data, several conclusions can be drawn. The data show that utilisation of the UMC system is strongly biased towards local applicants and slightly biased towards non-corporate applicants.[15] In addition, it appears that UMCs have so far not presented a motivating factor for research at universities and businesses. Approximately 70 universities currently exist in Kenya, yet such universities collectively owned only seven of the granted UMCs that we looked at. Furthermore, notwithstanding the existence of one entity that is relatively active in obtaining UMCs (holding 24 in total), the thousands of companies registered in Kenya do not appear to be engaging to any significant extent with the UMC system, as there were only 26 granted UMCs held by companies other than the single entity holding 24. It is very likely that some of the remaining 43 UMCs – i.e., those filed and owned by an individual inventor – were also associated with an SME through assignment or otherwise, but these numbers clearly show that the vast majority of Kenyan businesses are not filing UMC applications[16] and are not obtaining granted UMCs.

Processing times

In order to gauge the efficiency of KIPI in respect of application throughput, we further compared the application and grant dates of 90 of the 108 granted UMCs.[17] We found that 64 (71%) of the 90 granted UMCs we looked at required approximately two or fewer years to proceed to grant from the original filing date of the final (i.e., non-provisional) application. Approximately nine of the 90 UMCs required three years, seven required between four and five years, and 11 required six or more years to proceed to grant from the filing date of the final application. Significantly, roughly half of the applications requiring greater than four years were granted after KIPI ceased substantive examination, indicating that such applications had stalled during the examination process but were pushed to grant after examination ceased.

15 Our analysis of ownership is based on filing documents in the official KIPI files, and does not account for the possibility of later assignment of the applications or granted UMCs.

16 As of the date of this writing, a total of 630 UMC applications (including applications that have been granted, abandoned, and are still awaiting grant) had been filed at KIPI.

17 Data were unavailable for the remaining granted UMCs.

Table 2: Number of years between application and grant for 90 of 108 granted UMCs

Years from application to grant	Fewer than 2 years	2-3 years	4-5 years	6+ years
Number of granted UMCs	64	9	7	11

Source: authors' data collection

We conclude from our review of ownership and processing times for granted UMCs that:

- UMCs are almost exclusively filed by local entities;
- UMCs do not appear to be operating to incentivise substantial amounts of innovation by businesses in Kenya; and
- cessation of substantive examination of UMC applications has resulted in the grant of many applications that had stalled during such examination.

5. Conclusions and recommendations

In this article, we have presented two sets of findings drawing on our primary data collection. First, based on our doctrinal analysis of Kenya's legal context for UMCs, we found that Kenya's patent law, the IPA of 2001, allows, and arguably encourages, substantive examination of UMC applications.

Second, our analysis of UMC applications received by the competent authority, KIPI, found dramatic recent increases in the number of UMC applications received and UMCs granted since KIPI's discontinuation of substantive examination of UMC applications and introduction of a registration-only system. The analysis of the UMC application data also found, in the registration-only era since 1 May 2014, an increase in the incidence of major errors in the laying out of claims in the UMC applications, and an apparent granting of UMCs to applications that had stalled in the examination era prior to May 2014.

The findings from the UMC data thus suggest that the increase in volume of UMCs in the registration-only era is accompanied by a decrease in quality. These findings from the UMC records support our initial view, held before conducting the research, that examination of applications results (at least to some extent) in higher quality, and thus more enforceable, granted UMCs (Correa, 2011; Kaplan et al., 2009; Pouris & Pouris, 2011). The findings also suggest that further improvement in the quality of granted UMCs would be easier to achieve under an examination system (i.e., by training KIPI examiners to be more thorough in examination), as opposed to under a registration-only system (i.e., by training the patent applicants to write better applications).

Accordingly, it is our recommendation that the competent authority, KIPI, reinstate substantive examination for UMCs. The result of this reinstatement would, in our

estimation, likely be a reduction in the rate of UMC grants. Such a reduction would not, in our view, result in a reduction in levels of innovation in the vibrant Kenyan ecosystem, because, as we stated above, we do not hold the view that UMCs (or, indeed, patents) are essential to motivating innovation. Our belief is that a reduction in the rate of granting UMCs by KIPI would represent, if the UMCs were substantially examined, an enhancement of the quality of the UMC system – and, in turn, would allow granted UMCs to play a more legitimate role in (as but one part of) Kenya's complex innovation ecosystem.

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