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Prior Art and Disclosure in Patent Legislation: Comparing Nigeria and Selected Jurisdictions

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Abstract

The patent system has evolved to become a protection contract between states and patentees. The state protects disclosed inventions in return for disclosing patentees' claims of inventions. It has also laid out obligations and responsibilities for both the state and the patentee. The concepts of prior art and disclosure are statutory obligations of the patentee. They have become integral to patent applications. Their international character can still be seen as they apply in different patent legislation worldwide. But yet, the territoriality of patent rights' has made it expedient for various jurisdictions to adopt suitable legislation for their patent systems. The diverse legislative provision for prior art and disclosure in Nigeria and many other jurisdictions shows the importance of these two concepts in local patent systems and hence the need to highlight them and discuss their differences where they exist. This is precisely the aim of this article. The article highlights and compares the concepts and statutory provisions of prior art and disclosure under the Nigerian Patent Act and other jurisdictions like United States, Europe, India, Japan, Brazil, Kenya, South Africa, Malaysia and Thailand. It further identifies some gaps in Nigerian statutory provisions and recommends that Nigerian policymakers adopt provisions on prior art and disclosure from other jurisdictions. The article concludes that Nigeria needs a robust examination method to implement prior art and disclosure requirements in patent applications.

1. Introduction

The term ''patent'' is short for ''letters patent,'' derived from the Latin phrase "literae patentes," meaning "open letters." [1] Historically, letters patent were known to be "letters addressed by the sovereign, reciting a grant of some dignity, office, franchise, or other privileges that have been given by the sovereign to the patentee." The commencement of the TRIPS Agreement[2] and its ratification by member states marked the beginning of internationalising minimum protection standards for patent rights within local jurisdictions. Article 27 provides explicitly for patentable subject matter and grant of patents to inventions if new, inventive steps have been taken (are non-obvious) or have industrial application (utility). Newness and inventive step are parrel requirements with disclosure and prior art requirements in inventions, as prior art is meant to show that an invention is not new or non-obvious. That is why there is a need to understand what

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[1] Collin, P.H, Dictionary of Law, Bloomsbury Reference, 4th Edition, London: Bloomsbury Publishing, (2004) at p.216.

[2] Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), 1869 U.N.T.S. 299.See article 27 which provides for patentabilityl of inventions.

counts as relevant prior art, and how that can affect your patent application.[3] On the other hand, disclosure is the first notification that an invention has been created and establishes an invention's description and chronology. They include a detailed description of a novel invention that explains how it is made and reproduced. [4]

It is essential to know that Nigeria, just like other countries, is a signatory to TRIPS and its patent law, the Nigerian Patents and Designs Act(PDA)[5] is TRIPS compliant. Like other local patent legislations worldwide, it provides the need for an invention not form part of the prior art and its clear disclosure before it can be patentable. The interesting phenomenon is that statutory requirements for prior art and disclosure differ among Nigeria and different other jurisdictions. Also, recognising the fact that different examination procedures determine the ability of patent offices to comply with statutory provisions of prior art and disclosure is necessary for academic discourse. Appreciating these differences and having a close look at their statutory provisions has become essential, especially in identifying similar and conflicting legal rules applied to the same requirement in patent applications. The backdrop of these analyses of prior art and disclosure requirements forms the basis of discussions in this article.

2. The Concepts of Prior Art and Disclosure

There is no internationally accepted definition of what constitutes "prior art" or the "state of the art" used globally in different patent legislation. The concept is still understood to refer to any knowledge existing before a patent application's relevant filing or priority date, whether it existed through written or oral disclosure.[6] It is generally defined as all information available to the public.[7] The available information is usually concerning an invention when making a patent application. Therefore, the patent examiner usually examines the available information to see if the information was in the public domain before the current patent application was made.[8]

The patent system has also evolved to recognise patent examination. Patent examinations are usually carried out by patent examiners to verify the originality and quality inventions brought by patentees in patent applications.[9] The prior art is typically compared to the claimed invention to establish novelty and inventive step (non-obviousness). It is related to the disclosure requirements because prior art generically includes different activities, such as disclosures of inventions before a patent is granted.[10] A failure of a claimed invention to pass the prior art test can invalidate a patent's grant. A failure can also invalidate the patent grant even after the patent has been granted. The patent examiner can, and sometimes does search for prior art

[3]Michael K. Henry, 'What Is Prior Art?' (*Henry Patent Law Firm*, 7 September 2017) <https://henry.law/blog/what-is-prior-art/> accessed 8 February 2021.
[4]Roman Kopytko, 'The Basics of Invention Disclosures' <https://www.wellspring.com/blog/the-basics-of-invention-disclosures> accessed 8 February 2021.
[5] Patent and Designs Act Cap P2 LFN 2004.
[6] World Intellectual Property Organization, *Intellectual Property Reading Material* (WIPO 1995) 131.
[7]Deborah Bouchoux, *Intellectual Property: The Law of Trademarks, Copyrights, Patents, and Trade Secrets* (Delmar, Cengage Learning, 2013)343.
[8] World Intellectual Property Organization, *Using Inventions in the Public Domain: A Guide for Inventors and Entrepreneurs* (WIPO 2020) 13,14.
[9] John L. King, 'Patent Examination Procedures and Patent Quality', *Patents in the Knowledge-Based Economy* (National Academies Press 2003) 56.
[10] *Prior Art: Critical Changes to Patent Law Section 102* (Practising Law Institute 2006) 54–56.

internationally.[11] The examiner is not limited to prior art in their own country.[12] In other words, the prior art effect of a past patent filing extends beyond the country's geographical boundaries in which the patent was issued or published.[13] For example, a Nigerian patent or patent publication would serve as prior art against subsequently filed patent applications in the U.K. and foreign countries. Similarly, a foreign patent or publication would also serve as prior art against a Nigerian application.[14] Prior art, therefore, has a worldwide effect in blocking future applicants from patenting the same thing..Applicants may include statements in their applications regarding how their inventions differ from and are improvements over prior art.[15] Newness and inventive step are also usually considered on the strength of prior art.[16]

On the other hand, patent disclosure can be defined as the "public claim of data about an invention. In general, it is any part of the patenting process in which data regarding an invention is disclosed. ." Apart from uniformly indicating that descriptions of the invention were required as part of the formality requirements, descriptions in disclosure requirements need to disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.[17] A satisfactory disclosure tells someone else how to create the product."[18] It also means "any, non-confidential communication of an idea or invention,"[19] or where the contents of patents are disclosed.[20]Public disclosure of the existence of the patented item is necessary before a patent is granted.[21] The contract theory holds that the patent system's function is to promote the diffusion of innovative knowledge. in the absence of patent protection innovators would rely on trade secrecy, which would not be healthy to innovation. Therefore three is a need for a patent system where there is a contract between innovators and society whereby a property right is granted in exchange for disclosure.[22] Hence, it is in society's interest to induce the inventor to disclose his secret in exchange for the state

[11] *Manual of Patent Examining Procedure* (US Department of Commerce, Patent and Trademark Office 1995).
[12] Vic Lin, 'Can Others File the Same Patent in a Different Country?' (*Patent Trademark Blog /IP Q&A*, 13 February 2020) <http://www.patenttrademarkblog.com/same-patent-different-country/> accessed 9 February 2021.
[13] ibid.
[14] ibid.
[15] ibid.
[16] s1(2)(a)(b) of the Nigerian Patents and Designs Act.
[17]WIPO, *Technical Study on Disclosure Requirements in Patent Systems Related to Genetic Resources and Traditional Knowledge* (WIPO 2004) 18.
[18]UpCounsel, 'Patent Disclosure: Everything You Need to Know' (*UpCounsel*, 2021) <https://www.upcounsel.com/patent-disclosure> accessed 9 February 2021.
[19]KU Center for Commercialization, 'Public Disclosure and Patent Bars' (*KU Center for Technology Commercialization*, 3 February 2017) <https://ctc.ku.edu/faculty/protect-your-ideas/protecting-intellectual-property/public-disclosure> accessed 9 February 2021.
[20]Reiko Aoki and Yossi Spiegel, 'Public Disclosure of Patent Applications, R&D, and Welfare' (ResearchSpace Auckland 1998) Working Paper.
[21]E Jennings Taylor and Maria Inman, 'Looking at Patent Law: In Public Use and On Sale; Evolving Standards in Prior Art and Public Disclosure' (2018) 27 The Electrochemical Society Interface 35.
[22]Vincenzo Denicolò and Luigi Alberto Franzoni, 'The Contract Theory of Patents' (2003) 23 International Review of Law and Economics 365.

granting him exclusive patent rights to his invention.[23]Traditionally there are three types of disclosures; written disclosure, oral disclosure and disclosure by use.[24]

3. Prior Art in Nigeria and Selected Jurisdictions

There are different patent legislation in all countries of the world. Discussions here will focus briefly on the provision on prior art in the Nigerian Patent Act[25] and the patent laws of selected countries like the United States, Europe, India, Japan, Brazil, Kenya, South Africa and Thailand.

The question of what prior art is under the PDA is settled in section 1 (3) of the PDA. It defines "art" and "the state of the art" as thus:

> "the art" means the art or field of knowledge to which an invention relates and "the state of the art" means everything concerning that art or field of knowledge which has been made available to the public anywhere and at any time whatever (by means of a written or oral description, by use or in any other way) before the date of the filing of the patent application relating to the invention or the foreign priority date validly claimed in respect thereof, so however that an invention shall not be deemed to have been made available to the public merely by reason of the fact that, within the period of six months preceding the filing of a patent application in respect of the invention, the inventor or his successor in title has exhibited it in an official or officially recognised international exhibition.

Under the U.S. Patent Act,[26] particularly sub-sections 102(a) and (b) establish that a patent will not be granted if the invention was patented or described in a printed publication in the U.S. or a foreign country, either before the date of the claimed invention or more than a year before the date of the patent application. A patent shall not be granted if the invention was known or used by others in a foreign country. Unpublished or un-patented knowledge or use in a foreign country is not relevant to patentability under this sub-section.[27]

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[23]Fritz Machlup and Edith Penrose, 'The Patent Controversy in the Nineteenth Century' (1950) 10 The Journal of Economic History 1, 1–6.

[24]Jeffrey M. Kaden, 'Patent Protection and the Novelty Requirement' (*Gottlieb, Rackman & Reisman, P.C.*) <https://grr.com/publications/patent-protection-novelty-requirement/> accessed 9 February 2021.

[25] Referred to as PDA in this article.

[26] United States, Code Title 35. Section 102(a)(b) states that A person shall be entitled to a patent unless—

> (1)the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or
> (2)the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

[27]The United Kingdom Patent Act (2) The state of the art in the case of an invention shall be taken to comprise all matter (whether a product, a process, information about either, or anything else) which has at any time before the priority date of that invention been made available to the public (whether in the United Kingdom or elsewhere) by written or oral description, by use or in any other way. (3) The state of the art in the case of an invention to which an application for a patent or a patent relates shall be taken also to comprise matter contained in an application for another patent which was published on or after the priority date of that invention, if the following conditions are satisfied, that is to say - (a) that matter was contained in the application for that other patent both as filed and as published; and (b) the priority date of that matter is earlier than that of the invention.

In the case of Europe, Article 54(2) of the European Patent Convention (EPC)[28] defines prior art (the state of the art) as comprising "…everything made available to the public by means of a written or oral description, by use, or in any other way, before the filing of the European patent application". EPC jurisprudence has made it clear that the issue is not so much whether the general public is aware of the information's existence. Instead, the information is merely available and accessible to anyone at any given time. This is particularly important regarding traditional knowledge and information sources that the general public might not be readily aware of.[29]

Under the Indian Patent Act, Section 29 refers to prior art as that which was published before the claim of a completed specification in:

(i) any specification filed for obtaining a patent in India on or after January 1, 1912;

(ii) (ii) in India or elsewhere and also in any other documents. The only exception is where the applicant can prove that the matter published was taken from him and published without his consent and that he had applied for the patent as soon as reasonably practicable after knowing about the publication.

"new invention" under the Act means:

> any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification, i.e., the subject matter has not fallen in public domain or that it does not form part of the state of the art.[30]

Section 11 of the Act provides priority dates of claims of a complete specification.[31]Thus, a careful look at section 11 and other relevant sections of the Indian Patent Act reveals more robust and comprehensive provisions on prior art, different from Nigeria's PDA. One burning issue in prior art that has been a subject of debate is the subject of traditional knowledge (T.K.). The PDA does not reflect this reality and most, if not all patent laws, have a difficult time recognising relevant T.K. The practical implications of such recognition can be seen in policy development, resource deployment and strategic planning of operations, considering the practical implications

[28] The Convention on the Grant of European Patents (1973 , as amended by the act revising Article 63 EPC of 17 December 1991 and by decisions of the Administrative Council of the European Patent Organization 1978, 1994,1995, 1996, 1998, 2005).

[29]In order to address these issues and avoid patenting of traditional knowledge, the USPTO has suggested the need to create more easily accessible non-patent literature databases that deal with traditional knowledge. Traditional knowledge could, in this way, be documented, captured electronically and placed under appropriate classification systems in order for it to be more easily searched and retrieved by patent examiners.

[30] S 2(1)(l).

[31]Section 11 states that there shall be a priority date for each claim of a complete specification. (2) Where a complete specification is filed in pursuance of a single application accompanied by— (a) a provisional specification; or (b) a specification which is treated by virtue of a direction under subsection (3) of section 9 as a provisional specification, and the claim is fairly based on the matter disclosed in the specification referred to in clause (a) or clause (b), the priority date of that claim shall be the date of the filing of the relevant specification. (3) Where the complete specification is filed or proceeded with in pursuance of two or more applications accompanied by such specifications as are mentioned in sub-section (2) and the claim is fairly based on the matter disclosed…"

of T.K. for search and examination, and exploring practical solutions to enhance the validity of patents in the light of T.K. [32] The significant challenges have been T.K.'s prior art status, T.K.'s novelty status, practical accessibility of T.K., and assessing inventive step for innovations within or drawing on T.K. However, India has overcome a large part of this challenge by protecting her traditional knowledge from patent bio-piracy by a new initiative in 2001 called the Traditional Knowledge Digital Library (TKDL). The TKDL would help patent examiners worldwide have a ready reference to Indian traditional knowledge while granting patents in such domains, thus constituting prior art.

Another legislation on prior art is the Japanese Patent Act.[33] Article 29(1) of the Japanese Patent Act provides that prior art entails inventions which were publicly known, inventions which were publicly worked and inventions which were described in a distributed publication or made available to the public through telecommunication lines in Japan or elsewhere, prior to the filing date or priority date. Complimentary to the above criteria, the Japanese Operational Guidelines on Treatment of Technical Information Disclosed on the Internet as Prior Art,[34] offer detailed guidance as to the treatment as prior art of inventions which became available to the general public through communication lines prior to the filing of the patent application. As defined, these telecommunication lines would include websites and online databases of traditional knowledge. Even if not effectively accessed, availability of the information is important as long as access is not restricted to the websites or databases. Even if a password or non-discriminating procedure is required, these will be considered available to the general public and, therefore, will be deemed to contain information which could be regarded as prior art. The same principles would obviously apply to written documentation. The PDA neither makes similar provisions or guidelines. Sadly, in today's internet technology age, such provisions are relevant to Nigeria's economic development.

The Brazilian Property Law states that "an invention and a utility model are considered to be new if they are not part of the state of the art."[35] It further defines the state of the art to consist of "everything that became accessible to the public before the filing date of the patent application, through a written or oral description, by use or by any other means, in Brazil or abroad, except as provided in Articles 12, 16, and 17."[36] Furthermore:

> "the disclosure of an invention or utility model shall not be considered to be state of the art if it occurred during the 12 (twelve) months preceding the date of filing or of priority of the patent application, if made: I. by the inventor; II. by the Instituto Nacional da Propriedade Industrial--INPI (National Institute of Industrial Property), by means of official publication of the patent application filed without the consent of the inventor, based on information obtained from him or as a consequence of actions taken by him; or III. by third parties, based on information

[32] These long range of deliberations have gone on at meetings organized by the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Geneva, from 1996 till date.
[33] Patent Act (Act No. 121 of 13 April 1959, as amended).
[34] Operational Guidelines on Treatment of Technical Information Disclosed on the Internet as Prior Art, (Examination Standards Office Coordination Division, Japan Patent Office,1999).
[35] art. 11.
[36] art. 11(2).

> obtained directly or indirectly from the inventor or as a consequence of actions taken by him. The INPI may require from the inventor a statement related to the disclosure, accompanied or not by proofs, under the conditions established in regulations.[37]

In Kenya, the position of the law on prior art is that:

> For the purposes of this Act, everything made available to the public anywhere in the world by means of written disclosure (including drawings and other illustrations) or, by oral disclosure, use, exhibition or other non-written means shall be considered prior art: Provided that such disclosure occurred before the date of filing of the application or, if priority is claimed, before the priority date validly claimed in respect thereof.[38]

Furthermore, it states that:

> For the purpose of the evaluation of novelty, an application for the grant of a patent or a utility model certificate in Kenya shall be considered to have been comprised in the prior art as from the filing date of the application, or if priority is claimed, as from the date of its validly claimed priority, to the extent to which its content is available, or is later made available, to the public in accordance with this Act or in accordance with the Patent Co-operation Treaty.[39]

Additionally:

> For the purposes of subsection (2), a disclosure of the invention shall not be taken into consideration if it occurred not earlier than twelve months before the filing date or, where applicable, the priority date of the application and if it was by reason or in consequence of—(a) acts committed by the applicant or his predecessor in title; or (b) an evident abuse committed by a third party in relation to the applicant or his predecessor in title.[40]

Under the South African Act, "state of the art" is different in content from Nigeria. It states thus:

> The state of the art shall comprise all matter (whether a product, a process, information about either, or anything else) which has been made available to the public (whether in the Republic or elsewhere) by written or oral description, by use or in any other way.[41]

Also, the Act also states that:

> The state of the art shall also comprise matter contained in an application, open to public inspection, for a patent, notwithstanding that that application was lodged at the patent office and became open to public inspection on or after the priority date of the relevant invention, if—(a) that matter was contained in that application both

[37] art 12.
[38] s 23(2).
[39] s 23(3).
[40] s 23(4).
[41] s. 25(6).

> as lodged and as open to public inspection; and (b) the priority date of that matter is earlier than that of the invention.[42]

Under section 25(8), "an invention used secretly and on a commercial scale within the Republic shall also be deemed to form part of the state of the art for the purposes of subsection (5)." Section 25(9) states that:

> In the case of an invention consisting of a substance or composition for use in a method of treatment of the human or animal body by surgery or therapy or of diagnosis practiced on the human or animal body, the fact that the substance or composition forms part of the state of the art immediately before the priority date of the invention shall not prevent a patent being granted for the invention if the use of the substance or composition in any such method does not form part of the state of the art at that date.

Under section 14(2) of the Malaysian Patent Act, prior art shall consist of:

> everything disclosed to the public, anywhere in the world, by written publication, by oral disclosure, by use or in any other way, prior to the priority date of the patent application claiming the invention;
> (b) the contents of a domestic patent application having an earlier priority date than the patent application referred to in paragraph (a) to the extent that such contents are included in the patent granted on the basis of the said domestic patent application.

Furthermore, Section 14(3) the Act states that:

> A disclosure made under paragraph (2)(a) shall be disregarded - (a) if such disclosure occurred within one year preceding the date of the patent application and if such disclosure was by reason or in consequence of acts committed by the applicant or his predecessor in title; (b) if such disclosure occurred within one year preceding the date of the patent application and if such disclosure was by reason or in consequence of any abuse of the rights of the applicant or his predecessor in title; (c) if such disclosure is by way of a pending application to register the patent in the United Kingdom Patent Office as at the date of coming into force of this Act.

Lastly, the Act states that:

> The provisions of subsection (2) shall not exclude the patentability of any substance or composition, comprised in the prior art, for use in a method referred to in paragraph 13(1)(d), if its use in any such method is not comprised in the prior art.[43]

The state of art, under the Patent Act of Thailand, is said to include:

> (1) an invention which was widely known or used by others in the country before the date of application for the patent;(2) an invention the subject matter of which was described in a document or printed publication, displayed or otherwise

[42] s. 25(7).
[43] s 14(4).

> disclosed to the public, in this or a foreign country before the date of the application for a patent;(3) an invention for which a patent or petty patent was granted in this or a foreign country before the date of application;(4) an invention for which a patent or petty patent was applied in a foreign country more than eighteen months before the date of the application and a patent or petty patent has not been granted for such invention;
>
> (5) an invention for which a patent or petty patent was applied for in this or a foreign country and the application was published before the date of application. A disclosure which was due to, or made in consequence of, the subject matter having been obtained unlawfully, or a disclosure which was made by the inventor, or made in consequence of, the inventor displaying the invention at an international exhibition or an official exhibition if such disclosure was done within twelve months before the filing of an application for the patent, shall not be deemed to be a disclosure under subsection (2) above.[44]

Interestingly, the Patent Act of Thailand makes ss provisions prior art in patents or petty patents filed in Thailand, unlike the PDA, which only provides for patents.

4. Clear and Complete Disclosure of Invention in Nigeria and Selected Jurisdictions

The PDA of Nigeria lays down specific requirements expected to be met in applying for patent protection. Under standard patent practice in many countries, there is the requirement that the claims made by an applicant must be supported by the description.[45] This ensures a correlation between what is invented and what has been claimed. This is based on the equitable principle that the extent of the patent monopoly, as defined by the claims, should correspond to the technical contribution to the art to be supported or justified.[46] First, it is required that the application for the grant of patent shall be made to the Registrar of Patents and Designs.[47] The application shall be accompanied by both the prescribed fees, where appropriate, and a declaration signed by the true inventor requesting that he be mentioned as such in the patent and giving his name and address. If the application is made by an agent, a signed power of attorney authorises the donee to that effect.[48] Besides, the description referred to above shall disclose the

[44] s 6.

[45] United States Patents and Trademark Office, Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112(a) or Pre-AIA 35U.S.C.1 <https://www.uspto.gov/web/offices/pac/mpep/s2163.html>accessed 3 June, 2018

[46]USPTO, 'Manual of Patent Examining Procedure'(*USPTO*,2021)

<https://www.uspto.gov/web/offices/pac/mpep/s2163.html> accessed 11 February 2021.

[47] s.3 (1) (a). Also, a form 1(In Rule 8(1) of the PDA) shall be filled and shall contain:(a)The applicant's full name and address and if that address is outside Nigeria, an address for service in Nigeria(s.3(1)(a)). Under s 3(2),the description referred to in subsection (1) (a)(ii) of this section shall disclose the relevant invention in a manner sufficiently clear and complete for the invention to be put into effect by a person skilled in the art or field of knowledge to which the invention relates; and the claim or claims referred to in subsection (1) (a) (iii) of this section shall define the protection sought and shall not go beyond the limits of the said description. Rule 8(1) is also relevant here. According to Rule 12(2), this claim(s) shall define the protection sought and shall not go beyond the limits of the said description.

[48] s. 3(1)(b).

relevant invention in a manner sufficiently clear and complete for the invention to be put into effect by any person skilled in the art or field of knowledge to which the invention relates.[49] Where the applicant seeks to avail himself of a foreign priority in respect of an earlier application made in a country outside Nigeria, he should attach to his duly completed application the date, country and number of the earlier application. He should also attach the name of the person who made the earlier application; not more than three months after making the application under section 3(1) of PDA, and he shall present to the Registrar with a copy of the application certified correct by the Industrial Property Office (IPO) in the country where the earlier application was made.In contrast, other countries' patent systems differ on application and disclosure requirements under their law. Some foreign provisions could be beneficial to the Nigerian patent system, given the current gaps present in the PDA. Jurisdictions like India, Brazil, South Africa and Malaysia will be briefly discussed.

The Indian Patent Act recognises that an application for patent registration shall be made by any person claiming to be the true and first inventor of the invention. It can also be made by any person being the assignee of the person claiming to be the true and first inventor in respect of the right to make such an application, and also by the legal representative of any deceased person who immediately before his death was entitled to make such an application.[50] It also provides for information and undertaking regarding foreign applications in the case of an application of an indigenous person and a foreigner.[51] Section 9(1) (4) provides for provisional and complete specifications.[52] Importantly, Section 10 of the Indian Act states that "every specification, whether provisional of complete, shall describe the invention and shall begin with a title sufficiently indicating the subject-matter to which the invention relates."Also, drawings, model or sample of anything illustrating the invention or alleged to constitute an invention, shall be included if the Controller so requires, be supplied for the purposes of any specification, whether complete or provisional.[53]Furthermore, the Indian Act provides:

> Every complete specification shall— (a) fully and particularly describe the invention and its operation or use and the method by which it is to be performed; (b) disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection; and (c) end with a claim or claims defining the scope of the invention for which protection is claimed; (d) be accompanied by an abstract to provide technical information on the invention: Provided that— (i) the Controller may amend the abstract for providing better information to third parties; and (ii) if the applicant mentions a biological material

[49]s.3(2).

[50] s 6(1). Thus, this means, like in Nigeria, that the Indian Act recognizes the first-to-file rule and not the first-to-invent like in some jurisdictions. However, the provision is different from the contents of s 2 of the PDA. Also, the application under the Indian Act is subject to payment of the required fees under s 142.

[51] s 8. This provision is quite different in wording from s 2 of the PDA. There is a need to standardize s 2 to conform with the provisions of s 8of the Indian Act.

[52] It states that "where an application for a patent (not being a convention application or an application filed under the Patent Cooperation Treaty designating India) is accompanied by a provisional specification, a complete specification shall be filed within twelve months from the date of filing of the application, and if the complete specification is not so filed, the application shall be deemed to be abandoned."

[53] S 10(2)(3).

> in the specification which may not be described in such a way as to satisfy clauses (a) and (b), and if such material is not available to the public, the application shall be completed by depositing the material to an international depository authority under the Budapest Treaty and by fulfilling the following conditions, namely:— (a) the deposit of the material shall be made not later than the date of filing the patent application in India and a reference thereof shall be made in the specification within the prescribed period; (b) all the available characteristics of the material required for it to be correctly identified or indicated are included in the specification including the name, address of the depository institution and the date and number of the deposit of the material at the institution; (c) access to the material is available in the depository institution only after the date of the application of patent in India or if a priority is claimed after the date of the priority; (d) disclose the source and geographical origin of the biological material in the specification, when used in an invention…[54]

From the provisions of the Indian Act, it is evident that compared to the PDA provisions, the Indian Act is more comprehensive and elaborate. The need to tailor relevant provisions under the PDA is not farfetched.

In Brazil, The disclosure of an invention or utility model shall not be considered to be state of the art if it occurred during the 12 (twelve) months preceding the date of filing or of priority of the patent application, if made:

> I. by the inventor; II. by the Instituto Nacional da Propriedade Industrial--INPI (National Institute of Industrial Property), by means of official publication of the patent application filed without the consent of the inventor, based on information obtained from him or as a consequence of actions taken by him; or III. by third parties, based on information obtained directly or indirectly from the inventor or as a consequence of actions taken by him. The INPI may require from the inventor a statement related to the disclosure, accompanied or not by proofs, under the conditions established in regulations.[55]

Section 34 (1) (8) of the Kenyan Industrial Property Act provides that:

"an application for a patent shall contain—(a) a request ;(b) a description; (c) one or more claims; (d) one or more drawings (where necessary); and (e) an abstract." Section 34(2) further states that "where the applicant's ordinary residence or principal place of business is outside Kenya, he shall be represented by an agent who shall be a citizen of Kenya admitted to practice before the Institute.[56] Also, Sections 35 and 36 provide unity of inventions and amendment and

[54] s 10(4)(7). Section 11 of the Act provides for priority dates of claims of a complete specification. It states, among other things, that "there shall be a priority date for each claim of a complete specification."

[55] art 12.

[56] S 34(3) states that the request shall state the name of, and prescribed data concerning the applicant, the inventor and the agent, if any, and the title of the invention; and where the applicant is not the inventor the request shall be accompanied by a statement justifying the applicant's right to the patent. Further S 34(4) to 34(7) provides for the appointment of an agent shall be indicated by the designation of the agent in the request or by furnishing a power of attorney; The description disclosing the invention and at least one mode for carrying out the invention, in such full, clear, concise and exact terms as to enable any person having ordinary skills in the art to make use and to evaluate

application division. Thus, the applicant may amend the application, provided that the amendment shall not go beyond the disclosure in the initial application.

According to Section 30(6) of the South African Patent Act:

> An application shall not be denied a lodging date on formal grounds only in that it does not comply with the requirements of subsection (1), provided it is accompanied by—(i) the prescribed fee;(ii) the prescribed application form signed either by the applicant or his agent;(iii) one copy of the specification in one of the official languages of the Republic or in an official language of any convention country; and (iv) one copy of the drawings, if any, notwithstanding that they are not in the prescribed form.

Section 32 of the Act provides for contents of specification, where it states that

> Every specification shall indicate whether it is a provisional or a complete specification, and shall commence with a title sufficiently indicating the subject-matter of the relevant invention...”

Section 29 provides for joint ownership of applications, and section 30 provides for form of application for a patent. Claiming priority of inventions and priority dates are provided under section 31 and 33 respectively.

Clear and complete of inventions under the Malaysian Patent Act are provided under Section 17A of the Malaysian Patent Act. It states that an application is made for a patent or utility innovation certificate. An application for a patent can also be converted into a utility innovation. Also, after the necessary filing fees have been paid, [57]Section 28 of the Act states that:

> The Registrar shall record as the filing date the date of receipt of the application: Provided that the application contains - (a) the name and address of the applicant;(b) the name and address of the inventor; (c) a description;(d) a claim or claims; and (e) that at the time of receipt of the application the prescribed fee has been paid.

Section 28(2) states that “where the Registrar finds that, at the time of receipt of application, the provisions of subsection (1) are not fulfilled; he shall request the applicant to file the required correction.”

According to Section 17 of the Thailand Patent Act, the application for the patent shall contain:

(1) the title of the invention;

(2) brief statement of its nature and purposes;

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the invention and that description shall include any drawing and relevant deposits as in the case of micro-organisms and self-replicable material which are essential for the understanding of the invention.(6) The claim or claims shall define the matter for which protection is sought and shall be clear and concise and fully supported by the description. Finally, s 34(7) states that the abstract shall merely serve the purpose of technical information; in particular, it shall not be taken into account for the purpose of interpreting the scope of the protection sought.

[57] Ss 24,

(3) a detailed description of the invention in such full, concise and clear and exact terms as to enable any person ordinarily skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention and setting forth the best mode contemplated by the inventor to carry out his invention;

(4) one or more clear and concise claims;
(5) other items prescribed in the Ministerial Regulations

Section 18 further states that "the application for patent shall relate to only one invention or to a group of inventions which are so linked as to form a single inventive concept."

5. Conclusion

By and large, the article has discussed the concepts of prior art and disclosure of patentees' inventions as conditions for the grant of patents. It has also compared the Nigerian patent statutory provision on prior art and disclosure with other countries' statutes. Countries considered include the United States, Europe, India, Japan, Brazil, Kenya, South Africa, Malaysia and Thailand. Prior art is any evidence that an invention is already known before it an application for patentability is made. It does not need to exist physically or be commercially available. It is enough that someone, somewhere, sometime previously has described or made something that contains a use of technology that is very similar to the claimed invention.

On the other hand, even though an integral part of the prior art, disclosure is a clear revelation of the invention process in a manner that one skilled in the art would reasonably conclude that the inventor owned the claimed invention at the time the application was filed. Thus, If a skilled artisan would have understood the inventor to own the claimed invention at the time of filing, even if every nuance of the claim is not explicitly described in the specification, then the requirement for an adequate written description is met. A patent application must disclose a claimed invention in sufficient detail for a person skilled in the art to carry out that claimed invention. Therefore, it is recommended that Nigerian policymakers examine legislation in other jurisdictions to make legislative reforms in the PDA, especially regarding prior art and disclosures. The Nigerian patent registration office should modify its examination procedure process. This will be a viable way to sustain prior art and disclosure requirements within the patent system. The examination process of patents in Nigeria is a depository process and not substantive as practised in some jurisdictions. Therefore, rethinking the patent examination system and patent administration reforms are necessary. It is suggested that adopting the substantive process of examination or both a mix of the substantive and non-substantive procedures would ensure discovery of prior art, fulfilling disclosure requirements and good quality of patents and aide of the Nigerian patent system towards attaining technological and economic development. Specific steps need to be taken in achieving this, and specific changes need to be taken. These include massive funding, training of experts in different fields of substantive examination, creating the right environment for patents to thrive, among other reforms.