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Intellectual Property Valuation in Nigeria: Challenges and Prospects

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Abstract:
The position of Intellectual Property in the continued market dominance in the face of business competition and enduring profitability of corporations cannot be over-emphasized. However, in most developing economies such as Nigeria, the contributions of Intellectual Property to the overall growth and development of business have not been fully articulated. Consequently, while intangible assets have gained prominence in developed economies, developing and under-developed economies pay little or no attention to various IP but rather, rely heavily on tangible assets as key measures of healthy businesses. Prior to the periods before the last five years, Intellectual Property valuation and indeed valuation of intangible assets have not gained any meaningful place in valuation discourse of prominent estate surveyors and valuers in Nigeria. Valuation discussions have always centered on tangible assets of real estate, plant and machinery, motor vehicles, office furniture and equipment and all such tangible assets in exclusion of Intellectual Property assets of goodwill, copy rights, patents, trademarks, trade secrets etc.
As a result of the foregoing, assessment of intellectual Property assets poses serious challenge to practitioners in Nigeria ranging from the concept and constituents of IP. In other words, issues and challenges of identifying what constitutes acceptable IP assets and types; what influences IP Valuations; the basic valuation approaches and methodologies have not been properly discussed.
This paper is aimed at summarily discussing the various issues and challenges of IP valuations and proffering solutions and making recommendations to aid Nigeria professionals towards better understanding of the IP concept and valuation methodologies bearing in mind that this is a relatively new introduction to valuation curriculum in Nigeria context.

Keywords: *Tangible assets, intangible assets, valuation methods, IP rights, valuation concepts*

1. Introduction

Contrary to what is obtainable in the developed economies, Intellectual Property assets have not received the desired consideration in the scheme of affairs in most corporations in developing economies. In Nigeria, for instance, most reputable estate surveyors and valuers have not yet come to terms with the reality that Intellectual Property assets constitute appreciable percentage of the valuable assets of a company, corporation or any business concern. The estate surveyors and valuers and valuation users in Nigeria till today concentrate primarily on tangible assets of real estate, plant and machinery and all such physical, fixed and movable assets to the detriment of vast range of Intellectual Property assets of goodwill, copy rights, patents, trademarks, trade secrets etc. it still appears novel to even the business professionals and they are still to come to the realization that in place of landed properties, plant, equipment and other physical assets, IP assets such as trademark, patents, design etc can be used as collaterals.

The ever increasing importance of IP assets in business growth and development has brought to the fore the inevitable reality that the worth of these IP assets needs to be determined. Assessing the worth of these IP assets posses very strong challenges for Nigerian valuers who are still grasping with the understanding that IP assets form the bulk of corporation's assets and development. The legal frameworks for the protection of the various IP rights have been in place in Nigeria and have been vigorously pursued. However, the major issues, challenges and constraints lie in the IP assets identification, context, constituents, assessment, bases and approaches of the valuation methodologies.

This paper is aimed at identifying the various IP assets in Nigeria context with the objective of proffering solutions to the issues and challenges inherent in the valuation approaches and methodologies and making recommendations that may advance the knowledge of IP assets valuation and application in the valuation professional circles and business community in Nigeria.

1.1. Understanding the Concept of Intellectual Property

Intellectual Property represents the summation or totality of a group or set of those intangible assets which are owned and legally shielded from unauthorized users or usurpers without the consent of the IP creator or owner. It is simply a creation of ingenuity and such creative manifestations, expressed in forms of inventions, literary and artistic works, symbols, names and images used by corporations in furtherance of their commercial activities. Intellectual Property can be expressed in a generalized term as the legal rights emanating from intellectual activities or discoveries in the industrial, scientific, literary and artistic fields (Turner, 2000). It represents intangible assets owned and legally protected by a corporation, company or individual for external use or implementation without the consent of the originator. It is further defined as the creations of the intellect for which a monopoly is assigned to designated owners by law (Osunde, 2015). Cela (2014) also noted that Intellectual Property (IP) refers to original creations such as innovations, literary and artistic works, designs, symbols, names and images used in commerce.

1.2. Summary of the Legal Framework for Intellectual Property in Nigeria

Nigeria has established several laws and enactments in furtherance of the country's membership of the World Intellectual Property Organization (WIPO) – an organization which is one of the specialized agencies of the United Nations and currently having about 191 member states and primarily established to stimulate creativity and promote the protection of IP among member countries.

Specifically, the first major recognizable attempt at protection of Intellectual Property in Nigeria, was through the administration of copy right laws which was established in 1988. The period before the enactment of the Copyright law was nothing to write home about because the earlier attempt by the copyright Decree of 1970 was unenforceable because the supervising and administering Ministry – the then Federal Ministry of Trade, lacked the administrative authority to execute the copyright laws. However, more recently, the enactment of Copyright Act of 2004 ensured a bold step in the administration of copyright in Nigeria. The Copyright Act, 2004, established the Nigerian Copyright Commission in Part III sections 34-40, for administration of Copyright laws in Nigeria.

However, the administration and protection of Intellectual Property rights in Nigeria has not been as effective as what is obtainable in the developed countries such as United States and other European nations where Intellectual Property has enjoyed increased protection. In Nigeria, the protection of Intellectual Property continues to suffer damaging set-backs as a result of factors bothering primarily on corruption, bureaucratic and administrative bottlenecks, poor technological knowhow/skills, political bias, budgetary hindrances, administrative and operational inefficiency among others. Consequently, the resultant effect of the inefficient and ineffective Intellectual Property protection as envisage in the establishment of the Copyright Commission, is manifest in the Commission's inability to monitor and supervise the country's position in relation to international conventions and standards. The Commission has also failed in its duty to enlighten and inform the public on matters relating to IP rights which accounts for why even the well established Estate Surveyors and Valuers and Valuation/Business professionals in Nigeria still fail to understand the importance of Intellectual Property. The Commission has not been able to obtain and maintain effective and reliable Intellectuals Property owner's data bank and has consistently failed in its duty to curtail piracy and fake IP products due largely to corruption and corruptive tendencies.

1.3. Characteristics of Intellectual Property - Similarities and Differences

Agreeably, intellectual Property has several characteristics as real property and personal property since both are classified as assets. This implies that both real/personal property and Intellectual Property can be exchanged by way of sale/purchase or as gifts and both are capable of being shielded from unauthorized users. Both constitute important and very valuable aspects of a corporation or business concern and are capable of being measured. In other words, both real/personal property and Intellectual Property are measurable by way of valuation to determine their values or contributions to the business or their worth for purposes of exchange, merger, tax etc.

However, the major distinctive and defining characteristic of Intellectual Property is its intangibility. Unlike real or personal property which is classified as tangible assets, Intellectual Property belongs to intangible asset class and usually protected by defined IP rights from unauthorized users and which rights ensure exclusiveness of the IP owner or inventor.

Another major difference is the argument that Intellectual Property is not diminished by its use with the possibility of being used simultaneously by many parties. It is also argued that changes in cost of creating IP product do not automatically lead to a corresponding change in value which implies that the cost of IP product and the value of the IP product do not usually follow established linear relationship. Again, for IP to be adjudged valuable and capable of enjoying rights protection, it has to be useful, profitable and amenable to changing technologies.

1.4. Types of Intellectual Property and IP Rights

The Paris Convention for the Protection of Industrial Property (1883) as well as the Berne Convention for the Protection of Literary and Artistic Works (1886) was among the first to acknowledge the importance of Intellectual Property. It is important to note that both organizations are administered by the World Intellectual Property Organization (WIPO, 2008). Globally, there has been overwhelming interest in Intellectual Property ranging from its acceptable definition, protection, management administration and enforcement of IP rights. Several bodies/organizations have emanated and playing defining roles with regard to IP and IP rights. Such Organizations(include World Trade Organization (WTO), the European Union (EU) Trade – Related Aspects of Intellectual Property Rights (TRIPS), World Intellectual Property Organization (WIPO), World Customs Organization (WCO), United Nations Commissions on International Trade Law (UNCITRAL).

Locally, in Nigeria, the management, administration and control of Intellectual Property rights rest on the Nigerian Copyright Commission established by the enactment of Copyright Commission Act, 2004.

The convention establishing the World Intellectual Property Organization (WIPO) concluded in Stockholm on July, 14, 1967 (Article 2 (viii) provides that "Intellectual Property" shall include rights relating to :

- Literary, artistic and scientific works
- Performances of performing acts, phonograms and broadcast
- Inventions in all fields of human endeavor
- Scientific discoveries
- Industrial designs
- Trademarks, service marks and commercial names and designations
- Protection against unfair competitions; and
- All other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

World Trade Organizations (WTO) (2016) further explained Intellectual rights (IPRS) to include rights granted to the creators of IP, and include trademarks, rights, trade secrets and such Artistic works as music and literature as well as discoveries, inventions, words, phrases, symbols and designs which are capable of being protected as intellectual property.

World Intellectual Property Organization (WIPO) 2015 viewed Intellectual Property rights as other property rights where the creators or owners of patents, trademarks or copy right works are allowed to benefit from their own works or creative investments. These rights are outlined in Article 27 of the Universal Declaration of Human Rights, which provides for the right to benefit from the protection of moral and material interests resulting from authorship of scientific, literary or artistic production. In summary, therefore, intellectual assets can be categorized into the following distinct types or groups.

1.4.1. Copyright

Copyright represents one of the most widely recognized IP assets and constitutes the rights of the creators of IP assets over their literary and artistic works. It is the protective rights granted to and enjoyed by the authors of original works both published and unpublished. Copyright protection applies to original work of authorship which include books, music, paintings, sculpture, films, advertisements, databases, computer programs, maps, technical drawings etc.

According to World Intellectual Property Organization (WIPO,2015) copyright encompasses literary works (such as novels, poems and plays) films, music, artistic works (such as drawings, paintings, photographs, sculptures) and architectural designs. The whole essence of copyright rests on the enabling laws aimed at the rights of Intellectual Property creators to prevent unauthorized access by way of copying or reproducing the literary or artistic works. Copyright is an embodiment of exclusive rights available to the original creators of works of painting, architecture, technical drawings etc in the exploitation of his efforts.

1.4.2. Patents

Generally, patents are special form of Intellectual Property usually considered costly, comparably more valuable and difficult to obtain. It is a bundle of rights granted to inventors of existing, new and useful process. Patents are unique form of Intellectual Property which provides competitive business advantage and shields competitors from easily copying inventor's technology and consequently enables the owner/inventor to enjoy appropriate returns from the invention (WIPO, 2008).

By way of definition, a patent could be defined as an exclusive right granted to an inventor for an invention – a product or process that provides a new way of doing something, or that offers a new technical solution to a problem. The implication of a patent lies in the provision of protection to the patent owners for their inventions which protection is usually granted for a limited period in the region of 20 years. A patent guarantees the inventor exclusive exploitation of his or her product in recognition of his or her creativity in addition to offering the possibility of material reward for the marketable inventions (WIPO, 2008).

Understandably, not all inventions are patentable. Invention such as objects or processes in form of new technology or business methods are capable of being granted protection whereas abstract items such as ideas are not patentable. For a patent to be granted, an invention must fulfill certain conditions bothering on novelty, industrial applicability and inventive step (WIPO, 2008). A patent owner is at liberty to grant licenses to others for use of the invention or its design and may charge fee accordingly.

1.4.3. Trademarks

This is one of the commonest type of Intellectual Property and very popular in Nigeria's business circles. The U.S Patent and Trademark office (PTO) defined trademark as

"Any word, name, symbol, or device, or any combination, used or intended to be used, in commerce to identify and distinguish the goods of one manufacturer or seller from goods manufactured or sold by others"

A trademark registration in Nigeria is granted by the Federal Government and approved by the relevant government agency after an application for registration has been filed and such trademark registration authorizes the owner to use the trademark exclusively in association with the goods, products or services as specified in the appropriate registration details.

In developing economies such as in Nigeria, where Intellectual Property and IP rights are still in its embryonic stage, the business community especially in major commercial cities of Lagos, Onitsha, Aba and Port-Harcourt, are always at loggerheads on issues relating to trademark abuses arising from poor understanding of IP assets, IP rights, and ineffective and inefficient administration of legal frameworks relating to Intellectual Property and the endemic corruption of virtually all the systems. The business community in Nigeria is yet to come to terms with the idea of Intellectual Property as an asset. Majority of the populace are yet to understand that there is a distinctive difference between a "trade-name" (or trading style) and a trademark which accounts for several legal tussles on claims and counter-claims on trademark registration and ownership vis-à-vis "trade-name" registration/ownership.

Simply put, a trademark is a distinctive name, sign or logo which uniquely identifies the source of goods and services and the relevant trademark laws ensure that no entity uses the trademark of another in the course of trade in relation to goods/services in which it is registered. The aim of trademark is to distinguish the goods. /services of one enterprise from those of others. Trademarks may consist of drawings, symbols or signs such as shape and packaging of goods and may consist of one or combination of words, letters and numerals. Although the development and maintenance of trademarks are usually through extensive and costly advertising, trademark system helps consumers to identify and purchase a product or service on the basis of whether the specific characteristic and quality of the product/service as indicated by the unique trademark of the product/service meet their needs.

1.4.4. Industrial Designs

Industrial design which could simply be manifest as a combination of lines or colors or both and any three dimensional form represents the ornamental or aesthetic aspect of a useful article which may consist of the shape, pattern and /or colour of the article and must appeal to the eye. An industrial design constitutes the ornamental or aesthetic aspect of an article and protects the form of industrial products such as their ornamental aspect and shape. In other words, it may consist of three-dimensional features such as the shape or surface of an article, or of two-dimensional features such as patterns, lines or color.

The protection of an Industrial Design encourages the person or entity that has registered the design and guarantees an exclusive right and protection against unauthorized access, copying or imitation of the design by third parties thereby helping to ensure a fair return on investment. Industrial designs add to the commercial values of products and increase marketability, and effective and efficient protection system will be beneficial to both customers and the public.

1.4.5. Geographical Indicators

Geographical Indications are signs used in goods or products having specific geographical origin with manifest qualities or characteristics or a reputation usually attributable to the particular place or origin. The major consideration in geographical indication includes the name of the place of origin of the goods/products.

1.4.6. Trade Secrets

Trade secrets comprise all such business methods, strategies, tactics, ideas, or such piece of information which gives the business a competitive edge. It is a unique form of Intellectual Property in that they are basically confidential information/data collected or created by an entity for its own use and does not have a defined time frame and could remain secret temporary or throughout the life time of the firm. A business-related information can only be treated as a trade secret if such information is genuine and not obvious, and guarantees competitive and economic advantage to the owner, commands value and enjoys reasonable protection against disclosure.

1.5. The Importance of Intellectual Property Valuation in Nigeria

On the global scale, the importance of Intellectual Property Valuation was first recognized in the Paris Convention for the protection of Industrial Property (1883) and subsequently, the Berne Convention for the protection of Literary and Artistic works (1886) and both treaties are administered by the World Intellectual Property Organization (WIPO).

In Nigeria, the import of the international recognition of the importance of Intellectual property assets is beginning to bear on the corporate businesses as observed from the recent efforts at creating awareness by different stakeholders. Recently, the Nigerian Institution of Estate Surveyors and Valuers in conjunction with the Estate Surveyors and Valuers Registration Board – both professional and government organs respectively entrusted with the sole responsibility for valuation and regulation of real estate valuation practice in Nigeria, have intensified efforts geared towards extensive enlightenment in the area of Intellectual Property Asset Valuation through several Mandatory Continuous Professional Development (MCPD) Training programmes.

Although the issue of Intellectual Property Asset is a new phenomenon recently introduced in corporate business circle in Nigeria, the importance of IP assets valuation cannot be over-emphasized. Businesses should take inventory aimed at valuing their IP assets as a result of the importance of IP to businesses. It is very worrisome that even large business concerns in the country do not recognize the fact that their trademarks, designs and other IP assets command values capable of being used as collateral to secure finance for business growth and expansion just the same way as their landed properties, plant, machinery and other physical assets.

IP assets valuation is important in that it helps to strengthen the accuracy of the true worth of a business under consideration. It is time for Nigeria businesses to realize the potentials inherent in their IP assets which is capable of commanding values, and professional valuation of their trademarks, patent or design by competent valuers will help to establish their true worth which will in turn guide them in certain decisions regarding funding, joint venture arrangements, mergers, acquisition, licensing, buying and selling etc.

Valuation of identified IP assets of the business will guide the business in knowing the exact value or worth of the IP assets and assessment of the value of the business is required in cases of bankruptcy or reorganization and this will obviously include the value of IP assets which has hitherto been ignored as valuable component of business assets and business value in Nigeria. Until recently no mention has been made of IP assets in the valuation/assessment of company assets in Nigeria for whatever purposes and most business entities are unaware that IP assets can be used to raise finance and this requires accurate valuation process.

In summary, the purpose or importance of IP asset valuation in Nigeria context are numerous. IP valuations can be used for collateral on loans or mortgages and for purpose of decisions in increasing capital for expansion of existing business or involvement by new investors. IP valuation is useful in considering buying, selling or transferring the asset as in licensing arrangement or acquisition as well as for reporting on public financial statements as in Nigeria's Financial Reporting Council Regulations. Since the IP asset terminology is a recent development in Nigeria discourse and with the weak administrative control of the regulatory bodies, there is the tendency that several litigations will surface arising from violations of copy right, patent, trademark and other IP assets law. Consequently, IP asset valuation will be required to compute damage awards in case of infringement or violation lawsuits. Valuation may also be required for purposes of financing of IP assets or securitization of IP –borrowing against the license stream, as well as for tax and Insurance purposes.

1.6. Major IP Consideration/Objectives of IP Valuation

There are basic considerations or qualification of any IP asset for valuation purposes: To embark on assignment of IP valuation, the IP asset to be valued is expected to possess certain identifiable characteristics which include but not limited to the following:

- The IP should be capable of generating separate identifiable income flow which could be capable of being isolated from the contributions of other assets of the business.
- It should have an identifiable time frame or period when it was created or when it came into existence.
- It must have specific identification and a recognizable description.
- The IP asset should be capable of being sold separately without necessarily selling the other business assets of the company to the same buyer.
- There should be glaring evidence of the existence of the IP asset in form of license, evidence of registration, customer listing, verifiable documentation etc.
- It should be capable of being legally enforced and legally transferred. In other words, the IP asset should be enforceable and transferable.

Having identified some basic considerations or prerequisites for IP asset valuation, it is important to explain the essence or objectives of IP valuation as stated below:

- The main objective of IP valuation is to estimate the value for an identified ownership interest in the particular IP.
- Valuation of IP helps to determine the amount or extent of loss, lost profit or other economic damages in case of a damage event relating to IP.
- Another objective of IP valuation is to measure the appropriate royalty rate or license fee associated with the third party license of the IP.
- To confirm the appropriateness of IP sale or license transaction in terms of fairness in the dealings in terms of adequacy of consideration, excess profit etc.
- To estimate the expected remaining useful life of the ownership interest in the IP.

2. Recommended Basic Valuation Approaches/Methodologies for Intellectual Property Valuation in Nigeria

In Nigeria, it is the primary function of the Estate Surveyors and Valuers who are members of Nigerian Institution of Estate Surveyors and Valuers and registered by the Estate Surveyors and Valuers Registration Board of Nigeria as established by the relevant laws to carry out valuation of various assets. In view of the newness of the subject of IP valuation in Nigeria, it is expedient at this point to clarify that IP valuation can be both quantitative and qualitative – a quantitative approach relies on numerical and measurable data based on past purchases and market evidence and focusing on dealings or sales of similar product in the same industry or equivalent cost of replacement while a qualitative approach tries to analyze the intended or current use and characteristics of the IP and tries to place value on the IP by analyzing its effect on customers or by brand loyalty or impact of the IP on the growth of the business without necessarily relying on numerical or measurable data.

There are several methodologies under the quantitative approach which can be categorized under the following headings:

2.1. Cost – Based Method

The cost-based method is premised on the analysis, assumption, understanding of the principle that there is a relationship between the overall costs of the development of the Intellectual Property and the economic value of the IP (Fact Sheet, 2015). This method is based primarily on the principle of substitution which implies that the worth or value of an IP asset is not greater than the cost of obtaining or reproducing the IP asset or cost of developing IP asset of similar functionality (Anson,2012). In other words, an inventor is not willing to pay more for an IP asset than the cost of replacement of an IP or cost of obtaining another IP of similar benefits. The cost of an IP asset can be measured by purchasing the asset today, or by replacing the asset with a substitute of equal quality and function, or by creating an absolute reproduction of the asset (Pallegrino & Associates, 2005).

In summary, measuring costs may involve different techniques including:

2.1.1. Historic Cost

Implying the cost incurred in the course of the development of the particular IP asset as at the time of development of the IP

2.1.2. Reproduction Cost

This works with the principle that the value of an IP asset can be measured or estimated by the cost of construction of exact replica of the IP asset under valuation. The reproduction cost represents the total cost, at current prices, of developing exact replica or duplicate of the subject IP using same or similar materials, designs, quality and functionality while ignoring the changes in technology, present/improved quality or function of modern alternatives. Impliedly, reproduction cost represents the cost of redeveloping the specific asset in question. Reproduction cost method of IP asset valuation may be appropriate for trade mark valuation, litigation purposes, tax reporting purposes as well as for the purpose of measurement of return on investment.

2.2. Replacement Cost Method

The replacement cost valuation of IP asset aims to estimate the cost of recreating or developing IP asset with similar functional characteristics or utilities of the subject IP but in a different form or appearance from the subject IP. The replacement cost method is based on the principle of substitution and anchored on the premise that an investor would not ordinarily pay more for an asset than the cost of obtaining similar benefits from another asset. Replacement cost method of IP asset valuation incorporates the obsolescence or the current useful state of the IP asset.

Summarily, replacement cost method represents the total cost, at current prices, of creating an IP asset with similar/equal functionality or utility to the subject IP. The replacement IP asset could be created with modern methods or techniques and developed in line with current standards, updated designs and layout involving new or latest technology and optimum possible quality, and may have greater or higher functionality or utility than the subject IP. In making decisions relating to obsolescence, it is worthy to note that the replacement IP asset could be better in some ways than the subject IP asset and might yield more satisfaction than the subject IP asset and adjustment should therefore be made professionally to reflect the improvement. It is usual to find replacement cost method handy in estimating the target price prior to negotiations in purchase of an IP asset, in the course of calculating a basis for suitable royalty rates, determining transfer rights or even establishing a customer brand of about 20 years ago in today's market. Generally, cost method involves the following basic steps:

Reproduction Cost – (curable functional and technical obsolescence) =Replacement Cost. IP's deficiencies are said to be curable when the prospective economic benefit of improving, modifying or modernizing the IP exceeds the current cost of the material, labour and time frame needed to change it.

The next step is to use the replacement cost to estimate the value of the IP asset thus:

Replacement Cost - Economic obsolescence – Incurable functional and technological obsolescence **=** Value of the IP asset.

Again, IP's deficiencies are considered incurable when the current costs of improving, modifying or modernizing the IP asset in terms of materials, labour, time etc. exceed the expected future economic benefits obtainable from the improvement.

2.2.1. Cost Elements

As stated earlier, the principle behind the cost method is that the cost method uses the costs inherent in the creation and development of the IP asset by the business and takes into consideration the potential cost of recreating such IP asset or developing IP product similar to the subject IP.

In doing this, items of cost for consideration include:

- Cost of labour
- Equipment and material
- Research and development
- Training and testing the product
- Prototype creation
- Cost of approvals and certifications
- Cost of registration
- Overhead cost etc

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2.2.2. Advantages and Disadvantages of Cost Method in IP Asset Valuation

Despite the acclaimed short comings of cost approach to valuation, the contributions of Cost Method cannot be over emphasized in IP valuation:

IP assets can be easily reproduced as in the case of software. The rigorous process or procedure in accurately quantifying the income stream or other economic benefits associated with the asset being valued are avoided because the cost approach is usually applied where there is no direct cash flow being generated from the use of the subject IP asset. The cost method does not involve economic activity reviews especially in early-stage technology that is not yet producing revenue. Of course, the IP forms part of a larger group of assets when other valuation methods are not appropriate. The cost method comes to bear in establishing a maximum price for buying an IP asset when many candidates for substitution are not available.

However, in spite of the above applicable advantages, the cost method does not account for wasted costs – understandably, a large chunk of resources/large sums of money are spent on research and development projects as in pharmaceuticals resulting in no benefits. The cost method does not take into account elements of risk and uncertainty inherent in the realization of the economic benefits in IP asset. It does not encompass or incorporate the expected economic benefits or income generating potentials of the IP asset. It does not provide any basis for the assessment of possible growth rate and therefore, no basis for comparison of potential growth rates of competing IP assets in valuation application. Although the Remaining Economic or Useful Life of IP asset is of important consideration in valuation, the cost method is deficient in consideration of the duration over which the economic benefits will be enjoyed. Also, the cost method may not provide indication as to the "highest price obtainable" in the open market in line with the principle of "fair market value".

2.3. Market – Based Method

The market – based IP asset valuation methodology looks at the comparable market transactions, involving sales or purchases, of similar IP assets in determining the opinion of value of the subject IP asset. The principle behind the market – based method of valuation is the reliance on the estimation of value based on similar market transactions of comparable IP assets as in the case of similar license agreements. Market – based approach is acclaimed to be the simplest method to understand especially in times where IP valuation is a relatively new introduction as in Nigeria. Most professionals and stakeholders view the market approach as the most reliable of the various IP asset valuation methods since it represents a direct measure of the value of the IP assets based on demand and supply in the market place.

As stated above, the value of the IP asset is affected by the economic law of demand and supply leading to price equilibrium (Reilly & Schweihs, 1998). It is pertinent to note that the valuation of IP asset by market approach is hinged on comparison of similar IP assets available in the market place based on appropriate and available market information. This presupposes homogenous assets in active market with willing buyers and sellers at any time and publicly known price (Wirtz, 2012). However, it is well known that IP markets do not satisfy these requirements since IP assets are unique assets without any established existing market for comparable transaction data. In Nigeria, it is even more difficult being a new projection into the system, and therefore there is paucity of comparable market transaction information even as sufficient information is required in areas of pricing, scope, terms and conditions relating to the exchange or sale of IP assets. Consequently, the Nigerian Valuer like his counterparts in mostly developing economies where IP assets is just newly introduced, is handicapped with the limited public information about IP market transactions, but still has to grapple with the daunting task of analyzing, adjusting and computing the scarce market transaction details to arrive at acceptable IP values. It is therefore advisable to compare results obtained by market valuation with that of other methods (Anson, et al, 2005).

As the IP asset is unique, comparable market information for valuation analysis should be in areas of utility, functionality, technological specifications, quantum of rights as well as the perception of the IP asset by the market among other considerations. Again, comparable market data for IP valuation purposes could be obtained from company annual reports, surveys, statutory/official filings (SEC filings), specialized online databases, special publications on licensing and royalties such as the Licensing Economic Review, published agreements, shopped term sheets, proprietary databases, court decisions on damages/awards etc.

2.3.1. Market

Based Method of IP asset valuation could be in any of the following forms or techniques:

2.3.1.1. Market Capitalization Method

The market capitalization technique is applied for companies listed in the stock exchange. The basic principle involves the subtraction of the book value of all the total tangible assets from the total liabilities from the balance sheet of the company and calculation of the net tangible assets. The price per share multiplied by the number of share issued represents the market capitalization of the listed company and the estimate of unidentifiable intangible asset can be estimated at 10% of the total capitalization.

2.3.1.2. Comparable Valuation Method or Market Transaction Method

The comparable valuation method which is also referred to as market transaction method compares the price at which similar property has exchanged between buyers and sellers. It is a widely acknowledged assumption that market valuations of Intellectual Property assets provide a good estimate but there is also the limiting factor arising from the difficulty in obtaining published data on IP transactions because of its confidentiality making information on third party IP transactions on similar IP asset scarce.

2.3.1.3. Royalty Rates

This entails defining the royalty rate for licensing agreements which is driven by the forces of profit margin, market penetration abilities, capital investment demands, and cost of commercialization.

2.3.2. Basic Elements or Factors of Comparability for Consideration in Market Method

- Nature of the IP asset (trademark, patents, etc).
- Magnitude of legal protection

- Extent of the IP rights or validity of the IP rights.
- Geographical coverage of the IP asset
- Availability of substitutes
- Impact of the IP asset on market demand for the final product
- Timing
- Duration
- Exclusivity
- Expected profitability from use of the IP asset
- Risks
- Channels of distribution
- Market size/characteristics
- Management concerns e.g. transparency
- Market forces or court-imposed
- Company structure, etc

2.3.3. Advantages and Disadvantages of Market Based Method

The Market-Based Method of IP asset valuation enjoys the advantage of simplicity. It also enjoys acclaimed acceptability in that it is hinged on market-Based information. It is adjudged very useful and reliable provided exact comparables are available (e.g. license agreement related to the same or similar technology). It is very useful in deriving inputs for the income based method of IP valuation, often used to establish values for royalty rates application and best choice for application by tax authorities for deals with affiliates.

On the other hand, the unique nature of IP assets makes it extremely difficult to find exact or even similar IP asset for comparables. Again, there is usually the problem of paucity of information required for valuation of IP asset by market-based method as a result of confidentiality surrounding IP asset transactions. It is usually difficult to deal with external or outside factors or influences that affect royalty rates of IP assets (e.g., fame as in when celebrities use their images/names as trademarks and there are also many “hidden” deal elements (e.g., strategic buyer “premiums) which cannot be considered. Market-based approach becomes more difficult in application when comparing deals with multiple forms of compensation as obtainable in equity, milestone payments, running royalties, etc. Again, time factor may affect the usefulness of historical databases.

2.4. Income –Based Method

The income-based method of IP asset valuation derives from the basic principle that IP asset is capable of generating a stream of income flows over a period of time. It focuses on the future revenue potentials of the Intellectual Property right. That means the Income-based method considers both the future income which the IP asset may generate during its economic life, the costs of generating the income flow, and due consideration for risk and all financial costs aimed at arriving at the ‘Net Present Value’ (NPV) of the IP asset.

In other words, the income method of IP valuation looks at the economic benefits to the business over the useful economic life of the IP asset. This explains why the income method is also referred to as the economic benefit method and aims to identify the income that the business or company Intellectual Property rights could generate in the future and the costs of generating that income flow.

Most valuation analysts consider the income-based approach or methodology as the most acceptable and widely used IP valuation approach which allows a buyer to consider investment on the premise of whether the NPV is positive or negative. In Nigerian context however, like in most developing economies of Africa, with economic and political uncertainties arising from unpredictable government policies, massive corruption, administrative bottleneck and management ineptitude, it is important to note that this method which is based on assessment of the likely future events/outcomes rather than past performances will expectedly have several issues arising from difficulties in forecasting future scenarios over a period of years and in estimating the useful economic life of the IP assets.

The basic considerations according to Anson et al in Income Based or Economic Benefit Valuation Method of IP asset valuation include the future cash flow, the duration of the cash flow, and the risk involved with the cash flow generation (Anson et al, 2014). Again, the basic factors for consideration in Income-Based Approach include the state of the economy, the type of competition, the extent of the Intellectual Property Right’s market, and the important costs of filing, registration and cost of defending the IP.

There are various methods of calculating or measuring the future income flows. However, the most commonly applied methods include the Direct Cash Flow/Discounted Cash Flowmethod, Relief-From-Royalty method, Multi-Period Excess Earnings method and Incremental Cash Flow method (Anson et al, 2014).

2.4.1. The Direct Cash Flow Method

Relies on cash flows which emanates directly from the subject IP asset meaning that the cash flows can be measured directly. Although the direct cash flow method could pass for the most reliable and commonly applied technique, the firm has no value if there is no income (Wirtz, 2012).
Discounted Cash Flow Method aims to estimate the future cash flows as projected and discounted by applying appropriate discount factor.

On the other hand, the Relief-From-Royalty approach operates on the premise that the income arising from the ownership of the IP asset could be calculated based on the saved license fees which would ordinarily have been paid, assuming the IP asset had been licensed from another owner which implies the observation and recording of licensing agreements of similar IP assets. It is safe to infer that in the Relief-From-Royalty method, the value of the IP asset is equated to the value of the royalty payments from which the business is relieved as a result of its ownership of the asset. This means that royalty rate must be determined, allowing the estimation of the future royalty income stream and determining the present value of the IP asset by applying appropriate discount rate. In other words, the royalty stream is capitalized reflecting the risk and return relationship of the IP asset investment. It is argued that this method tends to be over simplified and inappropriately applied in many situations (Anson et al, 2014).

The Multi-Period Excess Earnings Method is predicated on the isolation of the cash flows generated by the IP asset by the deduction of fictive fees or charges such as rent or leasing fees for all other assets from the whole cash flow of the unit (Anson, et al, 2014).

The Incremental Cash Flow Method seeks to estimate the benefit obtainable from the IP asset by comparing cash flows scenarios of income of the considered unit with the IP asset and without IP asset. The observed difference between the periodic cash flows of the two scenarios indicates the additional cash flow attributable to the asset being valued. A typical example is in brand valuation where the value of the IP asset is measured by the difference between the branded and unbranded products where the difference between the periodic cash flow in the two scenarios indicates the additional cash flow attributable to the IP asset being valued (Wirtz, 2012).

Generally, IP owners and investors prefer income method of valuation because it gives them the idea of how much income the IP will generate over a period of time, the cash flow/investment pay back and the extent of investment risk. However, determining or predicting future income flows are shrouded in uncertainties as a result of unpredictable economic situation and even to identify the current income generated by the IP asset is not an easy assessment because it involves extracting the portion of earnings attributable to the IP asset as part of a business unit. Summarily, income approach entails determination of the current and projected income flows, identifying the associated costs, determining the useful economic life of the IP asset, income growth or earnings growth forecast, calculation of the discount rate and discounting of the forecast or projected IP asset incomes/earnings back to a present value.

2.4.2. The Merits and Demerits of Income Method of IP asset Valuation

As earlier stated, the topic of IP asset Valuation is a new introduction to the valuation terminology in Nigeria and still novel to the business community in the country. Consequently, the DCF is the very highly recommended approach as being best suited to address some expected inadequacies arising from economic and political uncertainties resulting in inflation, unpredictable income flows and high investment risk.

The advantages of the DCF approach, include the apparent belief that it is the easiest to use for IP assets whose cash flows are currently positive, can be estimated with reasonable degree of reliability for future or projected periods, and available risk details to be used to obtain discount rates. It is best suitable for IP assets that generate relatively stable or predictable cash flows. On the other hand, the DCF does not explicitly account for the total riskiness of component of that risk in the form of market determined discount rate. The DCF ignores managerial flexibility and have no room for the option like nature of certain corporate investments and it assumes that the investment in the IP asset is irreversible irrespective of the circumstances in the future. The DCF approach does not give due consideration to dependencies on patents owned by others. In DCF approach, all risks are lumped together and assumed to be appropriately adjusted for in the discount rate and the probability of success as against dealing with individual risks such as legal risk, technological risk, infringement etc. It does not capture the unique independent risks associated with an IP asset such as patent.

In general, while income method is said to be easy and highly analytic, it is also said to be quite subjective. The income method enables the buyer or investor to consider investment based on whether the NPV is positive or negative acknowledging NPV as useful and easy-to-use tool. However, the income method is based on assessment of future events which brings with it uncertainties and difficulties such as difficulties in estimation of economic life of the IP assets, estimation of the income flow over the years, the size of potential market, nature of competition, changes in economic climate, and inherent cost of registration, enforcement and defense of the IP rights as well as difficulties in assessing a discount rate and forecasting of rate of income/earnings growth and discounting the forecast IP incomes/earnings back to a present value.

2.5. Real Options Method or Option-Based Method

The basic principle of the Real Option Method lies in the recognition of the intrinsic value of a patent based on its projected cash flows which is discounted at the opportunity cost of capital for the patent owner. This method takes into consideration the options and opportunities related to the investment and rely on option pricing models such as Black-Scholes for stock options to achieve a valuation of a given IP asset. The basic advantage of the Real Options Method is that it ensures a more complete valuation details than the DCF in that while the DCF captures only cash flows, the Royal Options Model not only values the stream of cash flows but also accounts for acquired knowledge as well as account for the value associated with the uncertainty of cash flows and the ability to manage the patent investment.

3. The Challenges and Prospects of Intellectual Property Valuation in Nigeria

Intellectual Property Valuation in Nigeria is always going to be a difficult task both in principle and practice owing to poor legal and administrative framework, paucity of data/information, poor knowledge of the subject, economic and political instability among several other issues. Jody (2003) acknowledged that valuation of IP assets is often a difficult task because their true value may not be readily apparent and that it is often desirable to tie the value of an IP asset to income directly attributable to that asset, if determinable. Again, Peter (2009) acknowledged the diverse and multiple problems associated with assessment of Intellectual Asset Valuation in Business and highlighted the numerous challenges. Heinrich (2011) also enumerated several challenges inhis study of valuation in Intellectual accounting some of which are deep rooted in Nigerian circumstance.

In Nigeria, some of the challenges associated with Intellectual Property Rights and IP asset valuation include:

- The frequent changes in values of IP assets over time arising from political and economic instability leading to complexities and complications
- Over reliance on cost measure which try to avoid subjective assumptions about future but end up not reflecting the true value of the IP asset since we understand that most often, cost is a poor measure of true value of IP asset.
- Another major challenge in Nigeria is the issue of piracy especially in films and music record industries.
- Difficulty in assessment of IP's useful life which is a determinant of schedule of depreciation especially in view of assessment of the risk of a successful legal challenge to the validity of the IP.
- IP assets are intangible assets and are heterogeneous making it rarely impossible to find market evidence of identical transactions and therefore require multiple approaches/methods to derive value.
- There is also the issue of inadequate skills, knowledge and competence of Nigerian Estate Surveyors and Valuers in the area of IP valuation because it is only recently introduced to the valuation practice in Nigeria.
- It is always difficult to distinguish between the value of a patent in terms of exclusive right to the use of a technology and the value of the technology itself without an exclusive use right and the cost method is helpless for this purpose and requires certain assumptions on competition and future innovation.
- The relevant laws governing IP in Nigeria are obsolete and out dated coupled with ineffective administrative control.
- The framework for IP valuation practice in Nigeria is very poor and grossly undeveloped rendering the few Estate Surveyors and Valuation firms in the country who show interest in IP valuation helpless.
- The Nigerian Institution of Estate Surveyors and Valuers and the practice regulatory body- the Estate Surveyors and Valuers Registration Board of Nigeria, have not done enough to streamline and encourage specialization in area of IP assets valuation by encouraging researches and seminars in IP valuation.
- Another key challenge however, is that IP valuation is perceived as complex and ambiguous in Nigeria by practitioners while industry and IP business related stakeholders believe that IP valuation methodologies in Nigeria may not serve their purposes.
- Also, some industry watchers and operators do not understand the input of IP asset in their businesses and the opinion that IP could be used as collateral as in other physical/tangible assets still appear abstract to them. They lack the knowledge and understanding behind IP as valuable asset of the business.
- There is still unresolved argument as to who is the most appropriate to undertake IP valuation among the various professionals in the country thereby depriving the system of the synergy required among professionals in development of IP valuation.
- Application of different valuation methods for IP assets by various professionals and the multiplicity of the methods often lead to very divergent values for the IP assets throwing the end users of the report into confusion and amounting to lack of confidence in the valuation professionals.
- While the proponents of cost method of IP valuation question the use of income based approach on the basis that it is extremely difficult to estimate the actual income attributable to the IP asset, its economic life, the appropriate discount rate, the relevant cost details, the supporters of the income valuation methodology question the use of cost based approach for Intellectual Property valuation on the basis that the figure arrived at cannot be said to be the real value of the IP as cost is different from value and does not consider the amount of the economic benefits and the time period over which they might continue.

Despite the foregoing as listed challenges there is still hope and light at the end of the tunnel. The prospect of IP valuation in Nigeria is quite bright and high. Agreeably, and subject to availability of appropriate data and proper valuation, ownership of Intellectual Property has the tendency to enhance and reasonably enlarge the overall value of the business concern. The prospect of IP valuation in Nigeria cannot be overemphasized. Apart from forming the bedrock for growth of Nigeria's corporate businesses, Intellectual Property valuation will help the companies/organizations to streamline their licensing processes in terms of licensing out or permitting the use of their licenses by others who need them and charging and collecting fees in return based on valuation opinions of the IP's thereby encouraging the financial fortunes of the companies. Proper IP valuation will lead to increase in the business values of the firms as such IP valuations could be used for collaterals, loans or mortgages. There is also the prospect of capital increase especially for new businesses struggling to obtain fresh capital from new investors' creditable valuation analysis. With the recent introduction of IP to the Nigerian business and valuation vocabulary, it is going to be good business for the Nigerian Estate Surveyors and Valuers as more companies will need their services for strengthening their transaction strategy in area of buying, selling or transferring the IP asset in a licensing arrangement or at acquisition especially when it gets to 'at what price will the organization/business be willing to enter into a proposed transaction'.

Again, with the recent effort geared towards popularizing the IP terminology in Nigeria – IPR and IP assets, the Nigerian Valuer will soon become very busy handling IP valuation as many companies will require same for Financial

Reporting requirements with regards to the Financial Reporting Council of Nigeria regulations. Issues of Litigation may also arise for which the valuation of Intellectual Property will be required for the computation of damage awards in violation or infringement lawsuits. Prior to this time, in Nigeria, serious attention was not given to IP asset in Bankruptcy cases and reorganizations but the Nigerian Vsluer will now be seriously involved in IP asset valuation for effectiveness in bankruptcy and reorganization cases. A further step in IP discussion in the country will see the Nigeria Valuer take prime position when the system develops to such extent that there will be a possibility of borrowing against an IP license stream by way of securitization of the IP.

In summary, therefore, with the increased attention to IP assets in Nigeria, the prospect of IP Valuation becomes even higher and the Nigerian Valuer will be expected to play prominent role in the new wave of IP discussions by taking advantage of the promising new scenario to specialize in the areas of trademark, designs and other IP assets. Such valuation is expected to play part in the overall improvement of the company's or business's worth and it is also noteworthy that the Nigerian Valuers' opinion will now begin to matter on business of IP assets relating to discussions on collateral, sells, purchases, licensing etc in relation to funding, transactions, bankruptcy, reorganization etc.

4. Conclusions and Recommendations

With the rise in discussions on Intellectual Property in Nigeria, companies and businesses will begin to show more interest in IP assets hitherto neglected which by implication will increase the importance of Intellectual Property. The Nigeria Valuer will therefore need to rise to the occasion and ensure clear understanding of the various methods of valuation and their applications in attempt to serve the businesses better. There is the inevitable need for the Nigerian Valuer to get acquainted with the major factors for consideration in IP valuation such as present and future income, risk factors, other financial costs, discount factor etc. it is also noteworthy that every valuation approach/method/techniques has its merits and demerits and strengths and weaknesses and no particular one can be adjudged good or bad, right or wrong, depending on the circumstance of usage. It is however advisable to adopt several of the methods for checks and balances especially in Nigeria context where the subject is new and data scarce. The result of the reference to several methods/approaches in valuing Intellectual Property assets will help to reasonably address elements of subjectivity and human error, and build confidence in the clients/businesses.

5. Recommendation

- There is need to establish a data bank for use among the Nigeria Estate Surveyors and Valuers to obtain handy information at all times.
- Nigerian professionals and professional bodies should align with World bodies such as the World Intellectual Property Organization to synergize on issues of IP valuation.
- Government of Nigeria should revisit the enabling laws/Acts aimed at updating them to present realities.
- Nigerian government should improve on the administration of justice as it affects Intellectual Property Rights and seriously deal with the issue of corruption in the system.
- There is need to continue to sensitize businesses on the importance of IP both on the side of government and stakeholders.
- Nigerian Estate Surveyors and Valuers should acquire skills, knowledge and train to specialize in IP valuation being a new line of business in Nigeria.
- The Nigerian Institution of Estate Surveyors and Valuers and the registration body - The Estate Surveyors and Valuers Registration Board of Nigeria, should commence awareness and sensitization programmes/seminars/conferences immediately on IP assets and IP asset Valuation.

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