

The Role of Intellectual Property System in the use of ICTs by SMEs

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by Christopher M. Kalanje (Consultant-WIPO)

Introduction

My presentation today will be on the “Role of IP system in the use of ICTs by Small and Medium-Sized Enterprises (SMEs).” In doing so, I will highlight the contribution of SMEs in economic activities in different regions. I will then make a brief introduction to IP and show some features brought about by the ICTs revolution. This will take us to Electronic Commerce where I will highlight some important issues for SMEs. I will also address some of the challenges facing African policy makers in assisting SMEs to take advantage of the IP system. Finally, I will highlight what the World Intellectual Property Organization (WIPO) is doing to assist SMEs in the use of IP system to enhance their competitiveness in the market place.

SMEs Contribution in Economic Activity

There is no universally accepted definition of SMEs. Generally, countries define SMEs according to the number of employees or level of assets or turnover or both. However, efforts are being made in some regions to have a standardized definition, for example, in 1996 the European Commission adopted its own SME definition. In most cases, SMEs are categorized as enterprises having not more than 250 employees, though in countries like the USA the number goes up to 500 employees. Looking at it in another way, one can argue that SME is a relative term and in many respects its definition depends on the level of economic development of the defining country.

The increasing interest by different players in the global economy on the activities of SMEs provides us with good evidence on the growing awareness and acceptance of the important role of SMEs in the economic development of any country. Empirical evidence shows that in many countries SMEs have proven to play an important role in economic growth. The following statistics provide a picture of the point that I am trying to make:

- In Africa, though there is a serious scarcity of data, one can safely argue that SMEs make up more than 90% of business and employ, in particular in urban areas, a substantial number of people.
- In 1997, at a UN-ECE sponsored workshop on SME-Their Role in Foreign Trade, it was observed that in the European Union SMEs represent 99.8% of the

16 million enterprises and employ more than 101 million people or two thirds of the private sector work force.

- 53% of United States private work force is employed by small businesses. Small businesses are also responsible for 50% of the GDP.
- In Asia/Pacific region SMEs account for 90% of enterprises and provides 32% to 40% of employment. SMEs also contribute from 60% to 80% of GDP in individual Asia/Pacific economies.¹
- In Latin America SMEs make up more than 98% of enterprises and more than 80% of employment.

It goes without saying, therefore, that SMEs play a vital role in job creation, investment and exports, which significantly contribute to overall national economic growth.

Notwithstanding the contribution of SMEs in economic growth of many countries, this sector is faced with several impediments in its day to day activities. The most notable is financial constraint. Worldwide, at the international, regional and national levels all kinds of efforts are being made to address this problem. Today we will look at another area, which has not attracted too much attention until recently; this refers to the area of intellectual property; how the IP system can be used as a tool for achieving greater success by SMEs.

Empirical evidence shows that only a small percentage of SMEs, especially those in high technology sectors, such as in biotechnology and information and communication technology sector, actively use the IP system. Researchers in some developed countries have concluded that several factors contribute to the non-use or under-use of IP system by SMEs, these include

- Lack of adequate human resources
- Perceived lack of relevance of the IP system
- Perceived high cost and complexity of the IP system
- Lack of awareness of usefulness of IP system.

The use of the IP system by SMEs in African region is not well documented. However, general indications seem to suggest that African SMEs have a low level of awareness of the potential of the IP system, and understandably use it very little or not at all. Basically one can identify two main reasons for low use of the IP system by SMEs in the African region,

- Lack of awareness of the advantage and usefulness of the IP system

- The infancy of the IP system in the sense that many countries' IP legislation still needs to be up dated so as to be in line with 'current/modern' IP legislation which are in line with current international standards in the field of IP.

As you all know, WIPO is an intergovernmental organization with 177 members of which 51 are African states. WIPO is responsible for promoting the protection of intellectual property throughout the world through cooperation among states. WIPO administers over 20 international treaties dealing with intellectual property. The nature of intellectual property matters make it necessary for WIPO to deal with issues which are of direct interest to the business community. It is, therefore, not surprising for WIPO to take a keen interest in the activities of SMEs.

ICTs and IPR

Intellectual Property plays an important role in the development of ICTs. It also affects how enterprises, not only SMEs, can benefit from using ICTs in their daily activities. However, before going any further, I would like to spend a minute or two to make a short introduction of Intellectual Property. There are two branches of intellectual property. These are:

-Industrial property (which includes patents, utility models, trademarks, service marks, geographical indications, layout-designs or topographies of integrated circuits, industrial designs, protection against unfair competition including/or protection of undisclosed information/trade secrets)

-Copyrights and related rights. (these relate to artistic creations, such as poem, novel, music, painting, cinematographic works, theatre, etc)

A closer look at this very short description, one would find that intellectual property deals with protecting creations of the human mind. To facilitate this protection, countries have entered into several treaties, such as the Paris Convention for the Protection of Industrial Property, which dates from 1883 (with 162 members of which 44 are African States), the Berne Convention for the protection of Literary and Artistic Works, which dates from 1886 (with 148 members of which 41 are African States). It is important to note that since their coming into force the two treaties have been revised several times. Among the number of other treaties administered by WIPO, there are also two new treaties which were adopted in 1996: the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty; generally known as the "Internet Treaties." The two treaties are expected to enter into force by the end of this year or early next year, upon ratification or accession by 30 countries each.

Developments in ICTs can be said to be the backbone of the new economy, which is sometimes rightly referred to as the "information economy." This is the economy, which is driven by ideas, information and knowledge. Wealth creation is more

determined by access to information and the ability to use information at hand to one's advantage. In the new economy, we are witnessing a change in corporate thinking where the market value of an industry is increasingly in its "intangible assets," replacing the conventional thinking which linked it to tangible assets. With the help of ICTs we see how industries are changing their concepts of wealth creation by taking advantage of the information available.

The Internet, Mobile Communications, Video and Data conferencing, CD-ROM, Electronic Data Interchange (EDI) (EDI- is the exchange of business documents such as orders and invoices between computers run by trading partners. Standardized messaging and business software allows purchasers and suppliers to handle transactions electronically via phone lines) and Networking are increasingly taking a central role in determining the competitiveness of an enterprise. Today SMEs, which take advantage of such ICTs, in a conducive environment, can tremendously reduce their operating costs as opposed to their competitors.

As trade liberalization continues through the WTO mechanism, development of ICTs increases the intensity of competition since it removes some of the major barriers to trade, such as national boundaries and distance. SMEs, which normally used to compete only with domestic competitors, are suddenly faced with external/foreign competitors and not only foreign SMEs but also foreign multinationals. At the same time such an environment also opens opportunities to SMEs. It is now possible for SMEs at relatively lower costs to reach out to clients in markets which till a few years ago were a far-fetched dream. With a click of the 'mouse' SMEs can access information on the market, source of its raw material, possible partners etc.

In order to face the challenges and benefit from the opportunities brought about by the ICTs revolution, SMEs are advised to take a more serious look at intellectual property. SMEs have to look at IP not as a mechanism to prevent others from taking advantage of a technology or entering a market but rather as a very useful business tool. SMEs that are "IP-Smart" stand a better chance of reaping the benefits associated with ICTs.

Although generally speaking, the Africa region is considered to be a late comer in the new ICTs world, the relative advances it has had, at least in the Internet area, in the recent past has provided the SMEs in this region a modest but important opportunity to start participating actively in the new economy. Currently all 54 African countries are on-line, albeit mostly in major cities, this is a major step in empowering the SMEs with accessibility to information and its easier and wider dissemination as well.

◆E-Commerce and SMEs

Before addressing some of the benefits arising from effective use of IP and ICTs, I would like to highlight a "phenomenon" which is increasingly taking the center stage when it comes to enterprise use of ICTs and IP system in their business activities. This is

nothing else but Electronic-Commerce or e-commerce as it is widely known. Since e-commerce is still an evolving concept in a system which is also rapidly evolving, I would, for the purpose of this presentation, define e-commerce as a phenomenon in which enterprises use the Internet in their commercial activity.

The dawning of the Internet era has made it possible for SMEs to trade globally. For physical goods, the Internet can be used as a facilitator of business exchange. Through the Internet SMEs can electronically get in touch with potential customers, negotiate, handle product orders and finally receive payments for the goods which would be delivered using conventional ways, e.g., by postal services. On the other hand, for intangible goods like music and software the Internet becomes not only a system for facilitating sales but also a system which can effectuate delivery of the goods. Today it is not a far-fetched idea if SMEs in Uganda sell their products online to customers in the UK. The barrier associated with distance from market has been considerably reduced and, in cases of intangibles, national borders disappear. However, a presence in the Internet is very important if SMEs are to take advantage of e-commerce, this being the case before embarking on e-commerce it is worthwhile if SMEs,

i) Identify and take stock of IP assets they own, for example, patents, patent applications, innovations which they think are patentable, designs, web site designs, music, photos, technical writings, trade secrets, contracts which they think can affect their IP rights, etc. They should also seek legal assistance from a lawyer who is knowledgeable on IP. They should not forget to ask about the cost of getting an “IP audit.”

ii) Take measures to protect their trade secrets. Most SMEs use trade secrets as business strategy some of them not knowing that such secrets can be legally protected.

iii) Make sure, when they design their enterprise’s web site, that they know who owns the web site presentation and content and every aspect of IP in it. This is more important if they have used the services of a consultant or other company in designing their web site. Make sure that they acquire written permission to use other people’s material in their web site, including through links and framing.

iv) Choose a domain name which should preferably be distinctive and protectable under trademark law. It is important to make sure that the chosen domain name is not identical with or confusingly similar to the trademark of another company. Domain names are generally administered by the Internet Corporation for Assigned Names and Numbers (ICANN) whose web site is <http://www.icann.org>

v) Avoid making disclosures that would negatively affect or destroy their IP rights. This is because under many national laws patent protection may not be granted if an invention has been publicly disclosed even after a short period of time before filing the patent application

vi) Take special care when they enter into contracts. Contracts should be reviewed carefully before being signed. This is because through contracts, IP rights may be sold or licensed or even given away. Bad contracts can result in litigation and unnecessary expense.

Apart from e-commerce there are several other benefits that SMEs can get by effectively utilizing the IP system and ICTs, these include,

◆ **Access to Patent information.**

Information contained in patent documents is a source of technical and commercial information to researchers and entrepreneurs. However, retrieving such information was cumbersome and time-consuming in the past as searchers had to conduct a “manual” search. The digitization and now the use of search engines/software have made the exercise of search and retrieval of necessary information much faster, easier and cheaper. Even SMEs can now easily access and make use of patent information. Apart from being a source information on potential suppliers, patent information provides useful information on potential partners and even competitors. It also helps enterprises to avoid wasteful research and non-intentional infringement. Nowadays many national patent offices provide such information free of charge.

◆ **Access to new markets**

Protecting a product by a suitable trademark can help the SME to be associated itself with its products in far-off markets and also protect its product from unscrupulous ‘free riders’ or competitors who may want to take undue advantage of the SMEs goodwill in the market. SMEs with good trademarks can effectively use the Web to promote their products in distant markets and, in fact, sell their products online.

In the increasingly globalized economy, the time factor has become one of the major determinants of competitiveness. A company which is able to reach a market first has the potential advantage of winning a larger share of that market than the late comers/entrants. ICTs provide the opportunity for entrepreneurs to reach out to markets at a lower cost and in the shortest time possible. A quality product, which is adequately protected by IP, can easily be identified by its trademark or design. Such a product stands a better chance of maintaining a loyal clientele

In a study on SME Electronic Commerce in the Asia Pacific Economic Cooperation (APEC), undertaken by PriceWaterhouseCooper in 1999, it was observed that SMEs which had a higher level of e-commerce capability were more likely to identify using e-commerce to reach international markets as an important benefit.ⁱⁱ

It is important to note that in order to have a competitive edge over its competitors, an SMEs that is taking advantage of ICTs must also effectively use the IP system. A combination of IP protection and ICTs enhances the competitiveness of SMEs. With such

a combination, the size of an enterprise is often no longer a major factor in determining enterprise competitiveness.

◆ICTs and designing.

Availability of designing software like 'Rapid Prototyping (RPT)' provide SMEs with the possibility of cutting short their design time, a luxury once only available to large industries with complex technical know-how. Today enterprises compete on variations, products come in different designs to suit different tastes in the market. The availability of such technology makes it necessary for SMEs to consider protecting their design if they want to remain competitive and maintain their clientele in the market. SMEs should note that without protecting their designs the benefits brought about by the use of RPT could evaporate with a 'click of a mouse'.ⁱⁱⁱ.

◆Increases the opportunities of having business contracts through licensing

For innovative SMEs, IP protection provides the opportunity to secure profitable contracts even if they do not have the resources to commercialize their inventions. IP protection, in fact, gives such SMEs a strong negotiating position when it comes to negotiating licensing agreements. Furthermore SMEs can enter into other types of arrangement, commonly known as strategic alliances, in which they can access the facilities of a major company to further develop the product.

Challenges to African Governments

Throughout the week we have held very rich discussions on how ICTs can be used to address the numerous challenges facing the African continent, including those in the health, education and business sectors. The Secretariat background Document E/ECA/DISD/CODI.2/22 entitled "The African Development Forum '99 Post ADF Summit: Information and Communication Technology Policies and Strategies" provides us with useful suggestions on how to face the challenges associated with ICTs revolution.

In order to avoid repetition I will only highlight some of the challenges facing Africa policy makers in assisting SMEs to take advantage of IP system in their use of ICTs.

In order for African SMEs to maximize the benefits of IP through the use of ICTs, governments and other stakeholders must join forces in creating the right environment in which SMEs can benefit from the opportunities offered by IP and ICTs.

The major challenge is to enhance SMEs awareness of IP matters. The awareness campaign should extend to all stakeholders. One way of doing this is by using the Internet. There is growing indication that the general use of Internet is growing at a rapid rate. In the next few years most SMEs will have a way of at least accessing the Internet,

be it by directly owning such facilities in their offices or through 'Internet cafes.' Building of web content which is customized to the needs of local users is another challenge facing all stakeholders. Unfortunately so far only a few national IP Offices in Africa have their own web sites.

It is important that the IP culture is enhanced in the business community and the society at large. SMEs should be made aware of the benefits that can be accrued by the effective use of the IP system. Furthermore, it is important for SMEs to be informed of the importance of respecting the IP of other enterprises. This combined with efforts aimed at enhancing enterprises' awareness of, and capability in, participating in e-commerce would lead to increased business activities of SMEs, which would ultimately lead to positive contribution to the economic activities of a country.

However, creation of IP awareness among SMEs and others would be useful if policy makers put in place a mechanism where the enforcement of IP rights is efficient. Since it is the possibility of IP enforcement which makes the IP system effective. This includes having in place a legal framework on national IP matters, establishing appropriate administrative structures, etc.

Policy makers must also create the right environment in which SMEs can do e-commerce. Here there are several serious challenges, which go beyond the scope of this presentation; these include availability of supportive mechanisms e.g. financial services, legal framework, reliable IC infrastructure etc.

Finally, policy makers and other stakeholders should put in place measures which would increase the technical capacity of SMEs, so as to enable SMEs to benefit more from their use of patent information. SMEs supporting institutions, incubators, science parks, universities should include IP training in their programs/activities.

What is WIPO doing to assist SMEs

The SMEs Division in WIPO was established in October 2000. This was after the approval of by the 12th Extraordinary General Assembly of a proposal to establish a program of activities, focusing on the intellectual property-related needs of SMEs worldwide. The main objective of the new division is to provide information to SMEs, SMEs-support institutions, and national government on the usefulness of the Intellectual Property system to SMEs.

The WIPO initiative aims at promoting greater use of IP system by SMEs; strengthening the capacity of national governments to develop strategies, policies and programs to meet the IP needs of SMEs. Furthermore, it aims at improving the capacity of relevant public, private and civil society institutions, such as business and industry associations, to provide IP-related services to SMEs and to provide comprehensive web-based information and basic advise on IP issues to SME support organizations worldwide.

In order to achieve these objectives it was necessary to identify the basic IP related needs of SMEs, it was therefore imperative to have a fruitful exchange of ideas among stakeholders. This being the case the WIPO and the Ministry of Trade and Industry of Italy jointly organized the Milan Forum which was held in February 2001 in Milan, Italy.

The Forum produced a plan of action which provided recommendations with the objective of empowering SMEs to fully benefit from the IP system. The Plan of Actions recommendations included,

i) Strengthening of interaction between SMEs, SMEs support institutions and associations, national governments and IP Offices, WIPO and other relevant intergovernmental and non-governmental organizations with a view to better identify the needs of SMEs and facilitating the implementation of customized targeted activities addressing the specific IP needs of each sector, group or cluster,

ii) Increase of awareness and understanding of IP issues within the SME business community particularly through awareness-raising campaigns and targeted training programs with the optimal use of modern information and communication technologies, so as to enhance the capacity of SMEs to maximize their benefits from the use of the IP system,

iii) Promotion of the use of arbitration, mediation and other alternative dispute resolution mechanisms for a more cost-effective enforcement of IP rights.

The SMEs division is at the forefront in taking advantage of ICTs in reaching out to SMEs and other stakeholders. It is therefore not surprising that it launched, in June this year, its web site. The web site has been tailored to suit SMEs IP-related business needs. The content is in user-friendly language and the topics covered include Intellectual Property for Business, Intellectual Property in E-Commerce and some best practices. The web site can be found at www.wipo.int/sme.

The division is aware of the limitation of Internet accessibility of some potential users, this being the case the division is in the process of preparing a paper copy and a CD-ROM version of the information published on the Internet as well as a web site version printable in "Word format" so as to enable those who would like just to print the document and distribute to stakeholders with no Internet connection.

The division is also using ICT by maintaining e-mail subscription lists where interested parties are kept up to date on not only the activities of the division but also on other IP-related issues relevant to SMEs which the division is able to access.

At a wider scope, WIPO is aware of the challenges faced by the intellectual property community in the new economy and is also aware of the existing "digital gap"

between developed and developing countries. In addressing the challenge, WIPO has established three projects known as:

WIPONET- the objective of this project is enabling the integration of IP information resources, process and systems of the worldwide intellectual property communities, particularly the intellectual property offices of member states. The project also aims at offering the intellectual community new possibilities of implementing a number of innovations associated with the efficient use of the current information technology. More details on this project can be accessed at www.wipo.net

IMPACT- this project aims at facilitating the processing of applications for patent protection under the Patent Protection Treaty (PCT). More information is available www.wipo.org/it/en/projects/impact.htm

IPDL- the Intellectual Property Digital Library project offers to government sectors and individual users, electronic intellectual property information. The services offered through IPDL are free of charge. More information at <http://ipdl.wipo.int/en/general/general.html>

Solving IP related disputes arising from e-commerce is among the challenges facing e-commerce participants. The issue of court jurisdiction when addressing violation of IP rights on the Internet is always brought up when parties to such dispute are based in different countries. To facilitate the solution of such disputes, WIPO has established an Arbitration and Mediation Center which specializes in international dispute settlement.

Conclusions

It is clear that effective use of IP system and ICTs offers great opportunity for SMEs to enhance their competitiveness in the market.

The advances in ICTs strengthen the need of SMEs to use effectively IP in their day to day business activities.

Developments in ICTs also provide the opportunity to IP Offices to reach out more effectively to IP users.

However, with all the opportunities associated with the development of ICTs, governments/policy makers are faced with the challenge of creating the right environment in which SMEs can take advantage of effective use of IP system.

Other stakeholders are also faced with the challenge of assisting the African continent to participate actively in the new economy.

Thank you

ⁱ BSEC workshop on SMEs – Their Role in Foreign Trade <http://www.unece.org/indust/sme/bsec.htm>

ⁱⁱ PriceWaterHouseCoopers “SME Electronic Commerce Study” (TEL05/97T)

ⁱⁱⁱ RPT is a set of process that involve computer-aided design (CAD), solid modeling, ultra violet/laser technology and layer-by-layer prototype fabrication. It uses assorted materials such as plastics, ceramic and metal powders, sheet materials and binders through special techniques of sintering, layering and deposition techniques. Geometrically complexities textures and shapes not handled by conventional methods can be easily handled through RPT. See "How the Internet and New Information Technologies Influence the Work of Inventors, Innovators and Innovative Small and Medium Enterprises (SMEs)" by Shubsh K. Bijlani, (document WIPO/IFIA/BUE/00/4 pg. 11).