World Patent Information 34 (2012) 30–36

Contents lists available at SciVerse ScienceDirect

World Patent Information

journal homepage: www.elsevier.com/locate/worpatin

WIPO services for access to patent information - Building patent information infrastructure and capacity in LDCs and developing countries☆

Yo Takagi*, Andrew Czajkowski

World Intellectual Property Organization (WIPO), 34 chemin des Colombettes, CH-1211 Geneva 20, Switzerland

Keywords:
WIPO
Least developed
Developing
Technical assistance
Patent information
Database access
Infrastructure
Analysis
Knowledge mining
TISC
LDC
aRDi
ASPI
CASE
ICE
Information dissemination

A B S T R A C T

Challenges facing developing and least developed countries (LDCs) in overcoming difficulties in benefitting from patent information will be discussed in the context of on-going technical assistance from the World Intellectual Property Organization (WIPO) for building a basic infrastructure providing access to databases and developing local skills for analyzing, adapting and applying patent information to local knowledge development and successful technology transfer. WIPO's new initiatives are introduced including the establishment of focal points for using patent information, called Technology Innovation Support Centers (TISCs), as well as the new partnership programs Access to Research for Development and Innovation (aRDi) and Access to Specialized Patent information (ASPI) providing access to science and technology journals databases and specialized commercial patent databases respectively. With the increasing amount of patent data available, focus for capacity building is shifting from mere information searching to knowledge mining requiring specialized tools for analyzing patent information in an intelligent and creative way for both novice users and broader consumers in these countries.

1. Global infrastructure links the world

Stakeholders of intellectual property (IP) have seen significant changes in the way that business has been conducted over the last decade. Intellectual property applications and rights are sought, protected, used and enforced differently today. In the 1990's most work was paper based and publications were available on portable media such as CD-ROMs. Significant changes came about from two sources: the internet and globalization. Both inherently seek to create an interconnected world.

The Director General of the World Intellectual Property Organization (WIPO) characterized recent changes in the world as follows: "we are now linked – physically, intellectually, socially and culturally – in ways that were impossible to imagine. […] The intellectual property system is part of this linking process. It facilitates the sharing of information – such as the wealth of technological know-how contained in WIPO's free data banks. It provides a framework for trading and disseminating technologies. It offers incentives to innovate and compete." [1].

He further observed that this "interlinking world requires interlinked networks, databases to share information of common interest and powerful search facilities to identify who's who, content of innovation and whereabouts".

2. Knowledge infrastructure and intellectual property in developing countries and LDCs

Many developing countries and LDCs have suffered from the weakness of the basic infrastructure necessary for economic activities. Activities for innovation and the use of intellectual property for promoting investment and R&D in those countries are faced with additional difficulties caused by the lack of basic infrastructure and a "knowledge infrastructure". In the context of innovation and intellectual property, the perception of knowledge infrastructure is different from the conventional infrastructure.

"Just as participation in the physical economy requires access to roads, bridges, and vehicles to transport goods, a similar infrastructure is needed in the virtual and knowledge economy. However, here the highway is represented by the Internet and other networks, bridges are inter-operable data standards, and vehicles are computers and databases." [2].

A decade ago, overshadowed by a number of difficulties in the short-term, the developing world did not consider the value of

☆ Opinions expressed in this article are those of the authors and may not necessarily represent official views of WIPO.

* Corresponding author.
E-mail address: yo.takagi@wipo.int (Y. Takagi).

0172-2190/$ – see front matter © 2011 Elsevier Ltd. All rights reserved.
doi:10.1016/j.wpi.2011.08.002

innovation and intellectual property in the context of strengthening their domestic capacity for converting resource-based to knowledge-based economies when the Millennium Development Goals of the United Nations were set. However, since then, emerging economies have shown how important it is to invest in infrastructure needed for knowledge-based economies having a knowledge infrastructure to promote home grown innovation. Such an infrastructure includes intellectual property. This is not limited to the physical infrastructure such as the premises of intellectual property offices, but also extends to knowledge infrastructure such as good management and practices for administering online applications of intellectual property rights, web publishing of various information, and timely and efficient helpdesk services for novice users of patent information, to name but a few.

It is the abovementioned "global interlinks" which now help the developing world to leap forward. The interlinked infrastructure of intellectual property should bring additional value to intellectual property stakeholders in the world and allow them to participate in the global market.

It is worth mentioning that not only developed countries but also countries of emerging economies such as BRICs [3] make important contributions to linking intellectual property jurisdictions which are still fragmental at the legal infrastructure level. Difficulties in the developing world have started to be mitigated by the generous support, precious advice and lessons received from emerging economies about the positive impact of intellectual property upon the economy and society as a whole in the developing world, which up until now has perceived intellectual property as something irrelevant or even malignant, administered as poison pills prescribed through the signing of international trade agreements.

The process of innovation is complex. According to a well-established discipline of knowledge management, innovation is understood as a process to create new knowledge-based on the existing knowledge. In pursuit of more successful innovation, an initial focus was placed on knowledge management within an organization [4]. This has recently shifted towards global knowledge management involving external actors. It is no surprise that a global knowledge infrastructure supported by the Internet became a key factor of global knowledge management. Knowledge obtained from external sources was recognized important to promote innovation.

The role of the patent system to diffuse information has not been sufficiently emphasized until the Internet opened new opportunities in this century. It sharply contrasts with a conventional over-emphasis on the right of excluding potential competitors and free riders in the 1990's. In the context of global knowledge management, executive managers realized the role of patent information and knowledge included therein in enabling internal innovators to obtain inputs from external rich sources of knowledge, as the world became interconnected.

The idea of supporting innovation by creating a knowledge infrastructure is also a part of the new business paradigm of open innovation [5] and crowd sourcing [6] which emerged during the last decade. The most recent management of intellectual property appears to be guided by a well-informed decision on a choice or combination of open and/or closed strategy, depending on business needs and technologies [7].

Today, social networking is gaining influence on the flow of knowledge beyond the country borders. A global knowledge infrastructure we are seeking may as well include not only technical aspects but also other aspects of socio-economic and cultural factors. For instance, innovation could be promoted by polices in support of investment in innovation, education system churning out talent innovators and entrepreneurs, and institutions facilitators collaboration between different actors in universities and industry. This is sometimes referred to as an ecosystem of innovation.

A brief summary of the evolution of knowledge management shows that a global knowledge infrastructure forms a foundation of the innovation ecosystem. To develop a robust global knowledge infrastructure is expected to enhance the efficiency of innovation in all economies, whether in developed or emerging or developing or least developed. World policymakers and world leaders have recently confirmed their commitment to the creation of strong and robust intellectual property system and to improved diffusion of patent information [8].

3. Reinforcement of IP offices

WIPO has observed that the difficulties and challenges described above have recently changed to a growing interest and stronger commitment of governments with regard to intellectual property policies in the context of national socio-economic development [9]. For instance, an increasing number of countries are now drafting national IP strategies for development and strengthening inter-agency cooperation within the government so as to implement new intellectual property policies which need to involve several ministries.

WIPO has also received strong demands for technical assistance in strengthening basic infrastructure for intellectual property rights protection and enforcement. As an example, during the last decade, the list of countries using WIPO technical assistance services for modernizing IP offices administration and having introduced new business solutions or workflow rose from some 30 countries to 70.

This assistance primarily focused on simple automation of paper based procedures for dealing with an increasing number of trademark and patent applications which would seem to indicate an increase in foreign direct investment and international business in that country. Recent demands are more sophisticated than before seeking e-government best practices and regional cooperation with neighboring countries which are often members of the same economic and trade agreements with a view to sharing information and workload. It makes more sense, as customers of those IP offices, industry and business have become players in the regional or global market, to seek intellectual property rights or their transaction in several countries. Just as any given business needs to be locally active and globally present so does an IP office of any country.

What global IP offices require is global infrastructure consisting of inter-operable systems exchanging machine-readable digital data in a common structure and with common practices and procedures for sharing information and workload where necessary.

A diagram on the next page (Fig. 1) depicts what existed in the last century and what will be created in developing countries and LDCs this century in the area of intellectual property infrastructure.

Statistics show that during the last decade we witnessed a steady growth in filings by emerging economies and also an increasing rate of non-resident filings. Figs. 2–4 show this trend. This means that certain emerging economies realized needs for strengthening their search and examination capability for their innovation promotion, whereas many other developing country IP offices with limited resources have to cope with an increasing number of patent applications from overseas in a way which needs to exploit the results of search and examination done by other IP offices.

Challenges facing IP offices include the creation of digital data flow within the office as well as the creation of links to other IP offices and relevant organizations such as innovation promotion, SME (Small and Medium-sized Enterprises) support organizations,