

University of Ottawa

From the Selected Works of Jeremy de Beer

2013

Access to Knowledge as a New Paradigm for Research on ICTs and Intellectual Property Rights

Jeremy de Beer, *University of Ottawa*
Sara Bannerman



SELECTEDWORKS™

Available at: <http://works.bepress.com/jeremydebeer/19/>

Chapter 3

ACCESS TO KNOWLEDGE AS A NEW PARADIGM FOR RESEARCH ON ICTs AND INTELLECTUAL PROPERTY

Jeremy de Beer and Sara Bannerman

Why is an authorized copy of a Hollywood film worth \$15 in the United States offered for sale at the same price in a much poorer country like India? Factoring in purchasing power parity, is it really surprising that consumers refuse to pay the roughly \$641 price tag and turn instead to piracy to satisfy their understandable demand for access to foreign culture? What is being done in developing countries, effectively or ineffectively, to enforce laws designed to deal with such dilemmas? Maybe more importantly, if enforcement efforts succeeded in stamping out piracy, what would happen to the jobs, income and gray market spinoffs generated in the informal sectors where this activity mostly takes place? Could these losses be offset by net social or economic gains through innovation or formalization in low-income countries that better comply with the legal standards set by the world's most developed nations?

And might this debate be different if we were talking about *education* instead of *entertainment*? For example, how do students in Senegal behave when confronted with conflicting information about acceptable practices for photocopying textbooks and other educational materials? How should they behave? They're explicitly asked to photocopy books instead of taking them home or tearing out the pages but, at the same time, by so doing, they learn that most copy shops around post-secondary campuses, not to mention their own libraries, operate illegally. Do students at the wealthiest South African universities or researchers at renowned institutions like the Bibliotheca Alexandrina in Egypt face similar challenges? What can we learn from comparisons across the African continent or through similar studies in Asia or South America?

Looking at such issues from another perspective – from that of the producer instead of the consumer or the student – what incentives would exist to create textbooks, films or cultural products if they could be freely copied without compensation? Can publishers in developing countries effectively use creative licensing techniques established in European and American software industries for broader distribution? In Brazil, there are hints that it is possible to build alternative business models for producing music or other

cultural content. But are these models scalable beyond the informal sectors in which they emerged? Can they be replicated in other regions of the world?

All these questions share at least three common threads: (i) their answers depend partly on the contentious topic of intellectual property rights (IPRs); (ii) the problems are complicated by the rapid proliferation of information communications technologies (ICTs) in developing countries; and, for these two reasons, (iii) these issues are the kind that interconnected communities of researchers have explored through collaborations established during the past decade.

On a somewhat deeper level, all of these questions concern an issue of increasing relevance to anyone interested in development: access to knowledge. Effective participation in the “knowledge society” requires, rather obviously, access to its most important commodity, knowledge. Knowledge is a prerequisite to – or, at least, a component of – poverty reduction, population health, food security, universal education and most other human development goals.

Access to and control over knowledge is influenced by many factors. Some are technological, like the now well-documented “digital divide” between rich and poor or between urban and rural populations. Some are social. A good example includes gender biases embedded in cultural practices that tend to impoverish women more than men by creating access barriers or by devaluing certain kinds of knowledge. There are also economic and legal factors, like IPRs, that affect access to knowledge for better or for worse. IPRs do not just operate as a key trading currency of firms doing business in the global information economy. IPRs also control the extent to which individuals can create and access knowledge-embedded cultural works, acquire new knowledge through learning materials, communicate knowledge with others using new technologies and exploit knowledge to build their own entrepreneurial businesses.

To address this issue, IDRC’s ICT4D program has supported partners’ work throughout the developing world to better understand the relationship between IPRs and ICTs and to use new understandings to create positive changes in policy environments and grassroots practices in these fields (Bannerman 2007). This chapter reviews and synthesizes some of that work to enable deeper reflection on earlier research results, integrate this learning into answers to broader questions and inform the strategic direction of future research.

The chapter has four parts. Following this introduction, the second part sets the legal, economic, technological, social and geopolitical context in which debates about IPRs and ICTs have unfolded. The third section describes select research activities addressing the connections among IPRs and ICTs. The strategy here is to perform grounded theoretical research – that is, to glean new insights and develop overarching concepts from evidence already gathered “on the ground” by researchers closely connected to real world problems and potential solutions. Notably, the underlying empirical research was gathered using mixed quantitative and qualitative methods that included statistical analyses, legal reviews, survey questionnaires, interviews, focus groups and other kinds of fieldwork. This hybrid methodological approach facilitates the fourth and final section of the chapter, which contains conclusions and recommendations.

Linking Theory and Practice among IPRs, ICTs and Development

Standard economic theory suggests that exclusive IPRs provide an incentive for firms to invest time, effort and money into the creation and dissemination of new ideas (WIPO 1997). Without IPRs, the theory suggests, fewer firms would be interested in innovation in these fields and society would be worse off as a result. That is why copyright, for example, often provides over a century of exclusive control over original expressions of cultural works including books, music, films, video games and other kinds of software. Patents protect new, useful and unobvious inventions for up to twenty years by giving their owners a temporary monopoly in exchange for disclosing inventions instead of keeping them secret. Trademarks stop competitors from causing confusion among brands in the market, so long as the owner's words, symbols or other marks remain distinctive. Other kinds of IPRs fill in gaps by, for example, protecting the intangible assets of plant breeders, product designers or geographic regions.

According to the instrumentalist theory, countries that offer such IPR protection are believed to prosper economically as a result. These countries' businesses and citizens do better with protection than without because they are assured of returns on investments in creative expression, technological innovation and commercial goodwill. As the former director general of the influential UN agency, the World Intellectual Property Organization (WIPO), put it, IPRs are a "power tool" for economic growth (Idris 2003). Other theories suggest that IPRs are even "natural" rights, belonging innately to artists and inventors regardless of states' intervention or failure to provide formal recognition. On both justifications, the levels of protection of IPRs worldwide have been ratcheted upward for most of the twentieth century. The convergence of international trade and IPRs culminated in the mid-1990s with the TRIPS Agreement (Agreement on Trade Related Aspects of Intellectual Property Rights), which was reached when the World Trade Organization (WTO) was created.

In practice, however, the relationship between IPRs and development has long been a more complex matter than theory suggests. Historically, many countries chose not to protect IPRs, especially the rights of foreigners, opting instead to permit copying of foreign creativity and innovation (Chang 2003). The United States, for instance, did not grant copyright in foreign works until 1981. Only in the latter part of the twentieth century – after it became a net exporter of music, movies, books and other entertainment products – did the United States promote protection of its IPRs around the world (Chang 2003). The kind of free-riding on foreign creativity and innovation in which countries like the United States, Japan and Germany have historically engaged is one reason why many developing and least-developed countries are still cautious about protecting IPRs. Simply put, they need access to foreign cultural works and technological inventions and are not convinced that protecting IPRs will provide that.

Another practical reality has begun to emerge from empirical evidence, also supported by economic theory: having too much protection for IPRs is as bad as not having enough. Overprotection can create economic "gridlock" when too many IPRs are held by too many different people because transaction costs impede efficient market transactions

(Heller 2008). This is in addition to worries about potentially adverse impacts that IPRs might have on much broader issues like access to medicines, crop seeds, learning materials or clean energy technologies. Debates around these issues are essentially about distributive justice; IPRs can facilitate the concentration of wealth in the hands of large corporations (often multinationals), leaving local citizens at the mercy of the monopoly powers that IPRs provide.

Of course, opinions vary widely about the significance of these risks, the severity of their implications (if indeed even the worst fears are true) and the difficult tradeoffs that must inevitably be made in any case. That is why many developing country governments have struggled to set coherent policy frameworks for the protection of IPRs or, perhaps worse, have ignored these issues altogether. Those developing countries that have taken action have done so pursuant to diplomatic/economic pressures or technical advice from developed countries that are acting mainly in their own self-interest.

Concerns that developing and least-developed countries were being coerced into adopting inappropriately high levels of protection for IPRs coalesced into a call for changes to the way international policy is made and implemented. This led to the establishment in 2007 of a development agenda for WIPO – an effort to make the organization more responsive to the needs of developing countries, a kind of counterbalance to the TRIPS Agreement (de Beer 2009; WIPO 2007).

As if the relationship between IPRs and development were not complex enough, another variable has created new and even more difficult challenges – as well as profound opportunities – for virtually everyone in society: the widespread proliferation of radically transformative ICTs throughout the world, including within developing countries. Other chapters in this book demonstrate the myriad ways in which ICTs impact development. Looking specifically at IPR-related aspects of ICTs and development, especially pertaining to mobile telephony and to the Internet, this chapter emphasizes two disruptive developments.

First, ICTs threatened to – and, in fact, did – massively alter consumer behavior and, therefore, business practices. The rise of ICTs in the 1980s and 1990s and their use to effortlessly copy and distribute digital content challenged the predominant business models on which publishing, music, movie and other cultural industries depended. ICTs are still causing significant structural changes to occur within these industries (Castells 2009). Technological changes and corresponding economic challenges sparked a wave of “modernization,” i.e., further strengthening of IPRs around the world to respond to the commercial threats posed by digital technologies (Sell 2003).

Second, ICTs have created unprecedented opportunities to re-imagine the place of individual citizens in the knowledge production process. No longer are consumers confined to the role of passive recipients of information. Anyone with access to appropriate ICTs is technically able to participate actively in the creation – and not just consumption – of cultural information and technological innovation (Lessig 2007). Benkler, in his 2006 book *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, explains the possibilities of peer production as the key driver of a profound shift from a hierarchical industrial economy to a networked knowledge society.

The duality of ICTs as both a threat to established interests and an opportunity for socio economic restructuring, as well as the role of IPRs in those contexts, has made it an ideal topic around which to orient a robust program of research. Undoubtedly there were multiple ICT-related aspects of IPRs that could have been studied. The so-called smart phone patent wars that have made headlines lately could have been studied while the problem was in its infancy. The implications of trademark and branding strategies, such as registering domain names in cyberspace “landgrabs,” might have been another topic of fruitful research. Instead, most IDRC ICT4D-supported research during the past 10 years has focused on copyright, rather than other IPRs. Why might that be?

In hindsight, one explanation for the focus on copyright could be the emergence of a sociolegal movement advocating for “open” licensing of IPRs, particularly the free and open source software (FOSS) and the Creative Commons movements (Wong and Sayo 2004). Although the FOSS movement first appeared in the 1960s and 1970s, the Creative Commons movement was just beginning to build a following in 2001. Both FOSS and Creative Commons shared, and still share, several common features: an underlying ethos of sharing and collaboration, a belief that ICTs will yield more social and economic benefits with IPR systems that facilitate sharing and a re-imagining of the role of licensing contracts to accomplish these aims within existing legal frameworks.

More specifically, FOSS licensing allows the free use, reuse, redistribution and remixing of source code – often free from royalty obligations – as long as there is attribution and recognition of authorship and previous contributors. What FOSS is to software, Creative Commons aspires to be for other expressive content, including literary, musical, dramatic and artistic works. Creative Commons licenses provide a flexible array of licensing options intended to loosen the “all rights reserved” model of traditional copyright, licensing greater liberties for users.

The characteristics of these open licensing models put them somewhere in the middle of divisive legal and policy debates about whether developing countries should provide more or less, or stronger or weaker protection for IPRs. They demonstrate that the issues call for much more nuanced and complex analysis than these binary positions permit. Given these characteristics, one might see how IDRC and its partners’ interests in studying these topics have stemmed from more than just coincidental timing.

The practical tools of open licensing alone, however, were not enough to support an entire program of research. An overarching theoretical framework was needed. The instrumentalist and natural rights theories discussed above seemed inadequate; they were either empirically unreliable or normatively contentious. So research interests gravitated toward a then newly emerging way of framing the issues: access to knowledge or “A2K” (Kapczynski 2008). An A2K framework presumes that free and open flows of information, accelerated by an increasingly networked world, benefit societies overall. It anticipates a sea of change in the way societies are able to share information within and without and supposes that existing IPR paradigms require reform to adjust to these socioeconomic and technological transformations. This theoretical framework therefore rests on the principle of balance in IPR policy, weighing the need to protect authors and inventors on the one hand and the public interest as well as other citizens’ countervailing rights

on the other. This requires a focus on flexibility in IPR regimes. From a development perspective, one size of IPR system does not fit all countries or communities.

The A2K theoretical framework and the practical tools of open licensing were together viewed as having real development potential, offering a different, freer route for cultural and technological development (Lemos and Rossini 2005). The idea of a commons-based production that encompassed everything from “open source software, to initiatives for affordable, community-created educational materials, to architectural designs for reliable and cheap housing, to methods that allow artists, musicians and filmmakers from around the world to succeed even without access to commercial media distribution services,” was associated with development potential (Lemos and Rossini 2005). It was viewed as a way of facilitating collaboration across borders, universal participation in the cultural and knowledge domains and sustainable products that could be adapted to suit the needs of local communities (Lemos and Rossini 2005). It was along these lines of thinking that IDRC’s ICT4D program built its approach to IPRs and development.

Reviewing the Research

Exploring open source and development

IDRC’s ICT4D program’s main activities in the field of IPRs essentially grew out of its work on ICT tools and software capabilities. To understand the field of IP more fully, however, it was necessary to first identify the interests of developing country researchers in the field and to build networks of researchers, experts and policymakers working in the area.

The International Open Source Network (IOSN), for example, was initially funded by IDRC in partnership with the United Nations Development Programme (UNDP) to raise awareness of open source software as a tool for development. Along with a number of FOSS training guides and programs, support and advocacy, the project established a network of FOSS experts, policymakers, organizations and communities of practice through email lists, virtual spaces and other online collaborative tools. Over the time frame of the project (2003–2005), FOSS shifted from the periphery of development research to a major consideration in ICT4D discourse (IDRC 2005, 8–9).

Although the potential of FOSS and other flexible licensing systems was a focal point of much of IDRC’s work on IPRs, research results led to mixed conclusions. In some circumstances where the FOSS model might have been appropriate, it was not being used to its full potential. It also became clear that FOSS licensing is not an appropriate choice in all circumstances. A 2005 study conducted by Bridges.org and funded in part by IDRC noted that neither the cost savings nor the advantages of source code availability of FOSS could, in reality, be taken advantage of in many African contexts. This study of computer labs in Namibia, South Africa and Uganda found that the widespread use of pirated proprietary software and the availability of donated proprietary software meant that FOSS generated few cost savings for computer lab operators. It also found that the local programmers could not take advantage of the availability of source code or

did not have the ability to modify it. Proprietary software held several advantages over FOSS: it was generally more widespread, training courses and experience were easier to access, technical support was more widely available and support services were more competitive and less expensive. On the other hand, the study found that proprietary and mixed software could be combined in useful ways according to the priorities of given projects (Bridges.org 2005).

A focus on access

Given the expanding importance of IP issues in ICT4D's research portfolio, IDRC started to look beyond open source licensing to broader issues of access to knowledge. An IDRC-supported project, "Access to Knowledge: Copyright as a Barrier to Accessing Books, Journals and Teaching Materials" that was led by Consumers International identified copyright as a key barrier to knowledge production and dissemination. Researchers observed that, although the current global copyright regime provided certain limitations and exceptions to copyright, most countries included in this particular study had not taken advantage of the flexibilities afforded by international law. The project concluded that these policies priced access to knowledge out of reach of consumers in these countries through expensive copyrighted educational materials (Consumers International 2008). Interestingly, these research results foreshadowed similar findings from a much larger empirical analysis of media piracy in emerging economies (Karaganis 2011); the findings are discussed below.

The Consumers International project successfully promoted policy change. Researchers were able, through their work on this project, to influence the WIPO as well as various national governments. Consumers International argued that WIPO had helped to encourage inflexible IP systems in developing countries, rather than promoting the use of flexibilities in international treaties. Consequently, the *Financial Times* ran headlines such as "Bad copyright advice stunts learning" (Williams 2006a) and "UN body gives poor nations misleading copyright advice" (Williams 2006b). The study, combined with other pressures, drew a commitment by WIPO to change draft laws (Consumers International 2008).

The importance of the issue of IP flexibility is not limited to Africa, so the research by Consumers International was also useful in other developing regions of the world. For example, the alternative law forum in India used data and recommendations from this research to prepare its own submission to India's national copyright office and the intellectual property office of Mongolia sought Consumers International's assistance to comment on draft legislation in that country (IDRC 2009).

Meanwhile, in Africa, the "Commons-Sense: Copyright Alternatives, Education and Innovation in Africa" project responded (as had the A2K initiative) to debates at WIPO about appropriate IP protections in developing countries. Like many other research-related developments around the same time, this project was inspired by various academics' and NGOs' *Geneva Declaration on the Future of WIPO*, which called on WIPO to adopt a development agenda in line with its position as a United Nations agency (May 2007; de Beer 2009). Given the push toward more creative and flexible approaches to

IP issues, the project aimed to study the effects and implications of such systems on educational materials in Africa (IDRC 2004a, 4).

The scoping study on copyright-related barriers to accessing educational materials and the corresponding primer on possible alternative access mechanisms were widely discussed at events including a conference featuring renowned scholar Lawrence Lessig. In addition to the multimedia training materials developed from the underlying research (IDRC 2004b), concrete outcomes included the customized South African version of the Creative Commons license.

These were important developments. They not only opened the box on several IP issues that had until then been ignored in southern Africa, they also integrated new networks of civil society and scholarly researchers into the community of people working on these topics (IDRC 2007a). Several researchers involved in early projects like Commons-Sense eventually proposed and led the much larger-scale activities that have had sustainable impacts on practice and policy, not to mention IDRC's own research agenda. It was this growing community more than particular projects that fostered ongoing empirical research, robust policy dialogue and successful influence on development through IPR and ICT systems in national and international contexts.

In Africa, for instance, a large segment of the IDRC-supported research community came together under the umbrella of the African Copyright & Access to Knowledge (ACA2K) network. Formally established in 2007, this pan-African network built on the earlier work of the Commons-Sense and other projects and complemented concurrent research being done throughout the continent. A group of over thirty people from at least eight countries in Africa connected with experts on every other continent for this elaborate, empirical research project.

The topic of research – access to learning materials – was one with which IDRC was already somewhat familiar from Consumers International's work in Asia. The spark that lit this fire in southern Africa, however, came not from IDRC but from other organizations that included the International Centre for Trade and Sustainable Development (ICTSD), the United Nations Conference on Trade and Development (UNCTAD) and the Trade Law Centre for Southern Africa (TRALAC). These organizations supported a study by Rens et al. in 2006 on intellectual property, education and access to knowledge. This eventually became a model for the much broader internationally comparative research conducted through the IDRC-funded ACA2K project. The lesson learned here is how important connections with other organizations – international agencies, think tanks and NGOs – can become, even if the real value of such relationships is not fully apparent until sometime after a sponsoring research program has wound down.

The ACA2K project was both network building and methodologically pioneering. Researchers developed a replicable methodology to track the real world impact of African copyright laws and policies (Armstrong et al. 2010). Most research on IP and development employs either legal research methods that focus almost exclusively on desk analysis of legal documents such as treaties, statutes and case decisions or on econometric models that use statistical data and computational analysis. This project forged a new path because it took methods from other social sciences and humanities research (for example, impact assessment interviews and focus groups) and combined these with

legal research on IP frameworks to gather empirical evidence of copyright's practical impacts in the selected study countries. These data were then analyzed comparatively to reveal common themes or significant distinctions in either law or practice, answering the overarching research questions around the role of copyright in access to knowledge through learning materials.

The research revealed that any problem copyright poses for access to legal materials is not primarily a legal one; it is a practical one. Copyright legislation in all of the study countries around Africa meets or exceeds international standards. That, no doubt, is a product of the technical assistance activities of foreign governments and international agencies; studies like those done by Consumers International revealed this in other regions of the world. While copyright enforcement in most African countries is weak, arguably undermining incentives for authors and publishers to invest in these markets, the real concern is the dramatic disconnect between the law "on the books" and the behavior "in the real world." Economic, social and cultural circumstances make it literally impossible for people to comply with copyright legislation based on Western legal systems and standards that are applicable in the world's high-income countries. Unrealistic laws do not only exacerbate enforcement efforts; even worse, they are perceived as foreign and unfair, thus undermining any potential that a healthy, balanced copyright system might have for all stakeholders in these countries.

Because of the ACA2K project, national governments, international organizations, grassroots activists and reputable academics better understand the nature of copyright challenges in Africa and potential solutions to them. The project produced dozens of published reports and policy briefs, as well as events in eight African countries, in Europe and in North America (IDRC 2010). Commentary on the research can, however, be summarized by reference to a review of one of the project's main outputs, a book. In 2011, May, a world-renowned leader on the political economy of IP, made these remarks in the prestigious journal *African Affairs*:

This study is clearly intended to act as a spur to further comparative work to substantiate its conclusions for a wider set of countries. Moreover, there is nothing to stop the pluralist methodology employed across these cases being used more widely in the study of the gap between copyright law and its actual effects/outcomes. [...] [T]his is a valuable contribution to the discussion of copyright's role in education and development, which use fully (and explicitly) seeks to place laws in their social context. (May 2011, 655)

The research has had impact beyond academia with organizations including WIPO not only inviting consultation and engagement with project researchers, but even publishing the project's findings in its widely circulated magazine (Kawooya 2011). This was a welcomed *volte-face* for an organization so heavily criticized for its IP promotional activities and perspectives when IDRC began researching these issues.

In hindsight, perhaps it is not surprising that the research has been so well received and influential among stakeholders, given the careful monitoring and assessment of

impact strategies throughout the lifespan of this project – a valuable tactic for future projects to focus on

Research across Access, Production and Publication

The shift in focus from flexibility and access to innovation and production was rooted in work supported in Asia and Africa. Research in both regions initially experimented with the open source paradigm as a tool for the production and adaptation of software in local languages, termed “software localization.”

In Asia, localization projects had found that Chinese, Hindi and Urdu are highly complex languages with unique input symbols and so were not well served by technological frameworks originally designed in western languages (IDRC 2007b). IPRs could impede localization efforts if source code were proprietary; open source models present a possible solution here. That is one reason the UK Commission on Intellectual Property Rights in 2002 recommended that developing countries consider low-cost and open source software in their software procurement processes (Commission on Intellectual Property Rights 2002). IDRC’s localization work, therefore, adopted FOSS development models.

In Africa, IDRC-supported partners also made use of open source software in projects related to ICTs in health, proving the broad sectoral relevance of the IPR/ICT issues being studied. In 2006, the “Developer Network and Open Source PDA Software for Health Data Collection” project, for example, began exploring the possibility of producing open source software applications for health data collection on handheld computers for developing countries. This was followed in 2007 with projects to integrate FOSS computerized health medical records systems in southern Africa and to develop and publish an open eHealth architecture using FOSS.

This research on open source licensing models helped to bridge the divide, not only between the policy and practice of copyright, but also between the consumption and production of copyright-protected ICTs. The potential of open access licensing, as further research revealed, is not limited to software.

Several projects focused on the potential of open access to research, i.e., unrestricted access via the Internet to peer-reviewed scholarly journal articles and other academic publications. These projects were focused not only on access to works in developing countries; indeed, they were more concerned with the production and dissemination of works coming from developing countries.

The projects “Access to Knowledge Southern Africa: Universities,” “Open Approaches to Research in an Internet Age,” as well as the Scholarly Communication in Africa program addressed the difficulties African countries face in participating fully in the knowledge society. Despite various factors inhibiting access to African research, these projects showed how open source technologies and platforms could be tools to encourage local scholarly publishing in African countries. Indirectly, therefore, these models could encourage indigenous approaches to research and could foster communities with less dependent and more productive relationships with foreign researchers (Creative Research & Development 2008, 6; IDRC 2007c, 4).

Another project – “Publishing and Alternative Licensing Models (PALM) in Africa” – acknowledged that, like the music industry, the publishing industry was experiencing dramatic shifts as it incorporated new ICTs. In 2007, the project established a collaboration between publishers in Uganda and South Africa to explore the use of alternative licensing models and online publishing tools. PALM Africa piloted business models ranging from free, online open access that might be sustainable with public funding to more complex models combining the commercial and free access in various ways. Some of the most innovative publishers in both countries began experimenting with these strategies to complement existing print versions of publications. Like several other IDRC-supported projects, PALM revealed a real potential for partnerships between commercial publishers and universities to extend and increase the impact of African research. Another insight gained by the PALM project was that African publishers were more interested in producing new local content than in making international content more accessible (IDRC 2011, 10). Later studies would build on this insight, focusing on domestic innovation rather than access to international materials.

Of course, the project encountered roadblocks such as a lack of capacity among participants to implement experimental business models using unfamiliar technologies. But one benefit of the PALM project was the clear identification of this kind of barrier. Five years later, in 2012, researchers involved in that project are making great progress. Members of the Ugandan research team, for example, are about to host an important regional meeting of the Creative Commons in collaboration with the “Open African Innovation Research” (Open A.I.R.) project. Once again, it is only now becoming apparent how IDRC’s early investments in particular projects have helped to sustain and grow an interconnected research community working toward positive changes in business and policy environments.

Exploring Open Business Models in Latin America and the Caribbean

Meanwhile, in Latin America, places like Brazil were home to some early adopters of alternative and open IP practices. This provided fertile ground for research into how such new practices were created and adopted. Of particular interest was the idea of “open business” models. “Open business” for IDRC-supported Brazilian researchers describes a particular way of doing business related to information, knowledge and culture in which IPRs are neither primary economic incentives nor primary sources of remuneration. Open business models include, for instance, possibly giving away or making content or services available to some degree and then charging for value-added products or services around the content. Researchers in Latin America observed that such practices were common, for example, in informal cultural industries, from street vendors to online peer-to-peer networks. They appropriated technological tools to create their own networks for the production, distribution and consumption of culture.

A good illustration of an alternative business model is a music scene called *tecno brega* that, loosely translated, means “cheesy techno” in Portuguese. It emerged in the city of Belém in Brazil and has achieved significant success resulting in yearly revenues of

\$20 million (Anderson 2009). *Tecno brega* records by local artists are released every year by the hundreds with both the production and distribution taking place outside of the formal music industry; 90 percent of the artists have no record contract and no label (Anderson 2009). Instead, the *tecno brega* model can be described as follows: artists freely release their music online and through local street vendors to market live events called “sound system” parties. Every weekend, these parties attract thousands of people to the outskirts of Belém, resulting in significant revenues for the artists from charging for admission, as well as for food and drinks. Other revenue streams include artists recording their live concerts and subsequently selling these recordings at the conclusion of the event.

Among the major, unresolved challenges following this research are concerns about mediating tensions between the legal and illegal – or formal and informal – aspects of open business models. Regulatory reforms may be needed to deal with these challenges. One example is the complexity of IP issues that arise within the *tecno brega* business model. It is clear that producers do not rely on IP protection to earn revenue from their product outputs; they charge admission fees for live performances instead. But some, if not most, of the music performed during these performances and distributed before and afterwards is remixed from popular artists whose work is protected by copyright. If Brazilian producers are profiting financially by using copyright-protected content in their commercial business operations, how is this different – if it is different at all – from other kinds of activities decried as piracy? The complexities around the meaning of piracy and its impact in developing countries have been another major theme of IDRC-supported work during the past decade.

Understanding Media Piracy in Developing Countries

Beginning in 2007, IDRC collaborated with the US-based Social Science Research Council (SSRC) to support a research project called “Towards Détente in Media Piracy” that focused on the accessibility of foreign works. It also emphasized the productive contribution of piracy and informal markets by producing a multi-country comparative study of media piracy entitled *Media Piracy in Emerging Economies* (Karaganis 2011) funded by IDRC and the Ford Foundation. In finding that “high media prices, low local incomes, technological diffusion and fast-changing consumer and cultural practices” had combined to produce soaring piracy, the researchers concluded that expanded enforcement of intellectual property would do little to change the underlying market dynamics. These dynamics show that international media companies kept prices high to protect their price structures in their main markets while leaving space for piracy and informal economies to flourish, thereby meeting market demand for lower prices (Karaganis 2011 ii–iii). Much like the “Access to Knowledge” studies funded in the past by IDRC’s ICT4D program, the study concluded that consumers were being priced out of access to foreign works.

But the Media Piracy project also broke new ground in a number of ways. It provided concrete and objective quantitative data in an area that had, until the study, relied on industry-sponsored and methodologically flawed studies based on undisclosed data tied to an industry lobbying agenda (Karaganis 2011, 4–7). By moving away from

examining educational materials and formal economies, this study was innovative in its consideration of informal economies and a range of entertainment products. Remaining consistent with past IDRC objectives, Media Piracy responded to contemporary policy developments; it was inspired by the emergence of the enforcement agenda – a policy agenda that attempts to encourage or coerce greater enforcement of intellectual property. Focusing on access, as well as on the failure of globalization to democratize media access (Karaganis 2011, 1), the study effectively examined the economically productive aspects of informal economies and the business models of both the informal and formal media industries. The main findings show that piracy has served a market that was otherwise underserved while contributing economically to developing countries (Karaganis 2011, 16–18). Media Piracy sought to address many of the prevailing myths around software piracy. Contrary to frequent assertions that there were strong links between organized crime and piracy, findings show no evidence of a relationship. The researchers conclude that “decades-old stories are recycled as proof of contemporary terrorist connections, anecdotes stand in as evidence of wider systemic linkages, and the threshold for what counts as organized crime is set very low” (Karaganis 2011, 39). Furthermore, there is no proof that antipiracy education programs have an impact on consumer behavior. The authors documented over three hundred antipiracy education programs but were unable to uncover benchmarks or even efforts to discover whether the programs work.

Finally, the study rejected the conventional wisdom that stricter punishments provide strong disincentives to piracy activities. It is recognized that judges are generally more concerned with violent crime such as murder and assault and tend to let cases focusing on economic damages to copyright holders take a backseat to home-grown criminal activity that poses threats to public health and safety.

Through years of rigorous study of piracy in emerging economies, this initiative has shown that piracy is not a legal problem but a result of market failure. As the popular iTunes “\$1 per song” strategy shows, making creative goods more affordable could go a long way in diminishing piracy. Moreover, ineffective government enforcement strategies to curtail piracy may prove too costly and, in fact, outweigh the intended benefits to society, especially in developing and least-developed countries.

Conclusion

Over the past decade, a new framework for analyzing the relationships among ICTs, IPRs and development has emerged around the concept of access to knowledge. While leading scholars and activists from highly developed regions of the world – such as, for example, the United States, Europe and Canada – were instrumental in explaining and promoting theoretical aspects of the access to knowledge paradigm, IDRC-funded researchers in less-developed regions of the world have breathed life into this framework by empirically exploring its implications for development.

Initially, developing country researchers concentrated their attention on the applicability and appropriateness of open source software licensing. More recently, researchers in Asia and Africa have expanded their studies to examine open source

software localization, copyright and access to educational materials and openly accessible scholarly publishing. In Latin America, researchers focused more specifically on open business models. Researchers from all regions joined forces to support groundbreaking research in media piracy that, along with outputs on copyright and education, has been among IDRC's most highly cited and widely praised work.

In this process, a shift in and broadening of interests occurred, moving from a focus on mechanisms that might be used or transformed to foster access to (often foreign) works to a focus on policy choices that might nurture local innovation, creativity, networking and collaboration within developing countries. The popularity of recent research is likely linked to its clear applicability to policy debates, as well as its convincing use of qualitative and quantitative evidence to inform recommendations. Continuing engagement with policymakers will help ensure that developing country researchers' work has maximum impact (Armstrong et al. 2010, 354–5).

The growing popularity in less-developed countries of open and online business models offers a variety of opportunities and risks that have not yet been fully explored or understood. While the increasing digitization of content, the virtualization of economic transactions and new, networked forms of economic organization offer opportunities for more distributed development, they also pose risks of unemployment, marginalization and exploitation. Continuing work should therefore explore how new business models and new models of IP management and policy can contribute to social and economic gains in developing countries; how the value of innovation, formerly bottled up within firms in part by IP laws and practices, can be more broadly dispersed; and how developing country entrepreneurs can use open business models to the greatest benefit. In this endeavor, a strong commitment to robust, empirical research methods is essential to ensure not only credibility but, more importantly, real world impact.

References

- Anderson, C. 2009. *Free: The Future of a Radical Price*. London: Random House.
- Armstrong, C. et al., eds. 2010. *Access to Knowledge in Africa: The Role of Copyright*. Cape Town: University of Cape Town Press.
- Bannerman, S. 2007. *Intellectual Property Issues in ICT4D*. Ottawa: IDRC.
- Benkler, Y. 2006. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven: Yale University Press.
- Bridges.org. 2005. "Comparison Study of Free/Open Source and Proprietary Software in an African Context: Implementation and Policy-Making to Optimise Public Access to ICT." Online: <http://hdl-bnc.idrc.ca/dspace/bitstream/10625/44830/1/131304.pdf> (accessed 13 July 2012).
- Castells, M. 2009. *Communication Power*. New York: Oxford University Press.
- Chang, H.-J. 2003. *Kicking Away the Ladder: Development Strategy in Historical Perspective*. New York and London: Anthem Press.
- Commission on Intellectual Property Rights. 2002. *Integrating Intellectual Property Rights and Development Policy: Report of the Commission on Intellectual Property Rights*. London: Commission on Intellectual Property Rights.
- Consumer Project on Technology. n.d. "Geneva Declaration on the Future of WIPO." Online: <http://www.cptech.org/ip/wipo/genevadeclaration.html> (accessed 17 July 2012).

- Consumers International. 2008. "Final Narrative Report: Access to Knowledge Copyright as a Barrier to Accessing Books, Journals and Teaching Material." Unpublished and archived at IDRC.
- Creative Research & Development. 2008. "Scholarly Publishing and Access to Knowledge in Africa Project: Project Planning and Scoping Proposal." Unpublished and archived at IDRC.
- de Beer, J., ed. 2009. *Implementing the World Intellectual Property Organization's Development Agenda*. Ottawa: IDRC.
- Heller, M. 2008. *The Gridlock Economy: How Too Much Ownership Wrecks Markets, Stops Innovation, and Costs Lives*. New York: Basic Books.
- Idris, K. 2003. *Intellectual Property: A Power Tool for Economic Growth*. Geneva: World Intellectual Property Organization.
- IDRC. 2004a. "Access to Knowledge Copyright as a Barrier to Assessing Books, Journals and Teaching Material: Rolling Project Completion Reports." Unpublished and archived at IDRC.
- _____. 2004b. "Commons-Sense: Copyright Alternatives, Education and Innovation in Africa: Project Approval Document." Unpublished and archived at IDRC.
- _____. 2005. "International Open Source Network: Rolling Project Completion Reports: Stage III Interview." Unpublished and archived at IDRC.
- _____. 2007a. "Commons-Sense: Copyright Alternatives, Education and Innovation in Africa: Rolling Project Completion Reports: Stage III Interview." Unpublished and archived at IDRC.
- _____. 2007b. "PAN Localization Phase 1 (February 2004 – April 2007) Final Report." Unpublished and archived at IDRC.
- _____. 2007c. "Proposal by Southern African Regional Universities Association: Access to Knowledge Southern Africa: Universities, Open Research and Open Science in the Internet Age." Unpublished and archived at IDRC.
- _____. 2009. "Report of Pan All 'Unconference' 2009: Innovation Processes for Identifying the State of Play and Priorities of ICT4D Research in Asia." Internal report to IDRC from Penang, Malaysia, 12–14 June.
- _____. 2010. "ACA2K Project Outputs: High Quality Findings." Unpublished and archived at IDRC.
- _____. 2011. "Publishing and Alternative Licensing Models Africa: Rolling Project Completion Reports: Stage III Interview." Unpublished and archived at IDRC.
- Kapczynski, A. 2008. "The Access to Knowledge Mobilization and the New Politics of Intellectual Property." *Yale Law Journal* 117, no. 5: 804–85.
- Karaganis, J., ed. 2011. *Media Piracy in Emerging Economies*. New York: Social Science Research Council.
- Kawooya, D. 2011. "Access to Knowledge in Africa: The Role of Copyright." *WIPO Magazine*, February, 24. Online: http://www.wipo.int/wipo_magazine/en/pdf/2011/wipo_pub_121_2011_01.pdf (accessed 17 July 2012).
- Lemos, R. and C. Rossini. 2005. "iCommons: Share the Past, Create the Future: Proposal to IDRC." Unpublished and archived at IDRC.
- Lessig, L. 2007. *Code and Other Laws of Cyberspace. Version 2.0*. New York: Basic Books.
- May, C. 2007. *The World Intellectual Property Organization: Resurgence and the Development Agenda*. New York and Abingdon: Routledge.
- _____. 2011. "Access to Knowledge in Africa: The Role of Copyright." *African Affairs* 110, no. 441: 664–5.
- Rens, A. 2006. *Intellectual Property, Education and Access to Knowledge in Southern Africa*. Geneva: ICTSD, UNCTAD and TRALAC.
- Sell, S. 2003. *Private Power, Public Law: The Globalization of Intellectual Property Rights*. Cambridge: Cambridge University Press.
- Williams, F. 2006a. "Bad Copyright Advice 'Stunts Learning.'" *Financial Times*, 20 February. Online: <http://search.ft.com/search?queryText=%22bad+copyright+advice%22> (accessed 30 June 2012).

- _____. 2006b. "UN Body 'Gives Poor Nations Misleading Copyright Advice.'" *Financial Times*, 20 February. Online: <http://search.ft.com/search?queryText=%22gives+poor+nations+misleading%22> (accessed 30 June 2012).
- Wong, K. and P. Sayo. 2004. *Free/Open Source Software: A General Introduction*. Kuala Lumpur: UNDP-APDIP.
- WIPO (World Intellectual Property Organization), ed. 1997. *Introduction to Intellectual Property: Theory and Practice*. London: Kluwer Law International.
- _____. 2007. *Development Agenda for WIPO*. Geneva: WIPO.