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Virtual Laboratories: Modifying IPR in Favor of Development

Individuals, organizations and companies in developing economies can leverage new knowledge and technology to produce a critical resource: commercially viable innovation. Innovation is an important part of economic development for two reasons. First, it involves the exchange of knowledge to promote invention, which can lead to intellectual property (IP) and entrepreneurial ventures that lift community health and wealth. Second, developing economies suffer from a lack of technology transfer needed to cultivate innovation. This paper calls for a reexamination of current IP practices, and shines light on online systems of knowledge exchange that are low-cost and easily accessible to innovators in developing economies. To the extent that innovation is vital to economic growth, it is worth exploring barriers to innovation and entrepreneurship. One barrier is the innovator's lack of access to lawyers, labs and governmental connections that can exploit nascent innovation; connections that can help transform an idea into a good or service. A second barrier is that IP law is based on the ability of private actors within industrialized countries to coerce innovators into limiting or commodifying knowledge. This paper advocates an open-knowledge platform—a virtual lab. Virtual labs foster collaboration and information exchange among nonprofits, universities, researchers, and industry to facilitate a virtuous cycle of innovation and entrepreneurship. Drawing upon Open Source concepts, these platforms generate the networks and IP protection necessary for resource-disadvantaged economies to compete in the global marketplace. This paper explores whether virtual labs can promote economic growth. Part II examines the role of IP law and policy in promoting or restricting innovation, and proposes online platforms the first step toward development. Part III surveys four existing virtual labs, and lessons learned from the U.S. land-grant university model and the Open Source movement. Part IV analyzes two case studies illustrating the potential of virtual labs: one in U.S. public universities and one in developing countries. Part V concludes that virtual labs are the first step to profitable innovation if they utilize a flexible regulatory regime focused on the innovator, creator or entrepreneur. Virtual labs allow for marginalized actors to contribute to the global economy, and to a robust innovation ecosystem.