

## 36 Open Research: Interlinking Sanctuaries of Knowledge

James Guo Sheng Moo

Science research has been a backbone of innovation driven economies. The unique ideas and information created have been used in products that change human lives for the better. That said, entering the 21st century, the scientific scene has witnessed several developments, including interconnectivity between nations, information boom from the internet scape and the growing use of crowd sourcing. Inevitably, it has altered the career opportunities that are presented to scientists. Open access to research also provides a window of opportunity for the next leap in technology development.

Traditionally, the rite of passage for a scientist includes entering the graduate school, expanding his or her scope by doing post-doctoral fellowships with professors before entering the faculty or joining the research arm of a company. All these are accomplished by publishing subscription-based journal articles, which are often very costly. This limits access from developing nations, which often do not have the resources to obtain these trinkets of knowledge. At the same time, are we truly limited to being examined by our hard skills and technical expertise that we have developed? I believe that the creativity and analytical skills that we have honed play an even more critical role. In addition, our training often emphasises the technicalities and sometimes overlook the fact that the greatest idea must be communicated to the masses and to let the public understand the potential reaping that we can harvest. This is where open research can come in to allow for the next generation of scientists to benefit from a time of global exchange of ideas.

The next generation of scientists need to transmit the information he or she developed to the masses. Being a communicator, the scientist will possess soft skills in order to relate these topics to the public and the corporate world. Open research provides a tool for these ideas to be communicated freely across channels. These characteristics are also needed in a team, involving personnel from different fields. Modern research requires inputs from diverse fields and much co-operation. A collaborative approach from the scientist allow further exploration into the subject, where a critical mass from different approaches can be reached. This correlates with the fact that modern research takes an interdisciplinary approach. Having the above traits, also endow the scientist transferable skills that can be widely applied across differing arenas.

Mobility of these scientific ideas cannot be more accentuated. In the age of innovation-driven economies, talents move from countries to countries and are highly mobile. The equal can be said of ideas, where open and unfettered access should be allowed. The knowledge capital that is generated is largely dependent on the people. A team of creative scientists can translate ideas into realities. This is in addition to the recent trend of internet-led crowd-funding, where funds can be raised and information and facilities are shared remotely through sharing of information. Access to these resources and intellectual properties liberates the scientists from any limitations. Thus, a scientist's work is now unconfined. Open access allows us to build bridges instead of walls and to allow unhindered access to knowledge and information, being key to build on the work of forerunners.

Globalisation has eliminated barriers and the internet has hastened information exchange. Free-flowing ideas now pulsate through the optical fibres from one end of the world to the other. This has accelerated the interplay of ideas, allowing the best ones to emerge. It has also become critically important to discern true knowledge from a plethora of data. Ideas are of economic value, as they translate eventually into intellectual property as patents and then as products. What does it mean for us as scientists then? An innovation-driven economy means for us that more people from universities can partake and engage the global community through open access portals. In the private sector, researchers can also rapidly adopt these new technologies for products and doctorate-holding consultants authenticate new patents.

Thus said, translation of ideas have also started at the academia, where spinoffs prototype them into industrial products. The public-private partnerships have spawned a need for intermediaries to explain technical know-how to the corporate world. This means that the labor market's hunger for scientific talents is huge, albeit one that requires these scientists to be able to communicate the information to the masses and one who has transferrable skills that can work in the corporate world. Co-operation from federal bodies is also needed for this to take place. This continued commitment of governments and their recognition that scientific works and ideas are altruistic, generates economic growth, will continue to lead the investment in education and science. Open access to information will allow sanctuaries of knowledge to interlink and build a network of possibilities to accelerate the next leap in technology development. In next the step towards a sharing economy, where benefits of technological developments should trickle to every strata of the society, ideas should be shared and not confined.



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