

able to implement the university's mission; autonomy from the interference of governmental or private authorities, but that allows for a reasonable degree of accountability to external agencies; academic freedom for teaching, research, and publication; top academic staff who are committed to the university's mission (including teaching) and who are paid adequately and provided with appropriate career ladders; highly qualified and motivated students; and a firm commitment to meritocracy at all levels.

None of these elements provide the "disruptive innovation" that many regard as necessary for university excellence in the 21st century. All of them are tried and true characteristics of successful universities during the past century. No university is perfect, but all successful research universities have most if not all of these characteristics. These are the "universal principles" of excellence.

Rarely does academic culture or particular kinds of innovations transfer easily from one institutional culture to another.

DISRUPTIVE INNOVATION

The characteristics discussed here do not guarantee entrepreneurial vigor, or a dynamic start-up culture. The Technion may find it just as difficult to export its entrepreneurial culture as MIT has. Why? Transferring a highly complex academic culture from one university to another is quite challenging. Imitating, copying, or adapting the successful recipe of others is not easy. Innovative universities arise from a unique value proposition that reflects an original vision and the capacity to transform that vision into reality. This can happen through (1) niche programs in new multidisciplinary areas, (2) interactive, collaborative, and experiential teaching and learning approaches, and perhaps most importantly, (3) the unique combination of 21st century competencies (initiative, teamwork, communication) and the kinds of positive character traits (curiosity, grit, social responsibility) that drive outstanding professionals and successful change agents.

Franklin W. Olin College of Engineering, located in Massachusetts, may be one of the best examples to illustrate what it takes to set up a new institution that is truly innovative. Olin College opened its doors in 1999 with an audacious charter: offering an experimental laboratory for transforming engineering education in the United States. Olin College operates with several unusual features. The

curriculum combines engineering, entrepreneurship, and humanities in a unique way. Olin benefited from significant start-up resources from the Olin Foundation, and initially offered a free education. Olin recruits both faculty and students who believe in the school's innovative mission, and are willing to invest their careers in an untested start-up institution. Olin's success lends credence to the benefits of developing "home grown" models over adapting existing models that have been successful elsewhere.

CONCLUSION

Perhaps there is no universal "special sauce" for producing innovations in higher education, and "disruptive innovations" may not always result in positive change—in fact, disruption for its own sake may be counterproductive. In the end, the verities of university development may after all be the best approach to building innovation. Whether the Technion's innovative DNA can be effectively replicated elsewhere with outside technical assistance remains to be seen. ■

International Branch Campuses: Evolution of a Phenomenon

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International branch campuses (IBC) represent one element of a larger trend in transnational or cross-border higher education, whereby universities create physical presences in multiple countries. Since 2009, the Cross-Border Education Research Team (CBERT) at the State University of New York at Albany has been tracking the development of such institutions around the world. In fact, IBCs are becoming a more mature

part of the international higher education landscape; based on our research, we have identified three areas that emphasize the new roles that IBCs are playing around the world, and the changing conditions under which they operate.

GROWTH AND DIVERSIFICATION

Despite some high profile misfires such as Michigan State University in Dubai and the University of New South Wales in Singapore, the overall condition of the global IBC market remains healthy and growing. According to CBERT data, there were 230 IBCs in operation as of the end of 2015. This is a 44 percent increase from the 160 IBCs in operation in 2009, as reported by the Observatory for Borderless Higher Education.

Such growth is significant but does not come without failures. At least 27 IBCs have shut their doors, according to CBERT data. This is more than 10 percent of the current population of operational IBCs. Given that many of these entities are entrepreneurial organizations operating much like start-up companies at their inception, such a failure rate should not be surprising. In fact, it is surprisingly low, given that start-ups in the high-tech field fail at a rate of about 90 percent in three years.

Some campuses, however, have become quite successful. While most IBCs remain small and concentrate on a few degree areas in niche markets, demand has been sufficient to sustain some relatively large operations. We now count at least 25 campuses that enroll over 2,000 students. The largest operations—Xi'an Jiaotong Liverpool University (China), Monash University (Malaysia), and Royal Melbourne Institute of Technology (Vietnam)—enroll over 6,000 students each. Substantial enrollment occurs even in places not typically identified with the IBC trend, such as Westminster International University in Uzbekistan and Georgia Institute of Technology in France.

CBERT data also shows the diversification of importing and exporting countries. Now, 32 countries export to 75 countries, and the flow is not simply West-East and North-South. In fact, Russia is the third largest exporter, sponsoring 20 foreign campuses. Even the United States now hosts five IBCs, with at least two more in development.

EVOLVING RELATIONSHIPS WITH HOST GOVERNMENTS

The oldest branch campuses, those sponsored by Florida State University, Johns Hopkins University, and Webster University, for example, tended to follow a model of being wholly-owned subsidiaries of the mother institution, and operated largely without much regulatory attention from the host country. More recently, however, the engagement of the host government has become more prevalent and has taken on different forms.

It is rare now for host governments not to be engaged in some fashion. But they have adopted everything from laissez-faire to highly planned approaches. For example, Dubai, which is one of the largest importers of IBCs, has adopted a free-market approach to IBC development. The government wanted to host a large number of IBCs to educate its large expatriate population, but provided very little academic planning, leaving IBCs to develop their own sustainable business models and face the fortunes of the marketplace.

Next door in Qatar, there is a much more centralized and strategic approach. The government selects which institutions it wants to partner with, defines which programs the institutions will offer, and provides significant subsidies to cover capital and operating expenses.

China adopts a different approach, where all branch campuses are organized as formal Sino-foreign partnerships, with the Chinese partner in the lead. Campuses recently established by Duke University and New York University, for example, are recognized as new Chinese universities that are considered independent entities within the Chinese education system.

We also have seen increasing sophistication from national quality assurance agencies about how to evaluate transnational education—some recognize that IBCs are unique educational entities and are modifying their policies and procedures as a result.

ADVANCING QUALITY ASSURANCE

Governments and institutions have been working to improve IBC quality assurance mechanisms. In many cases, IBCs are supposed to provide comparable academic programming to that on the home campus. Institutions like Florida State University and the State University of New York explicitly require that the academic programs at IBCs be the same as those on the home campus and follow similar approval processes. However, some exporting universities and host countries are beginning to see branches as having distinct identities that should not be a subservient child to the superior parent institution. The University of Nottingham branches in Malaysia and China have large academic programs that have the capacity to lead curricular development, rather than just follow what occurs at home.

New York University and Webster University have promoted a model where all locations are considered part of one global university, diminishing or even rejecting the notion of home and branch distinctions.

We also have seen increasing sophistication from national quality assurance agencies about how to evaluate transnational education—some recognize that IBCs are unique educational entities and are modifying their policies and procedures as a result. Dubai established a new quality assurance system, the University Quality Assurance International Board, to make sure branch campuses are comparable in quality to the home campuses. Other educational systems, like those in Taiwan for example, are recognizing quality assurance decisions by foreign agencies as the equivalent of their own. Likewise, there is more evidence that due diligence by the home university has overtaken the serendipity and personal connections that typified first generations of branch campuses. This results in fewer surprises for branch campus leaders, better business and financial models, and strategies designed for sustainable growth. Where we used to see every announcement touting a new campus for 10,000 students within five years, now slow roll-outs of a planned and measured expansion are the norm.

CONCLUSIONS

This review of new directions for branch campuses leads us to make a few conclusions. First, cross-border higher education is no longer unusual. It should be seen as a viable and important option for all countries to consider in their higher education systems. Second, university structures and regulatory systems are adapting to new education forms; new forms are also adapting to the systems. This adaptation is an iterative process; we should not expect a static picture to emerge. Third, national strategies surrounding IBCs need to be taken seriously as exhibitions of national sovereignty in the education sphere. This means that political risks should be considered alongside academic risks. Regulations can change quickly in response to local concerns, and foreign universities may suddenly find their patrons out of power. Fourth, the greater integration of IBCs into national regulatory systems calls into question the common western assurances of academic freedom in the host country. Often the definition of academic freedom itself is in dispute, as countries delimit political freedom as distinct from the ability of scholars to teach and research freely within the foreign-backed branch. It is important that foreign universities and host countries develop common perspectives of their different systems, and we should expect compromise and accommodation rather than strict adherence to one perspective over the other.

Finally, how countries respond to the importing of foreign institutions provides insight into their educational and governance philosophies and may provide lessons for how the country will respond to other forms of internationalization. ■

The End of the Printed Scholarly Monograph: Collapsing Markets and New Models

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The worldwide market for the print-format scholarly monograph—a bulwark of academia’s “publish or perish” culture—is collapsing. Sales of scholarly monographs in print format have hit record lows while per-copy prices are at record highs.

DISMAL SALES, RISING PRICES

The book-centric academic field of history provides an example of how sales have dropped. In 1980 a scholarly publisher could expect to sell 2,000 copies of any given history monograph. By 1990 that number had plummeted to 500 copies. By 2005 sales of a little over 200 copies *worldwide* had become the norm. Similar declines in sales have occurred in other academic fields as well.

Publishers around the world have responded to declining sales of scholarly monographs by raising prices. Take, again, the field of history: in 1980 the average price for a hard cover history monograph was \$22.78; by 2010 that price had almost quadrupled to \$82.65. Similar price increases have been seen in every other academic field.

ACADEMIC LIBRARIES IN CRISIS

Neither an anomaly nor a bump in the road, what the academic world is witnessing is a market collapse. A root cause for this collapse is the loss of buying power among academic libraries—including the relatively wealthy academic libraries of North America and Europe. Traditionally, the biggest customers for printed scholarly monographs,