



INNOVATION AND THE TRIPLE HELIX



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Stanford University's Henry Etzkowitz, author of *The Triple Helix: University-Industry-Government Innovation in Action* visited Kazakhstan at the invitation of AlmaU for the VI Economic Forum of National Business "Expert-200", in which the University was an active participant, in November 2014.

Etzkowitz believes that universities play an indispensable role in innovation, which the latter is a cornerstone of the modern economy. He considers that an *increase* in the role of universities lies at the heart of successful implementation of innovation. This approach has seen Alma University (AlmaU) metamorphose into Kazakhstan's first Entrepreneurial University, offering students, employees and academic staff the chance to reap the experience of several developed countries of the world.

Often considered the engine of economic development, the Entrepreneurial University is the key to the progress of industry, creating new products and economic stability, says Etzkowitz, whose concept of the “triple helix” puts the university squarely in first place in forming and implementing new ideas and technologies. His triple helix model considers the three components of an economy—universities, business and the state— working as one system to implement innovations and generate economic growth. Meanwhile, the commercialisation and applied nature of research allows universities to become the main link in the triple helix.

BEST PRACTICE

While Kazakhstan has adopted a model for the government and businesses to create innovation economy. It is also clear from the examples of countries with successful records of innovation, that this must also be carried out together with universities. Without the interaction among businesses, the state and universities, a steady innovative economy is not possible.

The problem with Kazakhstan is that it buys technology, but not knowledge. This means that in two years, when this technology becomes outdated, the country will buy newer and even more expensive technology. The role of innovation management is therefore very important for the country. In the case of the state-funded Entrepreneurship Development Fund (Damu)’s Business Advisor programme, in which AlmaU took part, engineers were sent abroad to study. Following their training, the specialists returned with new vision, only to face misunderstanding from management. The unwillingness to change then resulted in the specialists leaving their organisations. The conclusion? Management also needs to be trained: managers have to understand that in order to implement innovation, it will be necessary to change management structures, find a common language with engineers, and to develop creativity. An innovative economy is not one where new technologies are *bought*; it is an economy where innovative technologies are *created* in companies by *employees*.

FUNDING INNOVATIVE RESEARCH

Sometimes people ask me whether investments made in the development of our higher educational institutions are comparable with the size of the funds and operational budgets of universities in other countries.

It is necessary to understand that the funds received by Western universities are not just greater in absolute terms—they also come from a greater number of sources. For example, our private universities exist only based on funds received from student tuition fees. In the West, universities receive more research grants, generate income from their businesses, and are able to manage their own funds and accept donations or sponsorships, usually from graduates of the university.

It is clear that these four sources of financing enables one to work on aspects such as the quality of education, development of educational programmes, professional development of teachers and quality of research.

Taxation is another alternative form of funding. France has a student’s tax where companies are obliged to set aside seven percent of employees’ salaries for staff training. In Kazakhstan, a similar form of tax amounting to one percent of salaries is provided for a small number of companies. On the other hand, local mining companies prefer to send their employees to Europe at a possible cost of US\$15,000 a month for training, even though this money could be used more effectively in Kazakhstan. What does this mean? Here, it is necessary to understand the development in the capacity of higher education institutions is not just a problem for the universities or the state.

In the West, businesses provide up to 30 percent of the total amount of financing for education. In France, if the company does not spend part of their income on the development and education of their employees, these funds are withdrawn in favour of the state.

Companies in Kazakhstan often complain about the low numbers of specialists coming out of local universities. To this I have one question for them: What are you doing to change the situation? You have a problem, you need professionals. Why not come to the universities and offer to work together, to help in terms of teaching and providing laboratory equipment? However this is yet to happen.



**NEW NAME,
NEW STATUS,
SAME VALUES!**



THE UNIVERSITY AS AN INCUBATOR OF INNOVATION

Today, AlmaU has set itself the target of becoming an incubator for the establishment and nurturing of businesses by students, employees and teachers of the university. Here it is important to note that the Entrepreneurial University can solve not only technical and commercial problems, but also social ones, in which, for example, student entrepreneurs will create new jobs, and address issues like unemployment.

In the case of Chile, which took the initiative to develop innovation, venture capital and start-ups, the government, in 2010, launched a programme to support international entrepreneurs. This included considering, selecting and supporting the most interesting start-up projects worldwide. A total of US\$40,000 and annual visa for residence in Chile was set aside for the best ideas. The only condition was that the start-up had to be realised in Chile. Here the state, as one of the components of the triple helix, must both ideologically and financially support the development of innovation and entrepreneurship.

Kazakhstan currently has the opportunity to become a hub for business and innovative activity in Central Asia. If we take this task seriously, we must invest in it and attract not only local but also international businesses.

Unlike scientific research institutes where researchers are separated both from education and business, everything works in parallel in the Entrepreneurial University—the teacher conducts research, teaches, and works with business.

At the MARA University of Technology in Malaysia (UiTM) all students from agronomists, pharmacists, doctors, through to the arts are required to pass a course on entrepreneurship. We believe that this is the right approach, and in 2015, AlmaU introduced Entrepreneurship as a subject to students from all disciplines.

Universities are centres of innovative development. They have one of the highest concentrations of young, fresh minds—the driver of economic development and innovation. We should work to fully leverage this potential.

NEW CONTENT

AlmaU recently reviewed its educational programmes in order to strengthen the quality of education and the competitiveness of its graduates. Commencing in the 2016–2017 academic year, all AlmaU courses will be based on five basic underlying principles:

1. **Basic knowledge**
Emphasis on mathematics and trilingualism, with an IELTS minimum of 5.5
2. **Entrepreneurship**
From idea generation to creating a start-up and attracting investors
3. **Management**
Understanding business processes and project management of any scale
4. **Professional knowledge and skills**
The graduate is a specialist who is ready to work and a professional with international qualifications. He/She interns in the largest companies and receives an updated teaching structure with a modern approach to education
5. **Personal development**
Students are taught aspects on business communication, time management, critical thinking, leadership, service learning (the concept of public service—the development of moral character through work in social organisations), business philosophy

Over the last three years our operational training programmes have improved as AlmaU has been developing the Entrepreneurial University model. One of our main goals has been the structural transition into an Entrepreneurial University. This means every teacher, employee and student is an entrepreneur.

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