

HUYA Bioscience CEO Mireille Gillings: an “Outsider” Promoting Globalization of China’s Innovative Drugs

HUYA Bioscience is a typical “born-global enterprise.” Its company genes, business model and strategy are all built on the basis of globalization. Its founder Mireille Gillings has kept a perspective of an “outsider” and established an open innovation platform for China’s new drug original researchers and global markets.

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In 2004, Dr. Mireille Gillings, a scientist of French Canadian and Dutch descent and fluent in languages of four countries, established HUYA Bioscience International (referred to as “HUYA” below). From the very beginning of the company, Mireille Gillings set the joint headquarters in both San Diego, USA and Shanghai, China. HUYA is committed to globalizing China-originated innovative drugs. Such business was unprecedented in the world. Mireille Gillings was faced with enormous challenges: she had to change the industry’s traditional rules and business models and ultimately change the pattern of interests. HUYA thus started from one person, and after 12 years, Mireille Gillings has eventually validated HUYA’s business model and development strategy.

Mireille Gillings is an international entrepreneur, focused on identifying potential innovative drugs from China and globalizing them. She envisioned HUYA’S business model. Previously, international pharmaceutical companies would only regard China as a sales market and a place to implement their R&D activities, but HUYA unprecedentedly regarded China as a source of innovation. The essence of HUYA’s business model is to discover those yet to be discovered “jewels”—early stage innovative drug compounds that have global market potential—and cooperate with the Chinese principal investigators to develop the drugs. Based on this platform, HUYA would establish an effective path to increasing the global market value of China’s innovative new drugs.

The significant outcome of this new business model is: the cost of drug development can be significantly reduced.

HUYA is a typical “Born-Global Enterprise,” with its corporate genes, business model and strategies built on a global basis, and its development patterns completely different from most startups. Most companies usually focus at first on the domestic or a single region, achieve successful development, and then expand to overseas. But HUYA has been a global company since its first day and has established the transnational joint headquarters.

Looking back over the past 12 years, Mireille Gillings summed up the following four points: entrepreneurs must be able to start from scratch and from the bottom, and be passionate; must trust others and focus on creating great partnerships; have faith in your own vision and tenacity to make continued effort; and must also be willing to keep learning.

“I’m always an independent thinker and pioneer. My global perspective helps to ensure novel solutions to the challenges of innovative drug development,” she said.

Discovering Opportunities

When HUYA just started, China was considered as an "outsider" to the global pharmaceutical industry, and the problem was that the vast majority of Chinese scientists also thought so. But after Mireille Gillings cooperated closely with them for a while, as an outsider in China, she found a few facts: 1. Although China was not considered as a biopharmaceutical innovation center, the researchers she contacted were outstanding, and their scientific research also had excellent quality; 2. experience and resources specialized in global market development were really needed in China; 3. China had the largest number of pharmaceutical companies in the world, but original innovative drugs were rare, while the Chinese government began to encourage innovation and invest a lot of money in it; 4. returnees also returned to the country one after another to take part in emerging biopharmaceutical innovation at research centers of talent clusters, bringing along good ideas and technologies.

Nevertheless, the global pharmaceutical industry remained skeptical of whether China could achieve its aspiration. China was not seen as a source of innovation by the world, "But I had the opposite view. I felt China would have a surge of innovation. I believed that China was a sleeping giant and would certainly become a global center for drug innovation in the future. What do I need to do before the surge of this wave?" she asked herself.

Innovative drug development is a business with a long cycle, high risk and high returns. One molecular structure may be selected from ten thousand compounds to enter into the clinical stage of new drug development. Except for the EU countries which have a common centralized or mutually recognized clinical trial regulatory path, each country has an independent new drug approval and decision-making process with almost no data sharing. A new drug development cycle is up to 10 to 15 years, and the R&D cost is over 1 billion US dollars.

Apparently only large pharmaceutical companies could afford the cost of innovative drug development, such as in the hot areas of oncology, where most blockbuster drugs were basically monopolized by BMS, Merck, Pfizer and other international big companies. But the traditional drug development model had been in trouble because new drug targets became fewer, and innovation was getting more expensive, leading to longer cycles and soaring cost of new drug development and decreased R&D efficiency of multinational companies. The eventual results were high prices of new drugs and insufficient innovation in the industry.

At that time, some of Mireille Gillings' friends and relatives were fighting against cancer, but their treatment effects were not very good. "I vowed to fight cancer and wanted to find a better way to bring new and effective drugs to patients, which has also been the driving force for me to found and grow HUYA." She was confident of being able to find innovative drugs in China.

In 2004, Mireille Gillings established HUYA, which demonstrated her faith in the level of China's innovation. The sensitivity of an outsider allowed her to see the potential ignored by the mainstream pharmaceutical industry and to seize an entrepreneurial opportunity. It also helped her to solve the core challenges of each stage in HUYA's development.

So far, HUYA has experienced three developmental stages:

Insight into the demands

In the initial stage, HUYA built a collaborative network with Chinese innovators and their associated institutions, and constructed a comprehensive database of Chinese innovative compounds. Specifically, it was establishing cooperative relationships with China's PI (principal investigators). These PI were mainly in scientific research institutes and universities. Through establishing contact with these innovative scientists, research institutions and companies, a resource system for early development of new drugs was formed.

In the first three to four years of HUYA, Mireille Gillings spent nearly 80% of the time in China, meeting with researchers and institute directors and building trusting and cooperative relationships in China's biopharma industry and with regulatory organizations at various levels.

The initial stage was very difficult. Except for a few angel investors and friends who supported her, most people thought her idea was unrealistic. The core challenge at that time was how to make the Chinese scientists believe she could help them. "I know the key to the problem was to answer with the facts," she said.

Mireille Gillings is fascinated by Chinese culture. From 2004 to 2006, the company basically had only her alone. She took round-trips between China and the United States, communicating face-to-face with key PI. In the beginning those PI refused to cooperate. After each conversation, they would talk privately: "Now the blonde lady will not come back?" But eventually she still kept coming back. "What I want to say is that starting a new company is very challenging, whereas starting a born-global enterprise even has extra challenges. Your idea is unprecedented, and the cultural challenges you are faced with are also huge.

How to solve the changes in the start-up phase? Mireille Gillings thinks there are two critical things to do: 1. Be very focused, dedicated, and persevering. In order to create a new business model, it is necessary to be persistent. In addition to combatting the negative skepticism, you must use actions and results to prove that your idea is right. 2. Gain insight into the other party's needs, and then genuinely give help to the other party.

China's PI often lack understanding of global markets. Traditional transnational corporations usually would not spend much time on Chinese innovators' early stage projects. But Mireille Gillings would strive to have detailed communication, caring about the progress of the researchers' projects and giving advice whenever it was needed.

Pursuing cooperation

Since 2006, HUYA's goal was to find innovative compounds with global development prospects from the cooperative network and then acquire the rights to developing the drugs for global markets.

There were two critical challenges at this stage: first, project evaluation and selection, which required insight; second, licensing in the selected compounds, a process that required trust and a comprehensive service system.

Everyone wants to win a good project; why would it be given to HUYA? Under the influence of HUYA, big transnational companies have also established corresponding departments specialized in finding

innovative compounds in China. They have set up R&D funds for which the original researchers can apply but the conditions may be that the company takes away all the data and has the pre-emption rights to project buyout, which means there will be no relationship with the original researcher after the buyout. There may be even worse conditions, such as when the big company discovers that the researcher's project possibly has competitive potential to the company's own projects, they may adopt a buyout strategy to eliminate the competition.

How does HUYA do it? HUYA and the original researchers are not in a buyout relationship but a relationship of growing together. HUYA helps original researchers to mine foreign markets. HUYA only wants the rights to global markets outside China and leaves the domestic rights to the original researchers. Both sides keep communicating and cooperating on research. HUYA would also share with original researchers the data of clinical trials conducted outside China to support the continuing development of the original researchers' scientific studies.

Resolving the bias

The third stage was to validate the business model, closing the loop for innovation. HUYA had to promote the acceptance of scientific experimental data from China by more and more countries and regions, and thereby speed up the global new drug development process. HUYA's plan is to constantly search for innovative drug compounds all over China, add value to them through globalized development, and continue to promote the commercialization of these innovative drugs on a global scale.

The central challenge of this stage is resolving the bias. In fact, many countries' drug administration authorities had prejudiced views on the quality of China's drug candidates. In order to solve this challenge, Mireille Gillings shifted her work focus to the aspect of global business expansion. Her magic weapon was still the outsider mindset, not giving up and not arguing but using practical and targeted actions to resolve these biased views. In the target regions of global markets, HUYA has invested local R&D resources, provided local regulatory authorities with comparisons and extended data of key experiments, and proved to them the high quality and reproducibility of study results from China.

Currently more and more Chinese PIs are willing to cooperate with HUYA. It has in-licensed 4 original innovative projects from China. The latest occurred in March 2016, resulting from a cooperation with Professor Qing Yang's research group at Fudan University. Professor Yang said: "I hope my compound can be successfully developed globally by HUYA."

Because HUYA insisted to stand in the forefront of China's wave of innovation, the company seized the opportunity and achieved success. Mireille Gillings said with certainty: "We have changed the rules of the global drug development industry. We have changed the industry's tendency to be closed and monopolized, and helped to shift it to be more open and cooperative. Now, in the long process of new drug development, principal investigators of new drugs may find partners in early stages to integrate advantageous resources and share risk. Participants may have more opportunities to get on and off the train because they don't necessarily have to wait until the new drug gets to market before they can be rewarded."

Since HUYA opened its first office in Shanghai, it has set up offices in eight cities in China. The company's Chinese Compound Database has grown from the initial 12 compounds to the largest database of

compounds originating in China that cover all therapeutic areas. The company has signed more than 110 cooperation agreements with universities, research institutes, and high-tech science parks in China. It has also established offices in Japan and South Korea.

Uniting people

Finally, it is necessary to talk about how Mireille Gillings uses an outsider mindset to manage HUYA. As a born-global enterprise, HUYA is multicultural and has gathered talents from various fields worldwide. Half of its San Diego staff are Chinese, and the other half include Americans and people from Russia, South Africa, Britain and France. HUYA is a truly diverse international company. Many large US pharmaceutical companies have Americans as the majority of their employees.

What does Mireille Gillings rely on to unite these people? The secret is still the outsider mindset, which is not self-centered. As a multicultural company, HUYA has adopted a flat organizational structure and created an open, transparent communication space, which motivates every team member to exert his/her strength and talent. But in traditional multinational companies, scientists are engaged in research in offices or laboratories and rarely communicate with people in different fields. In fact, one of the reasons why HUYA can attract top talents is that it has an environment for international communications without obstacles.

More importantly, the outsider mindset is also the driving force and source of innovation, stemming from the pursuit of innovation, which is the basis that eventually unites the HUYA team. Not long ago, Mireille Gillings tried to find a word to explain HUYA's culture. "The word is 'trail-blazer;' we are at the forefront of the wave, engaged in cutting-edge work; we are game changers; we are pioneers."

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