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HSP BUILDS A FASTER, BETTER AND MORE ECONOMIC NEXT-GENERATION INTERNET-BASED INNOVATIVE SERVICE SYSTEM

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Dimensions of technology

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HSP Builds a Faster, Better and More Economic Next-generation Internet-based Innovative Service System

By Zhang Xiuying

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Abstract

While STPs are walking into a golden period of development, how to change the old path that whenever we talk about innovation, all we can think about is to set up an institute or build an incubator or accelerator that can easily cost tens or even hundreds of millions of US dollars, and make sure that we can catch up with the age of internet-based STP by making small improvements? HSP has provided a complete package of successful case study on the pilot project of internet-based STPs. It adopts Web2.0 to integrate resources, uses big data and cloud platform as the theoretical basis, and explores the new service mode in next-generation efficient and streamlined innovative STPs. Its successful practice will be helpful for other STPs around the world to proactively embrace the arrival of the internet age.

Introduction

The world witnessed the start of three grand technological reforms at the beginning of 2012 - big data, smart manufacturing and wireless network [1]- which may be as powerful as all the development and reforms taking place in the past century and will leave a profound impact on future science and technology innovation. The astonishingly fast spread and application of the internet in the whole world has shocked many industries including such major traditional ones as retail and finance, and many people are suffering from internet anxiety disorder. Everybody is looking for a panacea in the internet age. While science and technology parks (STPs) are walking into a golden period of development, how to change the old path that whenever we talk about innovation, all we can think about is to set up an institute or build an incubator or accelerator that can easily cost tens or even hundreds of millions of US dollars, and make sure that we can catch up with the age of internet-based STP by making small improvements? It would be very helpful to study the successful case of Haidian Science Park (hereinafter referred to as HSP), which adopts the internet thinking and has built the next-generation "internet-based STP" that is faster, better and more economic.

Advantage of Haidian Science Park

Development of hi-tech zones in China sets the stage for developing a faster, better and more economic next-generation internet-based innovative service system. The Administrative Committee of Zhongguancun Haidian Science Park (HSP) is the

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[1] *Wall Street Journey: Science and Technology Revolution will Lead New Economic Prosperity, February 22, 2012, by MARK P. MILLS / JULIO M. OTTINO*

world-renowned Silicon Valley in China and the core area of Zhongguancun National Innovation Model Park. Its predecessor is China's first national hi-tech industrial development zone established in 1988. Based on 76 famous universities and research institutes including Peking University, Tsinghua University and Chinese Academy of Sciences (CAS), HSP has a planned floor space of 217km^2, and is home to more than 5000 state-level hi-tech enterprises now, such as Lenovo, Baidu and Xiaomi. Its efforts in internationalization have accumulated experience for its attempt at internet-based development now. In 1991, HSP became a member of International Association of Science Parks (IASP). In 1993, it won the bid in Canada for holding the 4th IASP World Conference and successfully held it in Beijing, China in 1995, the first time that this conference was held in China.

In 2008, HSP and IASP signed the Framework Cooperation Agreement on Interconnectivity in the New Age, which was aimed to establish a new platform to recommend and mobilize innovative resources worldwide based on long-term trust and cooperation between the two parties, in light of new circumstances and in order to meet new requirements. Riding the wave of China's reform and opening up and leveraged on the advantageous science and technology resources in Zhongguancun, HSP has made international explorations its duty and achieved remarkable results in internet-based development.

I. Internet thinking

HSP's research on faster, better and more economic next-generation internet-based innovative service system is a successful case of introducing internet thinking. It contains the following main contents: applying the concept of Web2.0 resource integration to the construction of the STP, and successfully improving it through the establishment of systems and mechanisms, platform setup, policy innovation, media cooperation and promotion of strategic emerging industries. The research reveals that while the traditional idea of innovation is oriented by engineer thinking and set to create a lot of product lines, the internet thinking used by HSP takes the high-end route and emphasizes practical experience. High-end route means to take a global vision, focus on one specific project, and create one quality platform, policy or media. With that as the basis, the high-end route seeks to coordinate and innovate resources of government, STPs, enterprises, finance and communication, so as to provide experience in creating quality products that integrate art, science and media as a way to facilitate innovation. There is no doubt that HSP's research has stored rich first-hand experience for the transformation of other STPs in the world and for them to create faster and better next-generation approaches.

1. One platform

HSP's idea to introduce Web2.0 and set up one "platform" that realizes communication anytime anywhere first came up in 2004. iBridge (Information Bridge), as the name suggests, it is a platform or a bridge of information that connects everyone. It integrates emerging network technologies (web 2.0, XML, RSS), communication modes and advanced web development tools then, innovatively combines technology development with STP businesses, and evolves to be a working approach of "internet thinking".

Leveraging on the internet thinking, advanced IT means and in the form of member participation, iBridge aims to become a platform of information communication and exchange in a social environment with highly developed information. On that basis, it strives to create a simple mode featuring "the connection of network, heart and world and access to road, intelligence and everywhere" (literal meaning of "connecting all the business across the world"), and become a new working platform that serves the interconnectivity between Chinese hi-tech enterprises and STPs around the world. Connection of network has a twofold meaning - the internet (technical level) and the network of people (emotional level), while connection of heart means to observe laws and regulations and uphold honesty and integrity. Only when both are in place can we truly realize unblocked interconnectivity with the world.

Since the very beginning, iBridge has received support and guidance from Torch Center of MOST (Ministry of Science and Technology of China) and international experts. In 2005, Mr. Carl Chang, the then president of IEEE Computer Society and IEEE academician, said on his visit to HSP that "both IEEE and I appreciate HSP's idea of developing iBrigde very much. Such forward-looking and systematic explorations and researches before the arrival of the society of information explosion are very meaningful and valuable". In April 2008, a review meeting was held to appraise the phased results achieved on the iBridge project, at which Xiu Xiaoping, deputy director of the Torch Center, said "the research is more significant than the project itself. It's a great innovation and a successful example of 'learning it by doing it and doing it while learning it'." More importantly, it has continued to be promoted and supported by the Torch Center in its development later.

2. One policy

Unexpected results were achieved by bringing the "long tail theory" into the research system of "one policy". Keeping in mind the project goal to cooperate and communicate with technology innovation resources around the world anytime anywhere to the largest extent, HSP put forth in December 2006 the first special policy among China's hi-tech zones to support hi-tech SMEs to go global - the *Administration of Special Fund to Support SMEs Go Global by HSP (Trial)"* (hereinafter referred to as the "Trial Administration").

According to the Trial Administration, HSP set up an RMB5 million special fund every year to guide and encourage hi-tech SMEs in the Park, with special support for enterprises engaged in strategic emerging industries to carry out international cooperation and exchange, so that capital and policy are matched to enhance enterprises' soft power. The trial period was three years. According to statistics, during the four years from 2006 to 2009 (2009 was an extension), the Trial Administration supported 192 projects with RMB32.178 million in total. Enterprises in HSP have international cooperation with counterparts in almost 50 countries and regions, covering a wide range of emerging industries such as electronic information, bio-medicine, energy conservation and environmental protection, and new energy. The long tail theory began to take effect. The following chart demonstrates the number of projects and its percentage of foreign counterparts from 2006 to 2008:

- **Countries of Foreign Counterparts in the Funded Projects in the year of 2006--2008**

Countries (Regions)	No. of projects	Percentage
The United States	32	39
Japan	10	12.2
Hong Kong (China)	6	7.3
France	5	6.1
Korea	5	6.1
Canada	4	6.1
Germany	2	2.4
Singapore	2	2.4
Israel	2	2.4
Ireland	2	2.4
Zambia, Belgium, Austria, New Zealand, Sweden, Portugal，Russia, Bangladesh, Chile， Poland, Australia and etc.	12*1	15.6

Such thinking resulted in win-win effects and withstood the test of the three factors of innovation policies worldwide. As this policy was formulated on the basis of fully studying the internationalization needs of Zhongguancun-based enterprises and global innovation policies, it initiated a new stage in which innovation policies can promote Zhongguancun-based enterprises to pursue free cooperation and exchange with hi-tech innovation enterprises around the world, and ignited entrepreneurs' interest in innovation.

Driven by this policy, entrepreneurs in HSP have proactively sought partners worldwide and put forth one innovative idea after another. The policy also heartened Zhongguancun-based enterprises to break the stalemate that they have walked in parallel with international venture capital institutions for a long time. More importantly, HSP's trial attempt in this regard played a demonstrative role in exploring new directions for studying and formulating policies on technology innovation under the globalization background. Eight years later, the Administrative Committee of Zhongguancun Science Park formulated and put into effect the *Regulations on Special Fund for Internationalization of Zhongguancun National Innovation Model Park (Trial)* in 2013.

Moreover, the policy has also withstood the test of the three factors of global innovation policies. As Mr. Peter F. Cowhey, Dean of School of International Relations and Pacific Studies, UCSD and Professor of Communication and Technology Policy at Qualcomm, proposed at the China-US Strategic Dialogue on Innovation held in Beijing in 2010, global innovation policies should contain three basic factors simultaneously. First, innovation policies shall be formulated with a global vision. Second, enterprises and projects shall integrate and cooperate freely worldwide to the largest extent. Third, entrepreneurs and innovation professionals shall be encouraged to keep coming up with innovative ideas.

3. One Media

HSP's influence was significantly boosted by applying the "crossover thinking" to new media planning. In 2006, HSP applied Web2.0 and long tail theory to media planning and created the program with Phoenix TV - *Towards China*. The program was aired on Phoenix TV's European channel in October 2006 and more than 150 episodes were aired till 2010, receiving positive feedback from the audience. This is the first time that HSP communicated enterprises' innovation stories on TV, and this new approach was successfully connected with iBridge, changing the Park's old publicity routine, and enhancing the Park's overall brand image with internet-based crossover thinking. The design and implementation of this new media program elevated HSP's international exchange, training, forum and other activities to the new stage of "internet thinking" and gave a strong boost to its influence.

HSP's successful application of the long tail theory to media is attributed to several reasons. The first is grass-root thinking. HSP analyzed the 400 members of IASP, and realized that every member consists of a number of enterprises (the number varies from one member to another) and every enterprise has a number of employees (the number also varies). Such analysis helped us deliver our communication to every employee working in the Park and effectively mobilized the power of the grass-root employees.

The second is knowledge about the media. Not only did we know how to process the content, we also knew how to deliver it in a better and faster way, so that instead of aimless launching, we could deliver HSP's internationalization to groups with similar aspirations through various channels quickly and continuously. The third is prompt reaction. We timely seized the right opportunity to communicate, set up the iBridge platform to facilitate communication anytime anywhere, and combined them to achieve greater results with less time and energy, exerting continuous positive effects. The fourth is interconnectivity. We naturally and seamlessly applied internet concepts to day-to-day work.

II. Characteristics of the two shifts and multiple breakthroughs.

1. Two shifts

The first shift is from closed thinking to open thinking. It broke the bottleneck that Chinese hi-tech zones have been relying on favorable policies and resource advantages for development in the first two decades, and began to shift toward win-win cooperation and

developing through competition and innovation. It adapted to the trend of hi-tech zone development as well as the global innovation trend in the new age.

The second shift is from hi-tech zone to comprehensive innovation zone. Traditionally hi-tech zone were focused on incubation and technology transfer, but by introducing the resource integration concept of Web2.0 and long tail theory and based on a huge amount of practices, we built a new, efficient and low-cost interconnectivity mode for hi-tech zones. This is of great pioneering significance in that it provided first-hand practice and study results for exploring how STPs can embrace the test of the internet age and shape and seize the development opportunities for innovation zones.

2. Breakthroughs in realizing more updated, better, more economic international development

More updated. iBridge platform is a new mode that initiates to bring Web2.0's resource integration into STP management. By creating new channels such as membership, blog and community and combining them together with various new technical means, it established a new interconnectivity between the Park and resident enterprises. It offered innovative functionalities as well. First a multi-theme community was established, and then blog was brought in to provide such functions as product information and interactive exchange, becoming a sub-system of the website. This shows that HSP has formed a new type of management relationship that features resource integration by overcoming the obstacle that it had no traditional superior/subordinate relation, no shareholder benefit relation and no upstream/downstream coordination relation with the enterprises.

Better. Adhering to interconnectivity and centering on providing better services for its members, iBridge provides them with a working platform to communicate, acquire information and participate in competition, realizing free communication anytime anywhere across industries, enterprises, regions, countries and people, and truly sharing science and technology resources around the world. The biggest characteristic of this platform is that management and service are integrated. In other words, functions like content release, membership and event management, recommendation, resource management, advertising management, survey management and integration and customization can be realized on the front-stage, while management of membership, blog, community, event, recommendation and statement can be realized on the backstage, realizing the function of statistics and analysis. The new big data service mode offered by the platform brought about better development potential.

More economic. The platform fully considered the Park's characteristics and enterprises' needs and provided a direct network carrier for enterprises to go global. Once registered, users will have their own sub-system and blog for unlimited communication, and the increasing data also provided the government with a powerful source of data analysis to facilitate its decision making. The "more economic" feature is mainly reflected in raising the awareness of risk prevention, saving time and reducing waste.

International development. In terms of design concept and development means, iBridge adopted world-leading technologies to support enterprises in international competition and technologically facilitate communication between famous domestic and international STPs. As a result, Chinese and foreign members are able to share a multitude of information from around the world on the same platform, integrating resources of STPs worldwide.

III. Lessons learnt from HSP's "internet thinking"

1. shifting from passive catching-up to taking the initiative

Since its inception in 1988, HSP has started from scratch and followed a carefully designed path to grow bigger and stronger step by step. From the early days when it still implemented the traditional mechanism of running foreign affairs to the days when it tried to build a new type of service system, HSP has always been thinking how to stay abreast with the times and thrive in all circumstances. In 2004, it was designated by MOST Torch Center to conduct the pilot project of one-stop service for hi-tech enterprises to go global, set up the Web2.0-based new service platform (iBridge), and replaced the sole reliance on favorable government policies with the internationalization mode featuring the comprehensive utilization of such resources as policy, network, platform, media and capital. The iBridge platform officially came online in 2007 and was upgraded in 2012.

2. adhering to the idea of "one world, one science park"

HSP's growth in both scale and strength shows that the Park has learnt to drive internationalization with its global vision. In the past decade, the iBridge office that isn't even 150m^2 big has drawn the continuous attention of over 10,000 experts, scholars, entrepreneurs and MBA graduates from world-renowned colleges in more than 50 countries and regions, a wonder created by HSP. It has been visited by professors and students from Harvard University and University of Manchester, journalists from *Die Presse* of Austria and *Le Monde* of France, world-renowned enterprise like Cisco, and it's called by them the "smallest innovation class in the world", truly becoming a low-cost, high-efficiency and mini-size global training base of "internet thinking".

3. keeping up the spirit of "start with a small step, dare to cross industries"

By timely applying the concept of setting up an interconnectivity platform newly formed in HSP to the research of innovation policies - this crossover application obtained preemptive opportunities for the Park. Although the trial period of this special fund policy was only three years and each year there was only 5 million yuan, **it's a new policy that catered to the global demand for innovation put forth on the basis that HSP already had 100-million special innovation fund and MOST Torch Center had billions of innovation fund, so it was of great significance, exerted extensive influences and took positive effects.** This fully demonstrated the courage and confidence of HSP's researchers in applying the long tail theory to innovation policy practices, so as to promote free communication and exchange of global science and technology innovation resources anytime anywhere.

4. insisting on "equal importance to innovative thinking and innovative technology"

As HSP promoted the "internet thinking", it has given equal importance to innovative thinking and innovative technology, as evidenced by the initiation of Web2.0 platform for global interconnectivity in 2004 and the formulation of innovation policies and cooperation with new media in 2006. This approach dispelled many people's misunderstanding that internet is just spending money on technology. Whenever it comes to internet, people talk about cloud computing, big data, social network and mobile device, as if as long as money is spent and internet is used, an internet-based entity is a matter of course. What HSP has done and achieved exactly denoted that the changes brought by internet are not limited to technology, there are non-technology factors too, such as the subjective awareness and initiative of people engaged in such sectors as STPs, government, enterprises and media. Researchers in HSP grasped and applied the internet thinking, which led to the Park's successful pilot endeavor in that area.

The secret to HSP's success is that it has found a common yet often ignored shortcut - people's initiative. While exploring an innovative path for development, HSP didn't follow the old track of establishing an institute, or building an incubator or accelerator that easily cost tens or even hundreds of millions of US dollars, but gave full play to people's initiative and creativity. It abandoned the traditional approach of science and technology innovation, dared to break away from the sheep flock, innovatively analyzed and solved various difficulties faced by HSP in different development stages, boldly applied new methods to meet enterprises' needs for international rules and customs, culture, information and confidence, and proactively embraced the challenge to apply internet thinking and conduct R&D in internet technology and products in parallel.

Practices have proved that with internet thinking, small improvements can lead to expected effects in enhancing the service quality. Fortunately HSP has overcome the anxiety, confusion, hardships, wavering, misunderstanding and doubts when pushing the internet thinking, eventually took the preemptive step to ensure the Park's long-term survival and development, and made remarkable achievements in the process. After visiting HSP twice, Prof. Martin Grossman of Bridgewater State College, Massachusetts, US, wrote a paper titled "iBridge, An Emerging Platform of Global Knowledge Management". In 2008, Prof. John Della Volpe of Harvard University made the following comment on HSP's internationalization model - it was "one of the very few pioneer projects of Web2.0-based social network application in Asia, and has applied its choice to the field of global science and technology innovation and development. It will make a big difference in the future."

IV. STP new stage on Interconnectivity + innovation.

Building "internet-based STP" is no longer the bottom line to test forward-looking idea but a burning issue.

STPs in China and the rest of the world are looking at unprecedented development opportunities and advantages. Hardly anyone can deny that 30 years' STP development has not only brought about progress in society and lifestyle (mainly reflected in the concentration of talents in science and technology innovation and of new technologies and products), but also promoted economic growth. STP is in its prime.

1. Creation of STPs

As shown in the data collected from "2012 IASP General Survey", the concept of STPs (for the purpose of this survey this expression also embraces technology parks, research parks, technopoles and other similar expressions) started in the 1950s. A continuous expansion of this phenomenon has been observed throughout the world, confirming that this concept is widely regarded as a useful and powerful tool for economic development, and especially for the innovation and technology-based economy. A big leap ahead took place in the '80s, which is the decade when the concept crossed the Atlantic Ocean and landed in Europe with great force, and then continued its expansion to the rest of the continents. Since 1980 the STP industry has undergone an exponential increase; 19.3% of STPs were launched in the decade of 1980 while 24.4% of STPs were opened in the 1990s and 52.1% in the 2000s.

2. The fast-growing Chinese hi-tech zones are emerging as a driving force of China's science and technology innovation

According to the "Analytical Report on Comprehensive Development and Data of Chinese Hi-tech Zones in 2012" prepared by the Torch Center, there are 105 state-level hi-tech zones in China at present, 739 hi-tech enterprise incubators and 184 accelerators, 175 productivity promotion centers, 441 technology transfer organizations, 504 strategic alliances of industrial technology innovation of all types, and 732 certified product inspection and testing agencies.

In 2012, 63926 enterprises were counted in hi-tech zone across China, and the 105 state-level hi-tech zones recorded RMB16568.99 billion total operation revenues , RMB12860.39 billion total industrial output value, RMB1024.32 billion net profits, RMB958.05 tax and USD376.04 billion export-generated foreign exchange, which increased 19.1%, 15.7%, 15.7%, 29.4% and 16.0% respectively. In the same year, the 105 state-level hi-tech zones appropriated a total of RMB31.01 billion fund to support enterprises in science and technology innovation, business startup and diverse research activities.

3. The arrival of the "internet" age poses new challenges to the thriving STP development

The arrival of the internet age will bring tremendous potential impacts to the working mode of STPs. The drastic decrease in the cost of wireless connection will lead to immeasurable potential impacts on talent, capital, international technology transfer, and so on. Combined with big data and cloud computing, the wireless world provides almost everyone everywhere with the ability of cheap connection and information processing. Especially when internet thinking is driving traditional industries toward profound reform, we should be aware of and

prepared for such radical changes as internet financing, internet movie and internet real estate.

In his article "Industrial Reform Needs New Breakthrough" published on *People's Daily*[2] on March 13, 2014, **Baidu president Li Yanhong** mentioned that in addition to major traditional industries like retail and finance, many segments have also felt the shock of the internet. For example, nobody pays for car-borne navigation today, young people are used to web-shopping "group coupon" for dinner party, and travel arrangements such as ticket and hotel booking can all be done online. These are all shocks coming with the internet, with more unforeseeable shocks on the way. The age of the internet has arrived, but are STPs ready for that?

4. The innovation model of "Internet thinking" flourishes worldwide

The innovation model of "Internet thinking" flourishes worldwide, posing new challenges to STPs' unique advantages in science and technology innovation. As internet technologies, products and applications are getting more mature day by day, groups well versed in internet are standing out. It's possible now to establish a new entity of innovation with internet thinking and based on big data and cloud platform. The National Network for Manufacturing Innovation that US-based ITIF wrote about in the study report titled "Why America Needs A National Network for Manufacturing Innovation" is a realistic example.

The report indicated that America needs a national network for manufacturing innovation (NNMI). NNMI will strengthen the innovation capabilities of U.S. production facilities, which are essential for success in a highly competitive global manufacturing economy. NNMI will build on national strengths in research and education, bringing these strengths to bear on a sector that has not been as closely connected to them as it needs to be in a world that demands ever-rising skill and technology levels. NNMI will foster collaboration that will help to solve problems and seize opportunities of value to a wide range of manufacturers of all sizes. [3]

As Lockheed Martin puts it, NNMI "is the right initiative at the right time." This shows that the "interconnectivity + innovation" model is basically mature, crossover resource integration and application has come to a critical stage of implementation, and this model will be the new symbol of future development worldwide. Science and technology innovation without internet thinking will either be reformed or eliminated. At the China (Shenzhen) IT Summit 2014 on March 29, Liu Jubo, Secretary-General of e-China Alliances, said in an interview with tech.163.com that all traditional industries will be webified and must be

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[2] *People's Daily: Industrial Reform Needs New Breakthrough, by Baidu president Li Yanhong, March 13, 2014.*

[3] *Why America Needs A National Network for Manufacturing Innovation, BY DAVID M. HART, STEPHEN J. EZELL, AND ROBERT D. ATKINSON | DECEMBER 2012*

closely linked with the internet in the future, otherwise they are doomed for not being able to catch up with the times.

It must be pointed out that internet's popularization and application at an astonishing pace around the world **makes the location and domain of "internet science and technology innovation" no longer important. STPs' unique innovation advantages will face a great challenge, and those that haven't adopted the internet thinking yet are up against a more worrisome future.**

V. Psychology Serves Internet Thinking

Proactive "internet thinking" demonstrates the effects of combining psychology with internet technology and exerts immense changes for pilot-step takers. The case of HSP shows that a key sign of entering the age of "internet-based STP" is the development mode that integrates the mutual development and application of internet thinking and technology, neither of which shall be neglected. Internet thinking is the result of combining psychology with IT technology. At the "Psychology Serves IT Development" Seminar & the 1st Annual Conference of Engineering Psychology held on March 20, Zhang Kan, researcher at the Institute of Psychology of CAS, said that "there are natural and inevitable connections between psychology and IT, which were in the same category hundreds of years ago", and further analyzed why psychology may be the "driver" of IT upgrading.[4]

According to him, "information processing is the essence of human mind and is human nature. Modern mainstream psychology studies man's information processing, and communication is a higher-level need of mankind. Regarding the development of human society, the world has come to the information age and post-information age". HSP's internet thinking resulted from researchers' initiative to get out of the stereotyped STP development mode and proactively embrace the challenge brought by internet technology in order to seek new progress. It gained a lot of valuable time, opportunities and confidence for STPs to gain new ground, and made them less passive and blind in face of the possibility of being webified. It also created a vast space for the change and development of researchers themselves.

1. John Della Volpe, Director of the Harvard Institute of Politics and an Eisenhower Foundation fellow, set a successful example of the application of internet thinking

When John inspected HSP's iBridge project in December 2008, he said it was in many ways similar to the social affair project he has been studying for many years, with the difference that while HSP applied the interconnectivity concept to global science and technology innovation, his study was only about the young generation. Enlightened by HSP's project, he expanded his study to cover the world's top 500 enterprises, 100 of which were his partners in 2012, and he himself was named a "Future Legend of Marketing" by the Ad Club of Boston in 2013.

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[4] *www.china.com.cn: Psychology May Become Driver of IT Upgrading, by Zhang Kan, researcher at the Institute of Psychology of Chinese Academy of Sciences, March 27.*

2. My case also a successful example

God help those who help themselves As someone. Specialized in global innovation for long years, I've gained a spate of honors, including Lifetime Achievement Award of STP Management and Innovation, Honorary doctorate in innovation, expert on SPT internationalization management, the Finalist Award of Year 2007 of International Women Influence, and Woman of the Year 2011. Centering on STP internationalization and internet-based innovation and development, my studies cover a wide range of areas, such as the new type of foreign affairs mechanism and system, policies on supporting free combinations between resident enterprises and innovative resources worldwide, iBridge platform, and new media planning like *Towards China*. About 100 of articles (Chinese and English), study reports and research results have been published or presented by famous periodicals, newspapers, magazines, books, conferences and forums at home and abroad.

This shows that I, a member of the grass-root, have contributed to the exploration of a new development pattern for science and technology innovation worldwide with my efforts and ideas, finding a shortcut and a sally point. The new pattern will not only witness great changes in history, but will also embrace a vast future. Mr. Hu Zhaoguang, the first director of HSP and former vice mayor of Beijing, made the following comment on me: "you've made remarkable achievements on your own. It's a reflection of your values." Mr. Nicholas S. Law, Director General of International Biographical Centre (IBC) once wrote a letter to me, saying that "Ms. Zhang, as you have proven that you are a great achiever. You can benefit from IBC the Award of 'Hall of Fame'. As you know, It is 'Honoring in perpetuity those individuals, citizens of the 21st Century, whose contributions to the arts, athletics, business, education, government, the humanities, philanthropy and science, have been the greatest value for the development of their society'".

3. The beauty of internet thinking is mutual benefit.

In 2008, IASP Secretary General Luis Sanz met with Mr. Zhao Fengtong, then vice mayor of Beijing, former deputy director of Beijing New Technology Industrial Development and Experimental Zone and Secretary General of the 4th IASP World Conference held by the Experimental Zone. In the meeting, Luis Sanz said that Beijing holding the IASP World Conference for the first time in 1995 was a successful boost to the internationalization of China's hi-tech zones and also an important milestone for IASP to reach out to the whole world, especially Asia. I'm grateful for the opportunity to serve HSP, the first state-level hi-tech zone in China, and the opportunity to have worked with IASP all these years.

From 2001 to 2013, as deputy director of HSP, I've benefited greatly from participating in IASP annual conferences and various exchange activities. When IASP Beijing Office was landed in TusPark in 2008, Mr. Luis Sanz, on behalf of IASP, conferred me the certificate as special adviser for IASP Beijing Office to honor my contributions to bringing IASP to China.

In 2010, I was in charge of planning and organizing the first "Seminar on International Innovation of the Core Area of Zhongguancun National Innovation Model Park". Luis Sanz,

IASP Secretary General, Ms. Jane DAVIES, Chief Executive and Chair of the UKSPA Board Manchester STPs Ltd., Mr. Pierre Belanger, Director General Sherbrooke Innopole and Mr. Pete Engardio CEO of 22@Barcelona (Spain), delivered speeches at the seminar, and all attendees discussed the forward-looking topic of "from STP to innovative zone" proposed by HSP.

I've also made active efforts to expand IASP's influence in the world in my special ways. For instance, I introduced IASP's duties and functions to global visitors at HSP on iBridge platform and to Davos, Innovation Policy Forum in Korea and EU, global leadership and other activities that I organized or attended.

A summary of iBridge is made, which shows that the application of big data and cloud computing based on the concept of Web2.0 resource integration will result in unexpected effects in saving, efficiency and wisdom, such as:

The following chart illustrates the running laws of iBridge that is faster, better and more economic.

Start early	Technological thought
Study started in 2003	Driven by Technological thought (such as the long tail theory)
Pace:	**Benefit:**
Change every 4-5 years	Small investment, short period; wide influence, lasting effects
Time:	**Vision:**
Usually 6-8 years in advance	Focus on the job; open mind to the world
Lesson:	**Application:**
Quality first, quantity isn't the deciding factor	Create the standard for measuring innovation

Share the Benefits from experience

I feel fortunate that as one of the pioneers and witnesses of the age of "interconnectivity + innovation", I live in a period filled with development opportunities. Today I'm special assistant to the president of Tsinghua Holdings Co., Ltd. and special international management expert and deputy secretary general of International Union for Science and Technology Innovation under MOST. I'm about to begin a new journey on the vast land of innovation. Tsinghua Holdings Co., Ltd. is a 100% state-owned company invested by Tsinghua University with the State Council's approval. Established on September 30, 2003 with a registered capital of RMB2.5 billion and as the successor to Beijing Tsinghua University Corporation, Tsinghua Holdings Co., Ltd. aims at "industrializing Tsinghua University's

science and technology achievements and supporting its discipline development with industrial operation and capital utilization". The company recorded RMB47.539 billion total operation revenues, RMB2.1 billion total profits and RMB1.729 billion net profits in 2013.

Tsinghua Holdings Co., Ltd. is a majority shareholder in 18 enterprises and minority shareholder in 32 ones, including 11 listed companies. TUSHOLDINGS, Tsinghua Tongfang and Tsinghua Holdings are committed to the incubation, investment and operation of innovative enterprises, focused on science and technology industry, knowledge industry and science and technology financing, and cover seven major business sectors including IT, energy and environment, life sciences and health, technical service, living environment, publishing and media, and science and technology financing. Founded in 2008 by domestic and foreign governments, enterprises, research institutes, investors and users on the principle of "voluntary participation, equality and cooperation", the International Union for Science and Technology Innovation (IUSTI) aims at "win-win cooperation and innovative development". At present it has a team of nearly 60 experts across the globe specialized in different areas.

Conclusions:

The road is long and hard, but we will start afresh with full confidence. The initiation and development of STPs laid a solid foundation for insightful people in the past, and will bring opportunities in the future for the global development of "interconnectivity + innovation". Generally speaking, there is a gap between state-level hi-tech zones and experience in China's innovative development, a gap between Chinese and international hi-tech zone in the concept of international development, and a gap between global transformation of technology innovation and the emergence of internet-based technology innovation. All these promise an urgent demand and tremendous market for knowledge, cases and experience about internet-based technology innovation worldwide.

HSP has provided a complete package of successful case study on the pilot project of internet-based STPs. It's China's as well as IASP's first hi-tech zone that adopts Web2.0 to integrate resources, uses big data and cloud platform as the theoretical basis, and explores the new service mode in next-generation efficient and streamlined innovative STPs. Its successful practice will be helpful for other STPs around the world to proactively embrace the arrival of the internet age.

The example of HSP tells us the essence of innovation.

- **Inspiration of innovation** comes from people who are committed, dedicated and persistent;

- **Content of innovation** comes from dedicated people's understanding and processing of the essence of traditional ways.

- **Way of innovation** comes from the open thinking of people with faith and their integration of resources in the global environment.

- **Means of innovation** depends on committed people's grasp and application of the constantly emerging new technologies.

- **Innovative environment** results from everyone's contribution and supplement to global knowledge of innovation.

- **Innovation platform** is a big stage to continuously cultivate talents who dare to pursue crossover development.

HSP's success hasn't come easy. The technology innovation around 2012 has exerted profound influences on it. The age when content is king has arrived! We should get to people, convince people and touch people with content, and realize resource interconnectivity on that basis - that's the secret to internet thinking. These innovations will bring about comprehensive changes to our society and economy. All conditions are in place now, are we ready?

Author profile:

Zhang Xiuying, born in November 1958, Vice President of Haidian People's Association for Friendship with Foreign Countries, member of the 2nd expert adviser panel of the Administrative Committee of Zhongguancun Haidian Science Park, MBA, honorary doctor, international management adviser, special adviser to IASP Beijing Office, adviser of China Association for International Science and Technology Cooperation, special assistant to the president of Tsinghua Holdings Co., Ltd. and special international management expert and deputy secretary general of International Union for Science and Technology Innovation under MOST. Zhang Xiuying used to be the deputy director of the Administrative Committee of Zhongguancun Haidian Science Park, chief of International Cooperation Division and head of Foreign Affairs Service Center of HSP. She was also the founder of HSP's International Department and has been head of it for 25 years.

Educational background: graduated from Roosevelt University Walter E. Heller College of Business in 2000; graduated from the postgraduate course on Chinese Law in Peking University Law School in 2000; graduated in economic management from Central Party School in 1998; and graduated in statistics from Beijing Open University in 1986.

Working experience: ZHANG is the only designer who has been engaged in STPs' shift from international to internet thinking for 25 years, accumulating rich experience for global innovation. Through 10 major adjustments and transformations in HSP's history, she has held fast to the centerline of internationalization, and made art, science and media all serve innovative development, setting an example for her counterparts around the world.

She has never been a STP director, nor is she very influential in the international STP circle, but she comes from the grassroot employees of Chinese and international STPs. Be it policy making, media planning, platform setting, forum planning and large event organizing, she has cherished and grasped every opportunity as a policy maker, planner, pioneer, designer, researcher and host, never letting go the tiniest chance. She has devoted her hard work, intelligence and unique thinking to the inception and growth of global STPs, and contributed ideas and enlightenments to the sustainable development of global innovation.

She created the "one-stop" innovative service mode integrating application for overseas trips, approval, passport and visa application and foreign receptions in 1988, the Web2.0-based network platform in 2004, the first fund regulation in the history of Chinese hi-tech zones dedicated to supporting SMEs' in going global in 2006, and initiated *Towards China,* a cooperation program with Phoenix TV in 2006 too.

With all those efforts and achievements, she has turned from a cashier to world award winner. She was titled Honorary Doctorate of Letters by IBC in 2013, won Lifetime Achievement Award in STP management and innovation from International Association of Art, Science and Media in 2012, and was one of IASP's first international management experts (18 experts from 10 countries worldwide) in 2012.

She was conferred World Female Award by American Biographical Institute in 2011, was titled Advanced Individual on the 20th Anniversary of MOST Torch Program in 2009 and World Outstanding Woman by *Working Women* magazine in 2007, received the "Special Gratitude Award" from IEEE-CS in 2006, was Advanced Individual on the 10th Anniversary of Torch Center Software Base in 2005, and so on and so forth. Her efforts have played a positive role in laying a solid foundation for global STP industry, which has only developed for several decades, to play a role in the future internet-based innovation and development of the world.