

Reflections on Education and
Technological Development in China
2013.



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Foreword



William Chou

Deloitte China Education Industry
Advisory Partner



Charlotte Lu

Deloitte China Education Industry
Leading Partner

Since the beginning of 2009, Deloitte has consistently published research reports on the private education industry in China, sharing some of our thoughts and suggestions for the education market. Going into 2013, as we searched for the latest driving force behind private education industry development, we focused our attention on technology. Furthermore, we took aim at opening up discussion about the influence technology is having on education, hoping to spark greater attention and reflection in the educational world.

At the policy level, the Chinese Ministry of Education issued the *Education and Information Technology Ten-Year Development Plan (2011-2020)*, which emphasizes the role of information technology in education over the next decade. The plan encourages the construction of an educational cloud network, the fostering of IT talent, and the implementation of IT systems that support the education industry. It comes as no surprise that technology will play an integral role in educational development in China.

But despite government support at the policy level, the integration of education and technology will not come without challenges. China faces an exam-oriented education model that limits educational innovation, a critical shortage of educational resources, and a lack of inter-disciplinary human capital that can effectively integrate technology into the educational environment. According to experienced market participants, the success of foreign investors will depend on their ability to create educational experiences that enhance employment prospects.

There are two broad categories of educational training in China: formal (or "degree-oriented"), and vocational. The Chinese government has encouraged investment in formal education at the policy level. But implementation has proven rather difficult due to strict government administration and approval requirements and differences in educational ideas and culture. Investments in vocational training such as language, IT, and other emerging technical areas will encounter fewer government restrictions. We predict these areas will become foreign investment magnets.

In the final chapter of this publication we have posed three questions about the future of education in China, including whether or not the Sino-foreign cooperative university model will be successful, whether or not massive open online course degrees will succeed in China, and just what is the core value of online educational software. We hope these topics will spark further discussion about the impact of technology on Chinese education.

Finally, thank you to the education industry experts and practitioners who support Deloitte China's private education industry development report.

Chapter 1. Introduction to the Private Education Industry in China

1.1 Current status of the private education industry

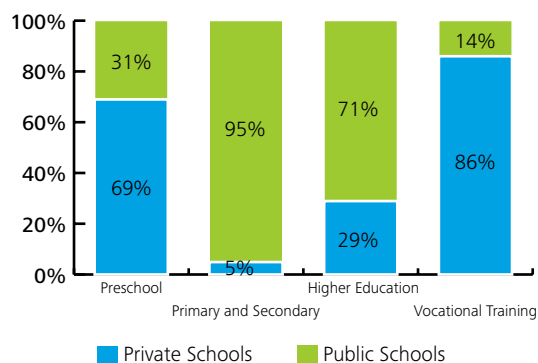
With the steady growth of the Chinese economy and continued rise in Chinese household educational expenditures, China's private education industry has also maintained steady growth. In 2012, the Ministry of Education issued *Encourage Private Capital Flow into the Education Field to Enhance Private Education Development – Advice on Implementation*, which supports private education at the policy level by proposing that private schools enjoy the same teacher status and obtain the same access to student recruitment as public schools. We are predicting that over the next three to five years, the private education industry will continue to grow steadily, particularly in certain market segments.

The major market segments in the industry include preschool, primary and secondary school tutoring, vocational skills training, private universities, online education, language training, and certification training. Each market segment is at a different stage of development, with primary and secondary school tutoring in a stage of rapid expansion, and preschool education, language, and certification training entering into a more mature stage of competition.

- The preschool and vocational education markets are still growing in China

According to the *2012 China Statistical Yearbook*, the number of private schools in China has increased as a percentage of total schools, particularly in the preschool education and vocational training segments. Private preschools increased by 13,215 schools, or from 68% to 69% in proportion to total preschools; Private vocational schools increased by 2,789 schools, or 85% to 86% in proportion to total vocational schools.

Graph 1: Private and Public School Market Share in China—2011



Source: *2012 China Statistical Yearbook*, Deloitte Research

Listed education companies have maintained steady growth in 2012. The operating results of each company depend on the individual business model and the segment in which they operate. The data have been summarized and should not be used in place of the financial statements.

Table 1: China listed education companies 2012/2011 performance comparison(U.S. dollars)

Company	Major Operating Segments	2011 FY Revenue (millions)	2012 FY Revenue (millions)	2011 Net Income (millions)	2012 Net Income (millions)	Company's Year-end date
New Oriental	Language Training and Test Preparation, Others	558	772	102	133	2012.5.31
Xueda	Tutoring	222	293	5	2	2012.12.31
TAL	Tutoring	111	178	24	24	2012.2.29
ChinaEdu	Online Education, K-12 Schools	70	78	3	6	2012.12.31
ATA	Online Education Services	48	56	3	9	2012.3.31
China Distance Education Modern Education Group	Online Education Services	42	52	-4	8	2012.9.30
Noah	Tutoring, Language Training	35	42	3	4	2012.6.30
Noah	Language training, K-12 Services	15	26	-65	-1	2012.6.30

Source: Annual Reports, Deloitte Research

Note: All monetary amounts within this article are stated in Chinese RMB unless otherwise indicated.

- The number of Sino-foreign joint venture universities is increasing

An increasing number of prestigious foreign universities are establishing joint ventures. Xi'an Jiaotong-Liverpool University, University of Nottingham Ningbo, and New York University Shanghai have already been established, and Kean University-Wenzhou and Duke Kunshan University are currently under development. These types of joint ventures have existed in China for ten years, but the quality of education has not yet reached international standards. The three main challenges are as follows: (1) there remains an expectation gap for both parties, (2) the Chinese student recruitment system conflicts with the design of the foreign programs, and (3) the cost of distinguished foreign teachers increases the school's operating costs. For further analysis, refer to Chapter 2 of this publication.

- The online education industry is growing, particularly in foreign markets

Investment in the online education industry is growing. In the United States, companies such as the Khan Academy and Coursera have transformed the way people view online education. The Khan Academy creates short, online video lectures and provides them free of charge to its user base. Over the past two years, the Khan Academy's teaching videos were viewed more than 200 million times, and 6 million students visited the site every month. Coursera's model offers free online courses from 36 U.S. universities including Princeton, Stanford, and Duke. Currently there are 2.3 million students registered for the free science, business, economics, art, and law courses.

Internet companies and start-ups in China such as New Oriental, TAL Education Group, ChinaEdu, and CDEL are also investing in online education. For example, New Oriental and TAL Education Group provide online training content. The courses are mainly pre-recorded, serving as a supplement to traditional offline coursework.

A growing number of Chinese internet companies are also engaging in online education platforms. Tencent introduced the "Tencent Mini-Classroom," and even Weixin's online communication application has been used by teachers as an exchange platform for students.

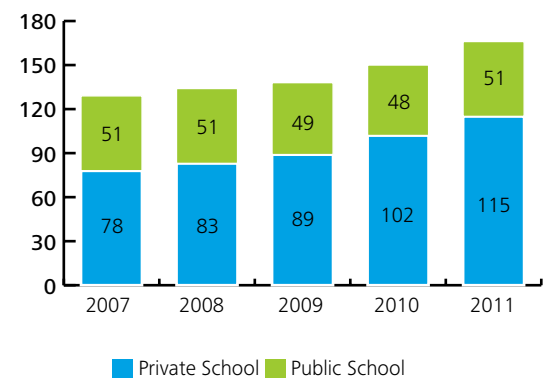
In December 2012, Netease opened a formal online "Netease Cloud Classroom," which provides users with classroom courses and an open online discussion environment. In November 2012, publicly-listed YY Language Group released an online platform product on which over 1,600 companies have registered and the number of classes has exceeded 100,000.

1.2 Segment analysis of the private education market

We will use the following three representative market segments to introduce the overall education market in China: preschool, primary and secondary school tutoring, and private universities.

- The preschool market is growing into a mature stage of quality competition

Graph 2: Number of Kindergartens in China 2007-2011 (thousands of schools)



Source: WindInfo, Deloitte Research

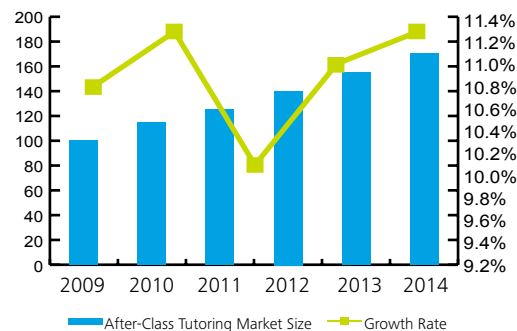
According to data released by the National Bureau of Statistics, the number of Chinese born in 2006 was 15.84 million, in 2010 it was 17.09 million, and in 2012 it is expected to further increase by about 2 million. Population experts predict that the rise in newborn population will continue until 2015. This will undoubtedly make 2013 kindergarten class enrollment a prominent issue. According to the Bureau of Statistics, the compound annual growth rate of China's private kindergartens was about 10% from 2007 – 2011, with almost no growth in public kindergartens during the period. Private kindergartens have significant room for expansion over the next five years, particularly in economically developed, population-dense areas.

With the rapid expansion of private kindergartens, the Chinese preschool education market is gradually entering a mature phase of competition on quality, in which outstanding preschool educational institutions may be expected to win more market share.

- The primary and secondary school tutoring market is growing

Chinese *per-capita* disposable income is increasing and along with intense demand for high-quality educational resources, primary and secondary school growth remains unabated. According to the *2011 Chinese Household Educational Consumption Whitepaper* statistics, 71.4% of families have spent money on extracurricular training programs, of which primary and secondary tutoring have received the most attention. Going into 2013, Deloitte predicts that along with the continuing proportional increase in Chinese family spending on education, the primary and secondary school tutoring market will maintain steady growth, reaching approximately 160 billion, at an increase of 11% over the prior year.

Graph 3: After-Class Tutoring Market in China (billion renminbi)



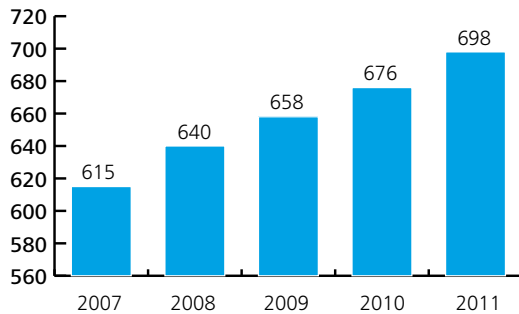
Source: IDC, Deloitte Research

In 2012, the Chinese government intervened in the school tutoring market. Previously, high school students who placed first, second, or third in the Olympiad national finals did not need to possess additional qualifications to be admitted into university. In 2012, The Ministry of Education announced that for students entering high school in the autumn of 2011 or later, Olympiad scores will no longer be considered in the university admissions process. According to recent media reports, the Ministry of Education has also prohibited the linkage of Olympiad mathematics performance with the recruitment for primary and junior high school level schools, and has prohibited the use of any Olympiad mathematics content in class training materials. After the prohibition, the Olympiad mathematics preparatory class names were changed to "expansion class," "top class," "improvement class," and they continue to receive high interest from students and parents.

Tutoring will continue to be linked with academic success.

- The reform efforts of private universities will continue

Graph 4: Number of Private Universities in China 2007-2011



Source: China Statistical Yearbook 2012, Deloitte Research

University entrance examination registration declined again in 2012 to 9.15 million students, the fourth consecutive decline since 2008. At the same time, university admissions have been steadily rising, reaching 6.85 million students. Meanwhile, the number of Chinese students who study abroad is expected to have reached about 400,000 in 2012. This decline in the number of students will significantly impede some university programs, and the greatest impact will inevitably be on private universities. However, according to the *2012 China Statistical Yearbook* data, through 2011, the number of private universities in China is still growing.

Wenzhou has come out as a pilot for private university reform. For example, Wenzhou now allows private universities to set their own tuition fees. Tuition is now capped at no more than three times the average market level from the previous year. Private universities should explore other such opportunities with regard to school reform.

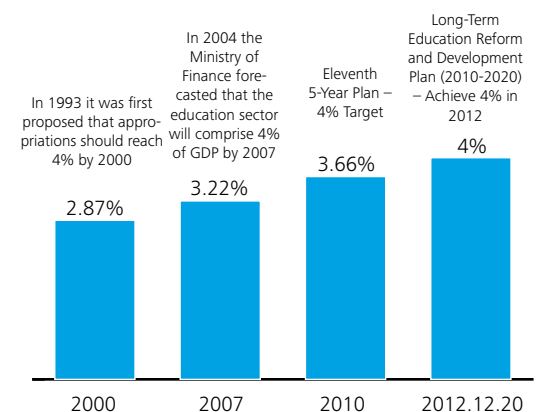
1.3 Update on the policy environment

The development of the private education sector is influenced by national policy and the institutional environment. Updates are as follows.

- China has met its 4% target for investment in education

In December 2012, the Minister of Finance Xie Xuren stated at the National Financial Work Conference, that among other achievements in 2012, the Department of Finance raised state expenditures on education, so that they are expected to reach RMB 2.2 trillion, accounting for 4% of GDP.

Graph 5: Chinese Educational Appropriations (% of GDP)



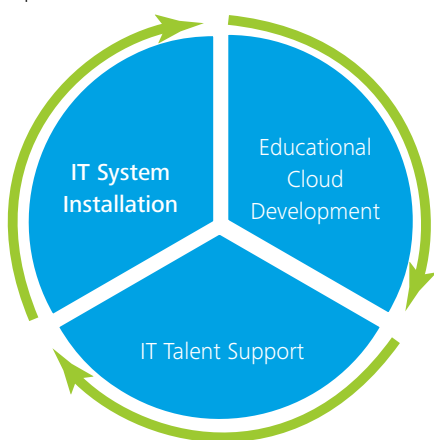
Source: Public data, Deloitte Research

Impact: Increased government expenditures on education will drive educational growth, allowing for increased expenditures on IT.

- Education IT to be the focus of the next decade's development

In March 2012, the State Ministry of Education issued the *Education Information Technology Development Ten-Year Plan (2011-2020)* ("the Plan"). The plan's objectives for the year 2020 have been coined "three fundamentals, two emphases." The three fundamentals are (1) everyone can enjoy an IT study environment, (2) formation of a learning-based social system supported by IT platforms, and (3) implement broadband coverage for all districts and schools. The two emphases are (1) improve the level of IT for educational administration and (2) increase the level of integration between IT and educational development.

Figure 1: Primary Mission of the Education IT Ten-Year Development Plan



Source: Deloitte Research

Impact: Education IT will become a focus of development over the next decade, and we predict that cloud network, cloud terminal, equipment manufacturers, and practitioners in the field of cloud security will have significant growth opportunities. The demand for IT talent will increase.

- More private capital is entering the market, and the quality of private education is gradually rising

In June 2012, the Ministry of Education issued the *Encourage and Guide Private Capital Flow into the Education Field to Enhance Privately-Funded Education - Advice on Implementation*, which states that in order to clarify conflicting laws and regulations, it is not in the interest of private school reform development regulations, policies, and practice, to implement equality between private schools and public schools under the law. At the same time, it is necessary to give full play to the value that private capital flow has for business development and to allow private investors to participate in the development of education policy. This will help to improve the development of the private education system, improve the private education administration and service system, and guide the development of private education.

As a private education reform pilot, the city of Wenzhou has already achieved initial success particularly in legal entity, financial, and property rights reform. Of the first 100 pilot units, 84 registered as private-public services entities, while 16 registered as corporate entities, for which revenue, fee collection, financial, land, and other incentives have been provided.

Impact: Firstly, this indicates that China is in the process of broadening the channels for private capital flow to enter the education business. Secondly, it is clear that from a teacher compensation perspective, private and public school teachers will enjoy the same benefits. This will significantly relieve the faculty shortage situation. Thirdly, privately-run kindergartens and Sino-foreign joint ventures were explicitly mentioned as areas requiring significant private capital investment.

The Wenzhou private education reform '1+14' policy system is currently China's most comprehensive private education sphere, with the most complete supporting system design. It has swept away the policy barriers to private education development."

China Private Education Research Secretary-General Fang JianFeng

- By 2020, the modernization of education

In July 2012, the Ministry of Education announced the *12th Five-Year Plan for the Development of National Education*, which proposed that by 2012 there would be a basic realization of the modernization of education, the basic formation of a learning society, and a country with a competitive workforce. It proposed the establishment of six key initiatives to promote the coordinated development of education at all levels. At the same time, it promoted the construction of regional higher education centers, and the matching of educational resource construction with the area's productive capacity and need for development.

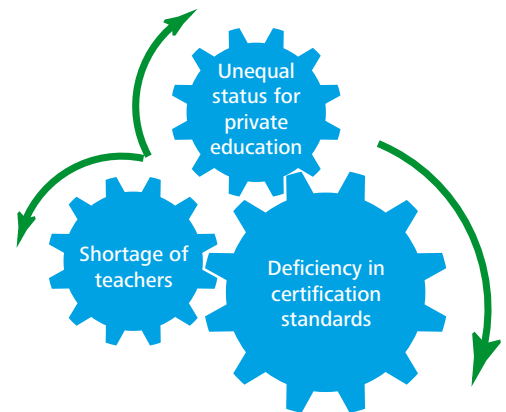
Impact: China's Twelfth Five-Year Plan put forward seven strategic emerging industries, including: a new generation of IT, energy conservation and environmental protection, new energy, bio-industry, high-end equipment manufacturing, advanced materials, and new-energy vehicles. The future higher education disciplines will need to be strategically aligned with these goals, and private higher learning institutions may seize this opportunity.



1.4 Industry problems and risks

China's private education industry faces three widespread problems: unequal status for private education, a shortage of teachers, and a deficiency in certification standards.

Figure 2: Main Problems in Chinese Private Education



Source: Deloitte Research

The private education sector in China is fighting to improve its status. At the policy level the status has been affirmed, but in practice, equality with public schools currently remains out of reach. The most pressing issues are still the lack of certification standards and the shortage of qualified teachers.

- Lack of teacher certification standards

China currently lacks industry standards for teacher certification training, particularly in the growing markets of vocational training and early education. Due to the low barriers to entry, instructors at many vocational training institutions teach class without any qualifications or even sufficient preparation themselves. The good and bad teachers are intermingled and the outcomes are mixed. This phenomenon is even more prominent in early education, as China has not established professional credentials for educating children aged 0 to 3. It is currently a supervisory no-man's-land. Some of the early education system's teachers, although not having professionally studied early education, have studied kindergarten education earlier in their careers. The Department of Industry and Commerce, Department

of Tax Administration, and other relevant departments monitor only the operations and tax compliance functions, rather than conducting material regulatory measures to manage the market. This results in poor quality control.

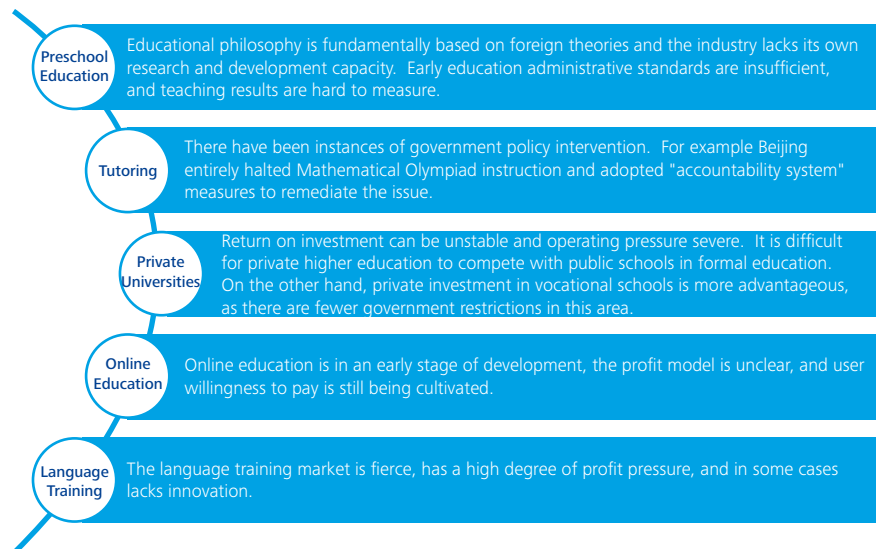
- With a lack of teacher resources it is hard to increase overall in quality

Currently, many private educational organizations run small-scale operations and are exceedingly profitable. But after expanding rapidly they see declines in profits, quality, and brand value. The primary reason for expansion failure is the lack of quality teachers and administrative personnel.

China's private education training market has room for growth and M&A has become a growth strategy for many companies. However, with a shortage of teachers, along with a shortage of resources and administrative talent, either it can be impossible to expand, or when the expansion is complete, the quality deteriorates. There are two solutions: the first is the path of teacher diversification, and the second is the path of replication through online education. Along with the growing strength of private schools, teachers are gradually becoming more diversified—i.e., not only those with an undergraduate teaching degree are allowed to teach. Additionally, the rapid development of online education is helping to replicate high-quality teaching resources, which also helps to resolve the teacher shortage.

At the same time, there is a deficit of talent in China's educational and scientific research institutions. The *National Education Industry Credit Strategy and Analysis Report* shows that the country has a total of 200,000 education and research development personnel, and of those, most are working part-time at a college or university. There are only about 60,000 full-time researchers, and when compared proportionally to the country's 14 million teachers, this is significantly less than other developed countries.

Figure 3: Challenges Faced by Education Market Segments in China



Source: Deloitte Research

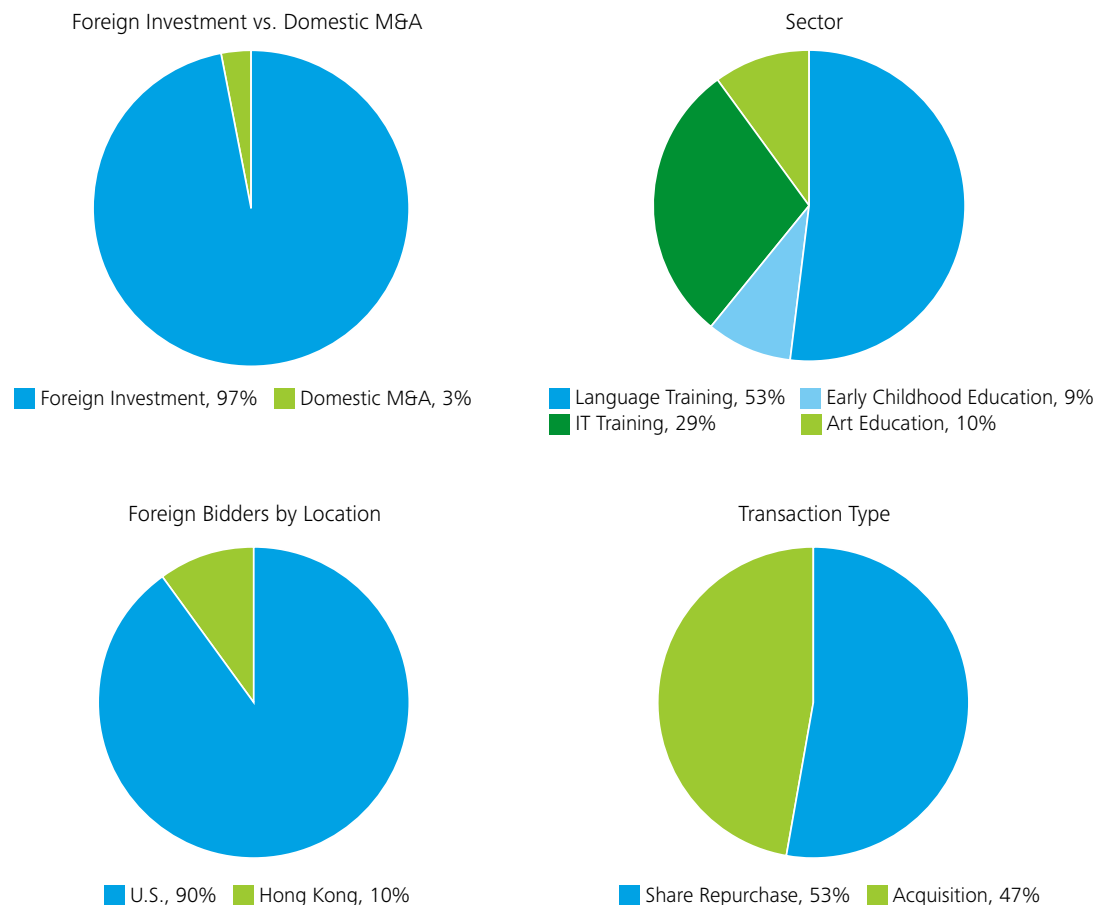
Chapter 2. Foreign Investment in China's Education Market

2.1 Current status of foreign investment in China

The education industry accounts for approximately 3/10 of one percent of total foreign direct investment in China. In 2012, China Venture counted nine deals of which US\$65 million has been completed to date. The majority of the deals were not made by foreign private equity or foreign-run corporations but rather by Chinese domestic entities that issue stock on the U.S. and Hong Kong markets, thereby qualifying as "foreign investment." Investment in 2012 was focused in the language training, vocational training, and early-childhood education sectors.

Despite the limited M&A activity in 2012, there remains significant unmet demand in the education industry according to the Chinese government. The state has enacted a series of laws and regulations to encourage foreign capital investment in private education. The government has specifically encouraged investment in vocational training by including it for the first time in the *2011 Catalogue for Guidance on Foreign Investment Industries*.

Graph 6: 2012 Foreign Investment M&A Analysis (% of investment)



Source: Deloitte Research

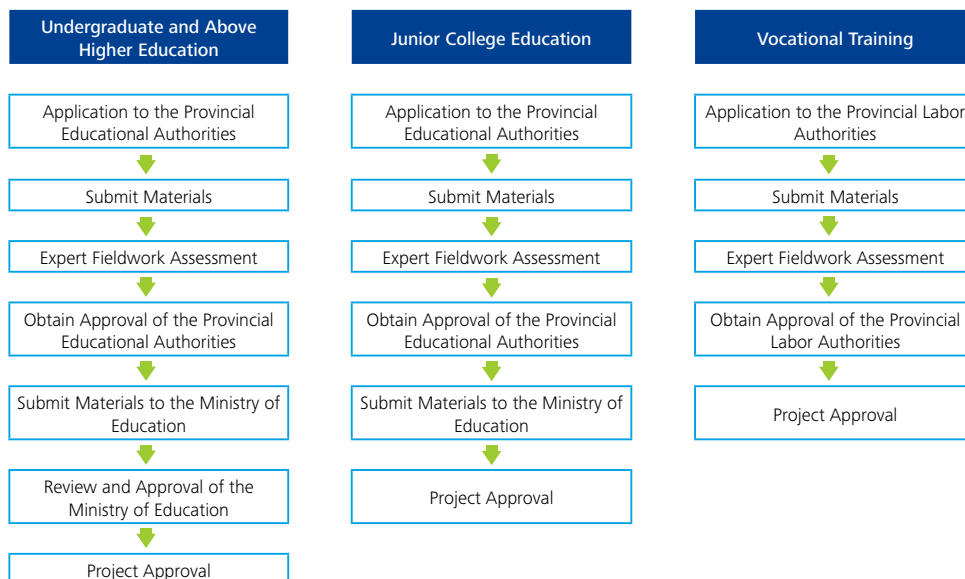
Table 2: Relevant Laws and Regulations for Sino-Foreign Joint Venture Schools

Time of Promulgation	Laws and Regulations	Specific Provisions
2003	Regulations of the People's Republic of China on Sino-foreign Cooperation in Running Schools	<ul style="list-style-type: none"> The state encourages forming joint ventures with high-quality foreign schools for formal and vocational education.
2004	Implementation Measures for the Regulations of the People's Republic of China on Chinese-Foreign Cooperative Education	<ul style="list-style-type: none"> The state encourages forming joint ventures with foreign schools that have generally recognized academic standards for teaching quality. The state also encourages the formation of joint ventures that support domestically emerging and in-demand disciplines. The state encourages forming joint ventures with foreign schools in the western China and in outlying poverty-stricken areas.
2006	Sino-Foreign Cooperative Vocational Skills Training School Management Approach	<ul style="list-style-type: none"> The state encourages forming joint ventures to teach emerging and in-demand, highly technical occupations.
2011	Catalogue for Guidance on Foreign Investment	<ul style="list-style-type: none"> The state encourages foreign investment in the education field, including "vocational training" which is included in the "Catalogue" scope of support.

Source: Deloitte Research

Due to the simplification of the approval process and support from the Chinese government, we expect foreign investment in vocational education to increase in the coming years. Joint ventures in undergraduate, graduate, and junior college education are required to meet the strict approval requirements of the Ministry of Education.

Figure 4: Sino-Foreign Joint Venture School Approval Process



Source: China Ministry of Education

2.2 Formal ("degree-oriented") education

Despite strict approval requirements from the Ministry of Education, foreign universities are gaining penetration into mainland China. This is partly driven by Chinese students' increasing demand to study abroad. Foreign institutions are promoting their brand name to potential recruits, establishing branch campuses, and forming joint ventures with Chinese institutions. The schools are increasing brand recognition and generating additional tuition revenue.

The joint venture models can be summarized by the three examples in the table below.

Table 3: Higher Education Joint Venture Models

	Features	Cooperative Model	Degree-Granting Institution	Quantity	Typical Case
Joint venture University	<ul style="list-style-type: none"> Sino-foreign joint venture independent legal entity Minimum investment amount of RMB 1.5 billion Usually provides a relatively comprehensive and professional program 	<ul style="list-style-type: none"> In order to ensure effective implementation, the Chinese and foreign parties often contribute shared resources The Chinese side is responsible for the following: <ul style="list-style-type: none"> -Teaching venues and facilities -Administrative approval and registration -Admissions and publicity The foreign-side is responsible for the following: <ul style="list-style-type: none"> -Curriculum design, length of courses, and content -Experts and teachers 	<ul style="list-style-type: none"> Graduates meeting the degree requirements are conferred a diploma from the Chinese Ministry of Education -By participating in study abroad or other relevant curriculum, graduates may obtain a diploma issued by the foreign educational institution 	<ul style="list-style-type: none"> 3 	<ul style="list-style-type: none"> Xi'an Jiaotong-Liverpool University New York University Shanghai University of Nottingham Ningbo
Cooperating Institute	<ul style="list-style-type: none"> Usually under the jurisdiction of a Chinese university's independent institute The joint venture college does not have a separate legal status and must accept the administrative and other jurisdiction requirements of the affiliated university 			<ul style="list-style-type: none"> Approx. 50 	<ul style="list-style-type: none"> Jiangnan University and Lamston College
Professional Cooperation Project	<ul style="list-style-type: none"> Sino-foreign cooperation is limited to the relevant program, professional cooperation, and exchange of resources 		<ul style="list-style-type: none"> Fulfill the foreign institution's master's degree requirements The Chinese side generally does not award the graduate with a master's degree. It may reward a graduate certificate or no certificate at all 	<ul style="list-style-type: none"> Approx. 650 	<ul style="list-style-type: none"> China Agricultural University and the Netherlands Van Hall Larenstein University professional gardening non-degree program

Source: Deloitte Research

Although Sino-foreign joint ventures in higher education have been in place for ten years, they are still in the development phase and encounter numerous challenges.

1. The Sino-foreign joint venture expectation gap

Chinese educational institutions give priority to administrative operations, while foreign institutions tend to emphasize academics. When working in a joint venture model, the difference between these two approaches impacts curriculum design and resource allocation. Therefore, there are differences between the foreign educational institution's expected outcome and the actual result.

2. The Chinese enrollment system conflicts with the design of foreign programs

Sino-foreign joint venture schools are required to recruit students through the national college entrance examination administered by the Ministry of Education. The Ministry of Education admits students based on examination results, which tends to limit both student choice and university selection. Also, there is no system in place to ensure English language proficiency of the students, which has been shown to negatively impact program results.

3. Prominent foreign teachers increase operating costs

According to a Deloitte survey, students generally demand high-quality teaching resources and facilities when selecting a Sino-foreign joint venture school. Most students hope to enjoy the same quality and standard of educational resources as found on the main campus – including sharing the same teachers, attending various extracurricular and social activities, obtaining an opportunity for foreign-exchange study at the main campus, and even obtaining the same educational qualifications. The above items all entail some form of cost, and they also represent sizable implementation challenges for the institutions.

"We signed an agreement with the Chinese university for a 2+2 model, but in reality the project implementation is mostly a 4+0 model (entirely taught in China). In order to resolve administration management issues, the Chinese side made modifications to our initial agreement. As a foreign educational institution, we felt helpless but could not refuse. Hence, there are relatively large differences between expectation and actual implementation.

— China office representative for a renowned British university

The foreign school will employ British teachers, but some of the students' English ability falls short so their interest in foreign instructors is relatively low, and the implementation of the foreign curriculum is problematic.

— China office representative for a renowned British university

With regard to seconded professors, they frequently encounter cultural difference issues. Furthermore, because prominent senior professors have significant academic influence in their home countries, as well as a set of academic activities, they are even more inclined to stay at their home university and engage in educational research.

— Chief Operating Officer of a renowned U.S. university's Shanghai center

2.3 Vocational training

Due to the rapid development of the Chinese economy, industry is demanding a growing number of highly-skilled professionals. China's existing education system cannot fully meet this demand, so the Chinese government is encouraging private investment in vocational education.

Foreign vocational institutions operating in China generally have the following characteristics:

1. Focus on the popular and emerging fields

Preschool education, language training, and IT skills training have historically attracted foreign investment and continue to offer future growth potential. Foreign educational institutions take full advantage of their own technology and operational experience. They also use their first-class brand name to attract customers, which represents a competitive advantage in the marketplace.

Due to the Chinese government's policy of promoting increased consumption, some new industries have seen increased attention from experienced foreign educational institutions. For example, a growing number of international art and design as well as other creative types of training institutions are making mainland China a strategic growth priority.

2. Positioning the foreign brand higher than the domestic brand

Foreign training institutions generally establish more high-end and comprehensive professional training programs in comparison with domestic institutions in the same industry, regardless of the qualification of the teachers, facilities, and other resources. For this reason, foreign training institutions' tuition and other program fees are also comparatively higher.

In 2012, the Marangoni Center was the first ever world-class international fashion training center set up in Shanghai, and at the same time, it was the first training center that the Marangoni Fashion School of Design has opened outside of Italy.

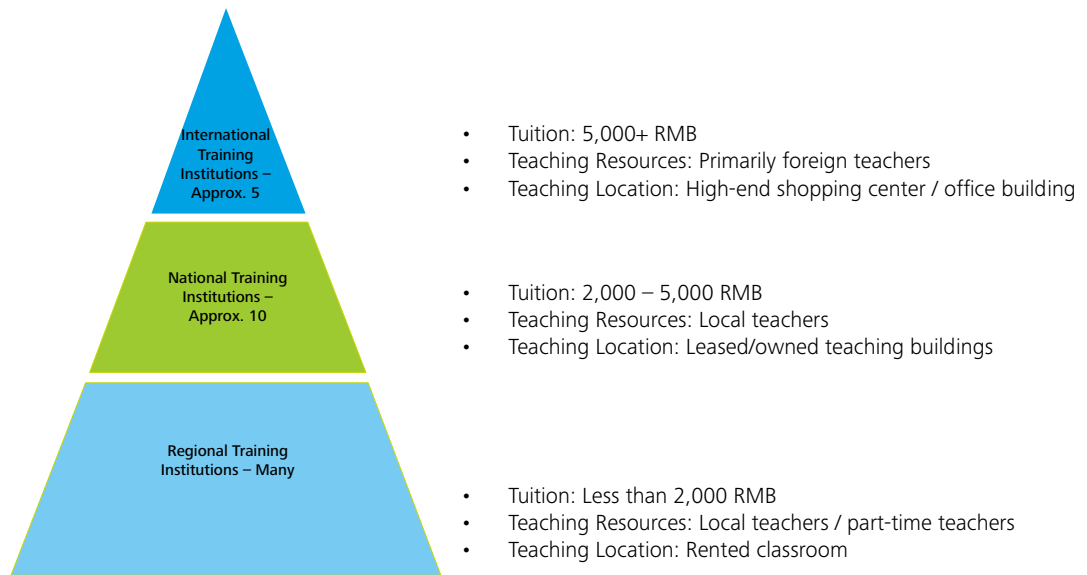
"In 2013, New York's famous Parsons School of Design signed a cooperative agreement with Shanghai Textile Holding Group to use its headquarters office building to offer fashion design training courses."

—— *Public News*

McGraw-Hill has a positive outlook on digital education and early childhood education content, and expectations are high for 2013."

—— *Vice-President of Asia Pacific, McGraw-Hill*

Figure 4: Business English Training Course Example:



Source: Summarized pricing from internet homepages, Deloitte Research

Foreign training institutions generally target Chinese professionals with higher incomes or foreigners that reside in China. To strengthen their high-end market positioning, they offer foreign teachers or industry experts as instructors. They also tend to select a location in a high-end shopping mall or office building in a central area. Because of this high-end brand positioning, when foreign training institutions offer common skills training, they also enter into EMBA, lifestyle training, physical performance training, and etiquette training along with other emerging high-end fields.

3. Differentiating the curriculum and target audience from the main campus

In order to prevent diverting business from the main campus, foreign training institutions tend to reposition their brand and select a new target audience according to the characteristics of the local market. This is not only a more effective use of the foreign educational institution's brand in the international marketplace, it also helps to obtain more market share.

"We opened our China branch with a different customer orientation than that of our foreign school. Although the high-end positioning and emphasis on quality remain the same as the overseas campus, the content and the customer to whom we offer it are different... In China we offer vocational training, targeted at working people. This guarantees that the source of students to the main campus will not be diverted."

—China office representative of an internationally renowned design school

4. Joint-venture partner for a win-win outcome

Foreign training institutions typically seek to partner with one of China's leading schools. By joining hands in strength, the Chinese side can obtain a portion of the profit, and the foreign training institution has more access to the Chinese partner's brand influence, administrative resources, and access to the student pool, all within China's unique environment.

5. More comprehensive value-added service

Distinctive from diploma-oriented education, foreign-invested training institutions are not only contributing professional teachers, facilities, and learning materials, they are also providing students with numerous other value-added services.

Leveraging the international influence of their brands, foreign training institutions often maintain relationships with leading international businesses. This type of relationship not only results in obtaining industry leaders' endorsement, but it can also provide graduates with assistance in finding employment. Training qualifications from Microsoft, IBM, and others can greatly increase a graduate's employment competitiveness. Similarly, the luxury goods management joint venture between Peking University and Italy's Polimoda Institute has provided students with hands-on internship experience in Italy's luxury goods business. This type of practical internship experience has become one of the most important competitive advantages for foreign training institutions.

At the same time, due to the fact that foreign training institutions primarily target high income groups and families, they are able to use their outstanding foreign resources in combination with their China programs. They can offer practical overseas experiences, overseas exchange programs, overseas continuing education and other seamless value-added services. This generates considerable appeal to target customers.

Foreign investment in formal education is limited by the Chinese government's strict approval requirements and special regulations. Investments in vocational training such as language, IT, and other emerging technical areas have fewer government restrictions. We predict these areas will become foreign investment magnets.

Table 4: Foreign Fashion Training Institutions and Chinese Education Partners

Foreign invested training institution	China partner
Singapore Raffles Education Group	<ul style="list-style-type: none"> • Donghua University • Tianjin University of Commerce • Boustead College • University of Beijing Institute of Clothing • Changzhou Textile Garment Institute • Zhejiang Textile and Fashion Institute of Technology • Wuhan Textile University • Yunnan Nationalities University
The Paris MOD'ART International Fashion Institute of Arts	<ul style="list-style-type: none"> • Shanghai University
International Fashion Academy Paris	<ul style="list-style-type: none"> • Shanghai Industrial Technology University
POLIMODA College of Fashion	<ul style="list-style-type: none"> • Peking University
Institut France De La Moda	<ul style="list-style-type: none"> • Tsinghua University

Source: Deloitte Research

Chapter 3. Technology Driving Educational Development in China

3.1 Current status of IT in the education industry

Information technology has been driving educational development ever since the video recorded lectures of the 1980s, the internet campus of the 1990s, the electronic classroom of the early 2000s, all the way to today's current trends of cloud computing and big data. Today, intelligent software is generating personalized educational environments and social-networks are further developing relationships in the classroom. Teaching methods, learning styles, and even the educational system will inevitably be affected by the change that is taking place, in spite of the fact that the impact may not appear to be as significant as in other industries.

According to the China Internet Network Information Center, China's internet penetration rate was 38.3% at the end of 2011. The campus internet environment is carefully watched by the relevant national ministries, and last year, the State Council, National Development and Reform Commission, Ministry of Industry, Ministry of Education, Ministry of Science and Technology, Chinese Academy of Sciences, Chinese Academy of Engineering, and the National Natural Science Foundation issued a *Next Generation Internet '10-25' Development Opinion*. According to the Opinion, about 70% of colleges and universities will support an Internet Protocol Version 6 (IPv6) network by 2015.

The State Education Commission published the *Education Information Technology 10-Year Development Plan (2011—2020)* which outlines a high-level vision for the future of information technology in education. It states that the development of education information technology should be led by innovative educational concepts. The foundation should be built upon an advanced and informative learning environment, and it should use innovative teaching methods and educational models as the core. In doing so, the Chinese education industry will converge with information technology on the road ahead.

- IT environment: the cloud and big data

With the popularization of the cloud environment, social networks and intelligent devices, it has become more practicable to gather, store and process data. There are

also greater capabilities for in-depth data interpretation and interaction.

Big data will drive educational development. Taking the most simplistic example, if a student is using an online platform to listen to a lecture and does not understand some particularly difficult content, he may repeatedly play it back in order to grasp it. Similarly, for more simplistic content, he may even skip it in order to shorten the study time. Big data technology can ensure this process is accurately recorded. The instructor may then review the process and obtain an understanding of students' habits, determine the difficulty level of the content, and optimize the teaching situation. When students engage through a social media website, big data can record all of the discussions and viewpoints on a discussion topic and make it easy for the discussion to be analyzed and concluded upon.

As large amounts of individual data are combined, they will naturally produce a pattern that reveals distinctive characteristics about the group. Using these groups as a medium of analysis will provide a basis for creating a targeted learning platform. Data tools can help schools with administration, managing absenteeism, monitoring changes in test scores and other parameters, as well as providing tutoring and assistance in a timely manner.

- Updating the teaching model: flipping the classroom

Information technology is driving a renewal of teaching philosophies and models. In the U.S. educational world, the "flipped classroom" model is emerging as a multi-media environment with video technology, intelligent software, and advanced facilities and devices. The flipped classroom originated at Woodland Park High School in Colorado, where the founder originally intended to use video software to record PowerPoint presentations and spoken lectures and then upload the videos online. This would allow students who were absent to make up missed lessons. It was never expected to be welcomed by students or to be popularized as a new teaching model.

The flipped classroom realigns the traditional time distribution between classroom instruction and after-class digestion. By encouraging students to study based on their own schedules, the classroom is used for asking

questions, providing answers, and interactive discussion. The flipped classroom model requires an abundance of "open-minded" educational resources. In this respect, the U.S. has already taken the lead. Currently, the focus for implementing the flipped classroom is in middle school, within literary courses, mathematics, and the science curricula. China's middle schools and elementary schools have also started attempting to implement the flipped classroom model, although it has spread rather slowly.

- Global university education: breaking down barriers

University education is undoubtedly the most important player in educational reform. The threshold is set very high for obtaining a degree from a prestigious university, and it is the graduate's stepping stone to successfully finding employment. With the expansion of college student admissions, university graduates' competition for finding jobs has become more intense than ever. Since the 2008 financial crisis, many foreign-graduated students have also returned to China, which has increased the level of intensity even further. Possessing a degree from an Ivy League school or an elite Chinese university gives candidates an edge in the resume screening process in which a multitude of professional certifications and competencies have become important assessment criteria.

The number of platforms available for delivering educational content is increasing. With effect from early 2013, 40 public universities in the United States have been planning to move all of their courses to the internet so that students can listen to class and even study for a degree with optional tuition. This plan is called the massive open online course degree program (MOOC2Degree). In May of 2012, Harvard and the Massachusetts Institute of Technology announced that they would invest US\$60M to open an online teaching platform. The lessons will be open source and free for use by other educational institutions. Previously, Stanford attracted more students than its entire alumni base through a similar platform. And the U.S. online learning platform Udemy is allowing teachers to collect pay-per-click fees for putting teaching materials online. These programs have broken down the concrete walls of the university, and now allow more students from around the globe to obtain more effective educational materials.

3.2 Challenges facing IT in the education industry

The State Board of Education has made it clear that IT is an important goal for the future development of China's education system. Manufacturers of information systems are taking the lead by investing in cloud computing infrastructure and are actively seeking opportunities for cooperation with schools. At the same time, domestic and foreign investment has started to flow into educational platforms, educational technology tools, and online educational communities.

China's education IT implementation trajectory will continually lag behind the U.S., Japan, and other developed countries, and educational content digitalization will also lag. Big data-driven, collaborative, and personalized learning model reform is a long-term proposition.

Each category of Chinese internet start-up has closely followed a U.S. model. There are successful imitation stories from web-portals to e-commerce. However, it is difficult to copy a mature online education model. First of all, the U.S. online education model is primarily part of the U.S. university system, and for structural reasons and due to the stage of development of China's IT systems, it is very difficult to introduce open teaching materials and personalized courseware from elite schools into China's universities. Secondly, student's study goals and habits are different. The U.S. education system cultivates a wide range of interests, a thirst for knowledge, and solution-driven students. In China's exam-oriented education, student's exam goals are strong, independent study ability is weak, and interest in studying is often guided by career goals rather than a spirit of inquiry.

- Exam-oriented education limits learning model innovation

Chinese students begin preparing for the college entrance examination in primary school. Throughout primary and secondary school, lectures are the primary form of instruction and they are centered on test preparation. Adopting online education as a supplement will take time to be accepted. Perhaps it may need to wait until the next generation, when the parents have had an internet environment since they were young and are willing to accept different learning models.

- A shortage of educational content

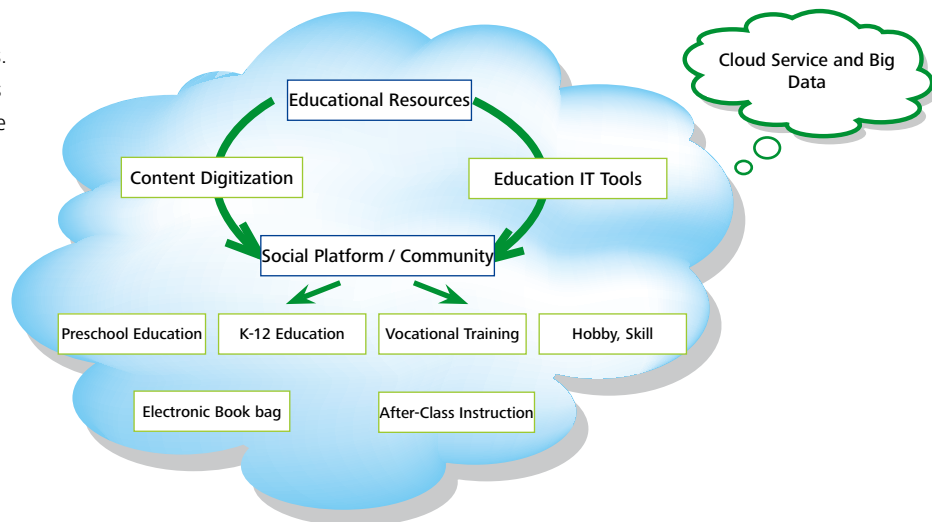
The greatest obstacle to China's education IT development is a shortage of high quality educational resources. The critical success factor for online education providers such as the Khan Academy and Lynda.com has been the ability to continually develop micro-videos that expand students' level of comprehension and generate independent thought. In China, the degree of openness to these teaching materials and the number of students learning through online education videos is low. Relatively few teachers within China's education system have access to use video production and platform technology tools. In spite of this educational content and resource market gap, capital investment remains low. The primary reason for this is that to make truly valuable courseware requires a large investment and a long period of time. (For example, in order for Tokyo Press to record the lifecycle of a butterfly, it required professionals to film for an entire year). Many education companies that are already listed in the market are still investing their capital offline, as they need to provide stable cash flows for their investors. Online investments are still in the planning phase.

Entrepreneurial education companies are more willing to try new platforms and online tools, but as with traditional industries, establishing the sales delivery channel is much simpler than building popular brands for the end market.

- Shortage of personnel with both information technology and education experience

Inter-disciplinary talent is the key to advancing education IT. The Ministry of Education began promoting an electronic book bag pilot a few years ago and even had the ability and willingness to allocate funds for the hardware. However, the expansion has occurred more slowly than planned primarily because there are few people who understand both education and technology. This limits the ability to launch electronic courseware that interests children and that can be easily absorbed. Because of the way China has historically trained its teachers, this kind of multi-disciplinary talent cannot be developed overnight. Entrepreneurial education IT companies should consider establishing the means to readily unite these two talents.

Figure 6: The Education IT Ecosystem



Source: Deloitte Research

3.3 Opportunity for IT development

The industry consensus is that when education and technology are combined, there is tremendous market potential. China's current model for education IT is having teachers upload class lecture videos to the school website. Online education colleges are being promoted, and by the end of 2009, China had established 69 institutions of higher learning with internet departments that are authorized to issue degrees recognized by the educational authorities. Primary and secondary school electronic book bag pilots use "educational cloud" technology, where students download course handouts, homework, and review materials from the school's server. This process also further promotes the teacher's interaction with the household. After-class instruction, skills training, vocational training, and hobby learning, along with other activities have strong market potential.

- Online education is a growing field, but the profit model remains unclear

Online education complements and enhances traditional education by breaking down time and space barriers and giving students more opportunity to study independently. At the same time, with the support of big data

technology, it helps students to custom-tailor their own study plan and learn interactively.

- o The relatively small scale of Chinese online education financing

According to eMarketer statistics, half of the population in the U.S. already uses online video. It is predicted that in 2015, internet users will comprise 76% of the total U.S. population. More than 30% of internet users in the U.S. have used online video for educational coursework. Meanwhile, the number of online video users in China has been growing rapidly. According to iResearch statistics, China's online video users amounted to 394 million in 2011, 450 million in 2012, and are expected to reach 483 million in 2013. This data implies that 90% of all internet users will become accustomed to online video by 2013. The volume of online video users in China clearly exceeds those in the U.S. However, most people are watching movies and television,

and online education statistical data are not yet available.

CB Insights, a U.S. market research firm that concentrates on venture capital investment, reports that in the second quarter of 2011 through the second quarter of 2012, 235 online education companies in the U.S. absorbed USD1.37 billion of venture capital investment. Around the year 2000, China's online education market began to form, but the progress has been slower than anticipated. From 2008 to 2010, few online education companies received investment. Since the beginning of 2011, with the explosion of the U.S. education market, China's online education market has also begun to grow. According the Deloitte's research, over 10 Chinese online education companies received investment since 2011. These were primarily through angel investments. During this period, investments in US companies easily exceeded USD1 billion.

Table 5: Venture Capital Investments in China Online Education Companies

Company	Model	Investor	Date	Investment Type
Dijiuke	P2P-based skills sharing site	Zhen Fund	2011	Angel Round
Duobei	Interactive network classroom services	Innovation Works	2011-08	Angel Round
WangTouWang	Web-based education service website, third-party service provider for course enrollment, exchange, institutional promotion	Zhen Fund	2011-10	Angel Round
Chuanke	Online education services platform	DoNews	2011-12	Angel Round
Tsingyuan Education	Online education training website for computer-related fields	Netherlands Angel Fund	2012-01	Angel Round
17 Zuoye	Primary and secondary school English education	Zhen Fund	2012-01	Angel Round
Talkways	Spoken foreign language and online teaching website	NA	2012-03	Angel Round
toWords	Online word memorization product	Zhen Fund	2012-06	Angel Round
Fenbi	The idea of "learning, starts from one teacher" emphasizes the content publisher (famous teachers) to attract users	IDG	2012-08	First round
Chuanke Wang	Online education services platform	Bertelsmann	2012-11	First round
Liweihui	SEO training and services	Do News	2012-11	First round
XTuone	Mobile applications for university courses	NA	2012-11	Angel Round

Source: Deloitte Research

Table 6: Investment in U.S. Online Education Companies from 2011 to Today

Company	Model	Investor	Date
Udemy	An open online teaching platform, where anyone can open their own course	Lightbank (Groupon)	2011-10
Coursera	Free online university courses	Princeton, Stanford, Michigan, etc.	2012-04
2tor	Provides tools, technology, and financing, to help universities implement and manage online education projects	USC Rossier College of Education	2012-04
Minerva Project	Build a virtual Harvard university	Benchmark Capital	2012-04
Echo360	Provides online multimedia products to students	Revolution Growth Fund	2012-05
Udacity	Provides high quality university courses to as many students as possible	Andreessen Horowitz	2012-10
UniversityNow	Targets adults who are working and want to obtain a bachelor's or master's degree	University Ventures, Bertelsmann	2012-12
Codecademy	Online education suitable for anyone from students to professionals and has already entered the middle school classroom	Index Ventures & Kleiner Perkins	2012-12
Grockit	Social learning communities	Discovery Communications, etc. Bertelsmann Indian private equity fund – Kaizen	2012-12
WizIQ	Creates a virtual classroom	German media company – Bertelsmann	2013-01
Lynda.com	Charges subscription fees for online training content	Meritech Capital Partners	2013-01

Source: Deloitte Research

o China's online education opportunity: providing access to higher education and finding a job

The business model for the online education market in the United States is relatively clear. An education resource provider (who provides the content and tools) generally cooperates with an educational institution that collects fees. They then rely on the aggregation of employers, educational institutions (or individuals), and users to explore all types of revenue generation models. For example, a click within the courseware may be used to generate revenue. Udacity, founded by Stanford University, has considered charging employers a fee to deliver contact information for the top 1% of their students.

China's relatively mature online education providers are still focused on vocational and technological training. However in the newer

model (similar to Taobao), teachers pay a platform for the rights to display their products and then charge users for the content. In this model, the three most important next steps are as follows: increase popularity, bring together enough buyers and sellers to make a deal, and generate an interactive user experience.

In the future, the clear key for this industry is to satisfy China's user base, which seeks access to a higher level of education and employment. There is already an industry consensus on how to do this—generate outstanding product placement and a product that is difficult to substitute. For example, a one-on-one oral English training platform recently received venture capital investment.

But whether online education enterprises can enter the primary and secondary school education market remains unclear. This group of students' time has already been occupied by long hours in the classroom and after-class tutoring, which lacks the power of autonomy provided by online

learning. At the same time, the parents of these students tend to prefer one-on-one tutoring. Furthermore, on the weekends many children already go to a tutoring institution. At the end of last year, Grockit, a U.S. social learning platform company was awarded an investment for primary and secondary school examination coaching education. Perhaps this model can serve as a model for Chinese education start-up companies.

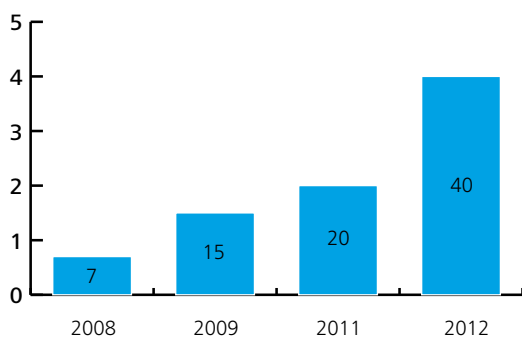
Many organizations have started to notice a growing number of high-school students taking the SAT exam in order to apply for admission to U.S. universities. There is currently no established market leader for this in the China market. According to the *China Education Online Study Abroad Trend Survey Report*, from October 2007 to June 2008, 7,000 domestic students sat for the SAT in Hong Kong. By 2012 this number had increased to at least 40,000.

- o Moving in the direction of community-based social networking

Online education in China is transitioning from version 1.0 (one-way playback video) to version 2.0 a personalized and collaborative learning environment. Currently, most video production still appears in the traditional format and has not been adapted to a personalized environment. Video instruction interactivity is also very limited, and it is difficult to attract a strong user following. A survey from leading U.S. educational publisher McGraw—Hill shows that students interacting and sharing with other students and teachers represents the core value of technology's impact on education. Only through this type of interaction will education quality progress. Integration of social media elements will be the most effective way to achieve this goal.

- The rise of education application software with a focus on children's software

Graph 7: Number of SAT Examinees in Hong Kong (thousands)



Data Source: 2012 *China Education Online Study Abroad Trend Survey Report*

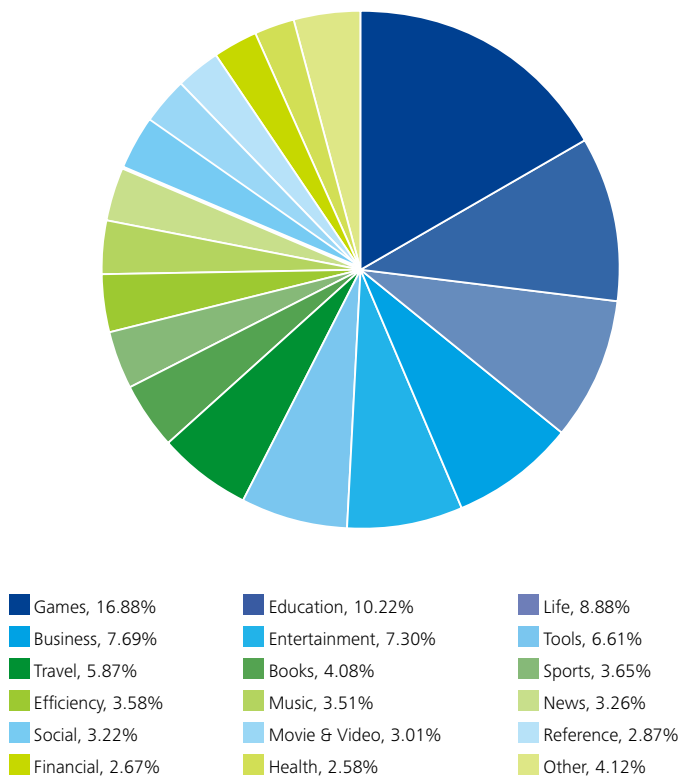
The development of children's application software "app" is the most important manifestation of education IT in the pre-school market. According to the August 2012 *AppStore Data Monitoring Report* issued by Software Game Hunter (Ruanjian Youxi Lieshou), newly released education apps have already become the fastest growing download category second only to gaming. Although China's users are generally not willing to pay, looking at the iPhone and iPad both paid and free categories Top100 (400 apps in total), there appears to be a higher willingness to pay for tools, education, navigation, and efficiency improvement apps. Comparatively, these comprise a higher percentage of the paid Top100 than the free Top100.

Of all the education apps in the market, children's apps have received the most attention. According to a survey conducted by China Children's Industry Research Center, educational apps for toddlers through 12 year olds comprise 55% of the total market. Within education broadly, early education, literacy, and foreign language are the top three categories, with an average selling price of RMB9.14. 90% of children's apps are priced between RMB6 to RMB12.

A large number of small to medium sized entities are producing children's education applications. In an Industry Research Center survey, 37 different companies produced the 111 popular apps in the sample. The most popular app themes are early education, literacy, and foreign language.

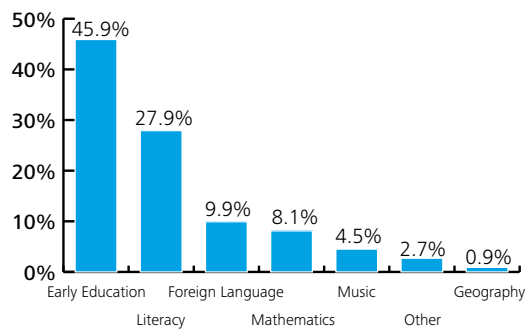
Parents are generally willing to pay for children's educational apps. While the revenue is stable, actual profit for developers is rare. Many online education companies promote children's educational apps for the purpose of brand marketing, rather than putting real investment and development into the service line. The market needs a period of time to be cultivated and the content developers still need to improve the user experience, possibly by extending the product from online to offline, cross-marketing the app with cartoon characters, television and movie sales, theme restaurants, and other businesses.

Graph 8: August 2012 AppStore Newly-Added Apps by Category



Source: Software Game Hunter AppStore Data Monitoring Report August 2012

Graph 9: August 2012 Newly-Added Children's Education Apps by Category in China



Source: China Children's Industry Research Center Report (Children's Education Apps)

Table 7: Reviews for Children's Education Apps in China's AppStore

Subject	Quantity	Lowest Number of Reviews	Highest Number of Reviews	Average Number of Reviews
Early Education	51	0	513	48
Literacy	31	0	358	74
Foreign Language	11	2	100	40
Mathematics	9	0	156	22
Music	5	29	96	71
Other	3	0	167	63
Geography	1	85	85	85

Source: *China Children's Industry Research Center Report (Children's Education Apps)*

- Electronic book bags are still being debated

The electronic book bag pilot for primary and secondary school students started in China 10 years ago and initially made little progress. Along with the wireless 3G and even 4G technology development, the spread of campus internet, and many kinds of tablet computers and mobile devices, the cost of electronic book bags has steadily decreased. Since 2010, deployment has grown significantly. According to incomplete statistics, over half of the provinces and cities in China have at least one electronic book bag pilot program.

The electronic book bag is the most important test of education information technology for the country's educational authorities. In 2010, Shanghai's board of education verbally replied to its CPPCC members saying that within five years they will promote an electronic book bag. If the roll-out of electronic book bags is planned out on a schedule for each city in a similar fashion, this would undoubtedly create enormous potential for the industry. However, more technologically developed countries have already tried electronic book bags, including Singapore, France, Japan, and even the U.S., and the products have still not been fully commercialized.

- o The electronic book bag market lacks standardization

The electronic book bag industrial chain mainly consists of educational resources and service providers (textbook content and multimedia content management/evaluation software), hand-held devices and network operators. Currently, China's electronic book bag pilot schools are using different devices, from the high-end Apple iPad, to the common netbook, and even some domestic tablets that cost less than RMB1,000. The average price is currently less than RMB2,000. Currently, there are about 10 competitive electronic book bag companies. The future of this market partly depends on being able to roll out devices that will not harm teenagers' eyesight.

- o E-book package has significant follow-up costs

Although the cost of an electronic book bag has declined, a large scale roll-out will result in increased maintenance and exchange costs. Furthermore, educational resource marketization and copyrights also need to be considered, and these costs currently have no concrete measures. Today, pilot schools' electronic book bag costs are paid by various sources. In some cases the device remains at school and cannot be taken home, so if students want to discuss the same model used in the classroom with their parents, they

must purchase a device themselves. For students in lower-income and third-tier cities, this remains out of reach.

o Educational resources have not realized the benefits of the internet

As is the problem with all education IT, educational resources and services are currently the most significant limiting factor when it comes to electronic book bags. An electronic book bag is not simply a computer instead of a book, or electronic materials instead of paper. Rather, it is a new educational concept. In interviews with Deloitte, many experienced professionals emphasized that the launch of electronic book bags requires specialists with many years of experience in both primary and secondary school education and an understanding of child psychology. The historical development of the Chinese education industry indicates that China's educational publishing houses have the strongest foundation to expand digital publications from both a content and sales channel perspective. Generating digital and interactive educational content for the internet, being able to develop educational platform tools, and acquiring talent to manage the software and IT, are all necessary steps to move forward.

Currently there is a misallocation of resources, and the national education appropriations are biased towards the current system. The current system attracts talent and resources with relatively weak capacity in the IT area. Private capital is

ambitious and ready to move forward, but it is hard to get the education industry to make a big investment with such a long payback period.

From one's perspective, the state should issue an industrial standard for electronic book bags. This would encourage standardized competition and at the same time encourage contribution from more internet education companies and educational content developers. Ultimately, the final goal of pursuing electronic book bags is to change educational concepts, improve the education level of all people, and foster international competitive strength and talent within society. The essence of education is ultimately greater than the format or medium through which the content is delivered.

In summary, the development of education IT in China is still in its infancy, as the spread of cloud computing and big data technology in China has just begun. The development of the network environment is proceeding faster than the process of marketization of the IT industry. Online education is the fastest growing area for education IT in China, and it has received the most attention from private capital investors. Due to the pressure of China's traditional exam-oriented education and pressure in the job search environment, programs that help students to advance their level of education and find employment will be the most successful. With regard to primary and secondary education, the national educational authorities have promoted the use of electronic book bags, and these investment opportunities are said to look promising in the future.

As it relates to education, the most important issue today is the integration of education, IT and the appropriate sales channels in order to promote a highly interactive and personalized online education service.

Chapter 4. Reflection on the Education Industry in China

Education companies in the Chinese market are facing new problems and challenges. In this chapter, we have posed three questions related to Sino-foreign run schools and technology's impact on educational development. These questions are meant to encourage discussion and reflection.

- Does the Sino-foreign model for higher education have favorable long-term prospects in China?

Following in the path of Xi'an Jiaotong-Liverpool University and the University of Nottingham Ningbo, New York University Shanghai was formally established in 2012. In the autumn of 2013, New York University Shanghai plans to admit its first class of 151 domestic and 149 foreign students. At the same time, Wenzhou Kean University, Kunshan Duke University and other Sino-foreign-run schools are being established. With the decline in students taking the college entrance exam for traditional domestic institutions, does this type of Sino-foreign-run university have favorable long-term prospects in China?

The case for long-term success

This type of Sino-foreign run model for higher education is nothing more than an extension of the globalization of education. As the number of Chinese students choosing to study abroad continues to increase, this type of world-class university and domestic university cooperative model has huge growth potential in China.

China is proving to be one of the world's most important economic growth markets, and against the backdrop of globalization, Chinese students are demanding an enhanced international perspective, while foreign students are all the more eager to understand China. This has presented a challenge to China's higher education system, as China needs higher education that is well-suited for its economic status. The establishment of Sino-foreign cooperative schools will open this door, and at the same time, it will boost the teaching level and enhance teaching administration in China's own domestic institutions of higher learning. This type of benign competition will help China to advance its overall level of higher education.

Students attending the New York University Shanghai campus will have the opportunity to study alongside top professors and students from inside and outside of China. Upon graduating from the undergraduate program, students will obtain a joint degree from New York University Shanghai and New York University in the United States. Combining outstanding faculty with a renowned brand will not only satisfy China's growing demand for studying abroad, it will also give more Chinese students the opportunity to more conveniently and economically attend a world-renowned institution of higher learning.

There is no denying that Chinese and overseas institutions have different methods of running schools, but this difference will gradually lessen over time. As long as both sides have a common educational goal, they can find a common solution to any problem. As it relates to outstanding teachers increasing the cost of operations, these costs will be recovered by an increasing number of students. For most students, the cost of studying at a high-quality, Sino-foreign-run school will be less than actually going to the foreign school and studying abroad. So this type of Sino-foreign model certainly has potential for long-term success.

The case against long-term success

The status of the Sino-foreign university model is currently uncertain and long-term success has yet to be determined. The key to determining long-term success is as follows: first, can it recruit outstanding students; and second, will the graduates' abilities be recognized by employers?

In the student recruitment process, this type of university has no way of recruiting the best and the brightest. Students with good grades may tend to directly enroll at foreign may encounter challenges in world-class universities or domestic first-tier universities. Students selecting this type of cooperative university are taking on risk even greater than attending a domestic second-tier school. If the schools are unable to compete for outstanding students, then their chance of becoming a world-class university will decrease.

Furthermore, to what extent will this type of cooperatively-run school be different from any other outstanding university, what special value will it provide, and will the students be able to entirely adapt to the English classroom? All of this uncertainty will lead to questions in the job search process. There is no way that employers will consider New York University Shanghai graduates identical to those from the New York campus. So this type of Sino-foreign-run model could be short-lived, just like the prospects for some of the privately run schools that exist today.

- Alongside diplomas and certifications, will Massive Open Online Course ("MOOC") degrees become the new favorite?

A MOOC degree is a qualification obtained after completing a set of online courses. In recent years, more and more U.S. universities have started to open their own public curricula. One example of a company using such an online curriculum platform is Coursera, which covers more than 36 universities and 200 courses from such schools as Princeton, Stanford, and Columbia. People have embraced these free and open video courses from top schools, and within nine months there are already two million registered students. Upon completing the courses, students may obtain a MOOC degree certification by paying only a nominal fee. With this upsurge in online educational development, will MOOC degrees become the new favorite alongside academic diplomas and certifications?

MOOC degrees will become the new favorite

With the development of online educational resources and the availability of new technology, the MOOC degree is one type of rising certification model. Students can combine any courses they choose into a personalized major program of study. The emergence of MOOC degrees is causing education to become further fragmented into a widening group of people who choose to study anytime and anywhere, transcending campus walls, nationalities, and ages. In the future, the number of students choosing an independent curriculum may increase, and those choosing to study a pre-defined major may decline.

As it relates to the problem of online education quality, technological development may help to improve teaching effectiveness. For example, the Microsoft Research Institute has developed a facial recognition technology and a line of site tracking technique that allows the computer to follow the student's expressions and line of site. If the student is checking and re-checking the content, it indicates that he may not understand IT. The teacher can then explain to the student in real-time. This technology will increase the interactivity of web-based instruction. Through technology, the study process and the overall results can be effectively monitored, and in this way, the quality of the MOOC degree can be better assured.

The generation that grew up in the internet era will be even more accustomed to studying online. This background will help to overturn the status of traditional degrees, because online education provides for greater learning freedom to enjoy the courses you choose. The most meaningful application of MOOC degrees is that in the future, study will be a lifelong process, and this type of simple, convenient, and fragmented study method will be more easily accepted and supported.

Besides this, MOOC degrees also provide prestigious open source universities with economic benefit. Although many universities have opened up free content, obtaining certification often requires payment. Suppose that one course's MOOC certification is one hundred U.S. dollars, and 100,000 people across the world take the course and obtain certification each year. A school only needs to open 10 courses and the entire year's income will be in excess of 100 million U.S. dollars. Moreover, this type of comprehensive online education platform can provide exceptional students' information to well-known businesses, thereby developing into a natural recruiting platform. MOOC degrees have strong potential.

MOOC degrees will not become the new favorite

Even if the future of MOOC degrees is brilliant, practically speaking, there are currently many defects. Firstly, MOOC degrees lack the capability to comprehensively develop students in the same way as a traditional university. Traditional universities use rigorous examinations to select students and provide a complete curriculum and training. This type of strength is something that online education platforms are lacking.

The online education platform cannot merely rely on the outstanding grades from a few courses and judge from a thousand miles away whether the student's character and ability are equally outstanding. This type of curriculum certification can only show that the student's interest is far-ranging and that the short-term study results are acceptable.

The second problem is how employers will judge the merits of the degrees awarded by the many online platforms. Judging among the many different schools and platforms that award MOOC degrees will become a very difficult task. If the employer cannot acknowledge a MOOC degree, then the actual value will be significantly impaired.

The third problem is that the process will be much slower in China. While China's urbanization is accelerating, 49% of the population remains rural. In the economically underdeveloped regions, there is still a long way to go to ensure that all students can use the internet to study. If MOOC degrees want to be a substitute for traditional degrees or qualifications, they at least need a certain period of time to take shape and perfect the degree management system. And society needs an even longer period of time to accept this type of degree. In short, online education courses that are administered by traditional universities are a more practical and meaningful education model. The value of a MOOC degree from one of the assorted online MOOC degree platforms will likely turn out to be much lower than expectations.

- Is core value of educational applications in the sales channel or the content?

With the development of mobile internet, educational software applications (herein referred to as educational apps) have surged. According to the China App Store's May 2012 sales data, the most popular downloads were games with 16.9% market share, closely followed by educational apps with 10.2%. Among those, early educational apps suitable for toddlers to 12-year-olds comprised 55.5%. Educational apps are popular, but they face common development problems. User willingness to pay is low, and profitability challenging. Where is the core value of educational apps after all? Is it in sales channels or the content?

An app's greatest value is in the sales channel

Educational apps appear very fashionable, but in reality domestic users' true willingness to pay does not exceed 2%. A perplexing problem that many developers face is that creating content for the App Store is simply not profitable. But the App Store serves as a platform to quickly build brands, allowing for a wider range of customers to receive products. So its value as a sales channel is clearly higher. For example, "Chicken Run" published by Tinman, through traditional channels, sold only 30,000 sets within three years. Since using the App Store platform, the number of downloads has multiplied. This is the value of mobile internet technology. In the past, book publishing was highly restricted with barriers to entry. The App Store is an efficient sales channel, especially for the education industry. After entering a broader market, customers are attracted by the product's quality and brand reputation.

In the current environment, educational app sales channel value is greater than the content value, even though the content value cannot be ignored. In the App Store, the piracy and imitation problem is severe. Therefore, without any offline content or development, it can be difficult to survive.

Currently a large number of educational apps are targeting a limited number of fields, for example early childhood through primary school education (for toddlers through 12-year-olds). The users are limited to the use of simple and repetitive motions for interactivity. The tablet device is comfortable for the user to receive information, but inputting information can be difficult. This results in limitations to the level of interactivity. So in the current environment, the content is limited and therefore the value of the sales channel is greater.

The app's value is in the content

There are no app companies that are looking only at their sales channel value. An educational app's core value is without a doubt in its content, and only outstanding content can obtain significant market share. Currently, there are approximately 130 Chinese companies engaged in app development and most have a conventional internet or mobile internet-based background, whereby they simply take conventional content and migrate it to the mobile platform. Because of the relatively low barriers to entry, competition is intense, and one hot application can bring many followers with homogenous products of the same quality. So the educational app developers are currently concentrating on a portfolio of educational products, which will make the products more difficult to imitate. They are also packaging offline products with the app sales. This indicates that application content is the most important factor.

At the same time, precisely because a large number of enterprises look too heavily at sales channel value, they attract users with free apps in order to capture market share. This results in an over-supply of free products in the market and creates an obstacle for the further profitability of educational apps. Furthermore, the bottleneck for the educational apps development is primarily the device capability, whereby a simple device cannot be adapted to more complex applications. However, we can see that in the coming three to five years, the tablet device may enter the classroom, and the educational app may also enter the mainstream education system. For example, some elementary schools are promoting electronic book bags. In the future, with the increase of users' willingness to pay, and increasing capability of the terminal device, the online educational app market will further expand.

Conclusion:

As it relates to these three discussion topics, Deloitte thinks that we should not overlook any party's opinion. From Deloitte's perspective, as it relates to the long-term prospects of the Sino-foreign higher level education model, this type of model is currently in the exploratory phase. In this phase, many challenges are inevitable, but at the same time it will give China's higher education system a fresh paradigm and provide a source of outstanding teachers to supplement shortages. We are pleased to see an increase in higher education resources come to China.

With regard to the MOOC degrees, we believe these will have special significance. They will not only help students, but also professionals, retirees, and others to study courses of interest. We advocate life-long learning, and MOOC degrees fulfill this market need. MOOC degrees are unlikely to replace traditional degrees or major certifications, but they will become a beneficial supplement. In the future, if they exist within a university's own online platform, students will be able to study additional coursework, and employers will be able to judge the MOOC degree based on the reliability and credibility of the school. Of course in China, development of the MOOC degree has a long way to go.

The last point relates to the discussion about the core value of educational applications. From the content perspective, it should undoubtedly be unique and outstanding, but on the other hand, we cannot ignore the value of the sales channel. People are relying more on mobile devices and increasingly using educational software. The market development space is already self-evident. But from the perspective of the businesses, there is value in the sales channel. Currently, in order to promote their own products, many application development companies spend millions of Chinese *renminbi* every month to move up chart rankings. This type of sales promotion will very likely move a product up the charts, but if there is no quality content to support it, it is very easy to love the new and loathe the old, and people easily forget. Application developers should focus on developing and improving the content.



Team Introduction

Charlotte Lu

Deloitte China Education Industry
Leading Partner
Tel: +86 21 6141 1801
Email: chalu@deloitte.com.cn

Audit

Eastern China

Charlotte Lu

Leading Partner
Tel: +86 21 6141 1801
Email: chalu@deloitte.com.cn

Enterprise Risk Services

Eastern China

Yvonne Wu

Partner
Tel: +86 21 6141 1570
Email: yvwu@deloitte.com.cn

Financial Advisory Services

Eastern China

Gavin Pathross

Partner
Tel: +86 21 6141 1798
Email: gpathross@deloitte.com.cn

Tax

Eastern China

Jeff Xu

Partner
Tel: +86 21 6141 1278
Email: jexu@deloitte.com.cn

Business Development Support

Jensen Zhao

Director
Tel: +86 10 8520 7412
Email: jindzhao@deloitte.com.cn

Industry Support

Xian Wu

Manager
Tel: +86 10 8512 5916
Email: xianbjwu@deloitte.com.cn

William Chou

Deloitte China Education Industry
Advisory Partner
Tel: +86 10 8520 7102
Email: wilchou@deloitte.com.cn

Northern China

Frank Li

Partner
Tel: +86 10 8520 7290
Email: frli@deloitte.com.cn

Northern China

Tonny Xue

Partner
Tel: +86 10 8520 7315
Email: tonxue@deloitte.com.cn

Northern China

Gary Wu

Partner
Tel: +86 10 8520 7762
Email: gawu@deloitte.com.cn

Northern China

Wei Chen

Partner
Tel: +86 10 8520 7528
Email: weichen@deloitte.com.cn

Lianyong Song

Senior Manager
Tel: +86 10 8520 7230
Email: ysong@deloitte.com.cn

Iris Li

Assistant Manager
Tel: +86 10 8520 7038
Email: irili@deloitte.com.cn

Southern China

Nestor Wang

Partner
Tel: +86 755 3353 8218
Email: newang@deloitte.com.cn

Southern China

Terence Tang

Partner
Tel: +86 755 3353 8639
Email: tertang@deloitte.com.cn

Southern China

Shanice Siu

Partner
Tel: +86 755 3353 8389
Email: shsiu@deloitte.com.cn

Deloitte Greater China Contacts

Beijing

Deloitte Touche Tohmatsu Certified Public Accountants LLP

Beijing Branch

8/F Deloitte Tower
The Towers, Oriental Plaza
1 East Chang An Avenue
Beijing 100738, PRC
Tel: + 86 (10) 8520 7788
Fax: + 86 (10) 8518 1218

Chengdu

Deloitte & Touche Financial Advisory Services Limited

Unit 3406, 34/F
Yanlord Landmark Office Tower
No. 1 Section 2, Renmin South Road
Chengdu 610016, PRC
Tel: + 86 (28) 6210 2383
Fax: + 86 (28) 6210 2385

Chongqing

Deloitte & Touche Financial Advisory Services (China) Limited

Room 8, 33/F
International Financial Center
28 Ming Quan Road
YuZhong District
Chongqing 400010, PRC
Tel: + 86 (23) 6310 6206
Fax: + 86 (23) 6310 6170

Dalian

Deloitte Touche Tohmatsu Certified Public Accountants LLP

Dalian Branch

Room 1503 Senmao Building
147 Zhongshan Road
Dalian 116011, PRC
Tel: + 86 (411) 8371 2888
Fax: + 86 (411) 8360 3297

Guangzhou

Deloitte Touche Tohmatsu Certified Public Accountants LLP

Guangzhou Branch

26/F Teemtower
208 Tianhe Road
Guangzhou 510620, PRC
Tel: + 86 (20) 8396 9228
Fax: + 86 (20) 3888 0119 / 0121

Hangzhou

Deloitte Business Advisory Services (Hangzhou) Company Limited

Room 605, Partition A
EAC Corporate Office
18 Jiaogong Road
Hangzhou 310013, PRC
Tel: + 86 (571) 2811 1900
Fax: + 86 (571) 2811 1904

Harbin

Deloitte Consulting (Shanghai) Company Limited

Harbin Branch

Room 1618
Development Zone Mansion
368 Changjiang Road
Nangang District
Harbin 150090, PRC
Tel: + 86 (451) 8586 0060
Fax: + 86 (451) 8586 0056

Hong Kong

Deloitte Touche Tohmatsu

35/F One Pacific Place
88 Queensway
Hong Kong
Tel: + 86 (852) 2852 1600
Fax: + 86 (852) 2541 1911

Jinan

Deloitte & Touche Financial Advisory Services Limited

Jinan Liaison Office

Unit 1018, 10/F, Tower A, Citic Plaza
150 Luo Yuan Street
Jinan 250011, PRC
Tel: + 86 (531) 8518 1058
Fax: + 86 (531) 8518 1068

Macau

Deloitte Touche Tohmatsu

19/F The Macau Square Apartment H-N
43-53A Av. do Infante D. Henrique
Macau
Tel: + (853) 2871 2998
Fax: + (853) 2871 3033

Nanjing

Deloitte Touche Tohmatsu Certified Public Accountants LLP

Nanjing Branch

11/F Golden Eagle Plaza
89 Hanzhong Road
Nanjing 210029, PRC
Tel: + 86 (25) 5790 8880
Fax: + 86 (25) 8691 8776

Shanghai

Deloitte Touche Tohmatsu Certified Public Accountants LLP

30/F Bund Center
222 Yan An Road East
Shanghai 200002, PRC
Tel: + 86 (21) 6141 8888
Fax: + 86 (21) 6335 0003

Shenzhen

Deloitte Touche Tohmatsu Certified Public Accountants LLP

Shenzhen Branch

13/F China Resources Building
5001 Shennan Road East
Shenzhen 518010, PRC
Tel: + 86 (755) 8246 3255
Fax: + 86 (755) 8246 3186

Suzhou

Deloitte Business Advisory Services (Shanghai) Limited

Suzhou Branch

23/F, Building 1
Global Wealth Square
88 Su Hui Road, Industrial Park
Suzhou 215021, PRC
Tel: + 86 (512) 6289 1238
Fax: + 86 (512) 6762 3338 / 3318

Tianjin

Deloitte Touche Tohmatsu Certified Public Accountants LLP

Tianjin Branch

30/F The Exchange North Tower
189 Nanjing Road
Heping District
Tianjin 300051, PRC
Tel: + 86 (22) 2320 6688
Fax: + 86 (22) 2320 6699

Wuhan

Deloitte & Touche Financial Advisory Services Limited

Wuhan Liaison Office

Unit 2, 38/F New World International Trade Tower
568 Jianshe Avenue
Wuhan 430022, PRC
Tel: + 86 (27) 8526 6618
Fax: + 86 (27) 8526 7032

Xiamen

Deloitte & Touche Financial Advisory Services Limited

Xiamen Liaison Office

Unit E, 26/F International Plaza
8 Lujiang Road, Siming District
Xiamen 361001, PRC
Tel: + 86 (592) 2107 298
Fax: + 86 (592) 2107 259

Researcher and Author

Lydia Chen

Deloitte China Research & Insight Center

+86 21 6141 2778

Iris Li

Deloitte China Research & Insight Center

+86 10 8520 7038

Diana Zou

Deloitte Commercial Strategy and Research

+86 21 6141 7382

Alex Wang

Deloitte Commercial Strategy and Research

+86 21 2312 7380

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