Online Education in China

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- Bill Gates, at the Techonomy conference, 2010
Abstract

Accompany with the development of information technology, online education has penetrated into our lives and influenced billions of people. And this form of education is challenging the traditional one with its overwhelming advantages. This thesis introduces the current situation of online education in China, and explores the young generation’s perspective of Chinese online education, how they would think about it, and which one would be the teaching way for next generation between two types of teaching. The way they think and choices they make would be the main research questions of this thesis.

In order to answer the research questions above, I used the questionnaire as the main research method. The thesis consisted of three parts of data, current situation of 21 universities out of 69 pilot universities in China, questionnaire from 96 interviewees from a multiversity and a focus group interview based on four interviewees.

From the study I can get several conclusions; First, I found that all of the interviewees no matter taken online education or not before were attracted by the advantages of online education, no barriers of time and space, and had the willingness to try it in future. Second, from the interviewees who had taken it before, I calculated the CSI (customer satisfaction index), which was 81.23, shows the high satisfaction about online education and got the voting pattern of several main issues based on online education. Then used the theory of value chain to analyze the industry and propose the suggestion based on the American online education in the end.
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Online Education in China

1. Introduction

This chapter introduces the revolutionary education - online education, which starts from America and then influences all countries in the world with its overwhelming advantages, including China. “5 years from now, on the web for free you’ll be able to find the best lectures in the world, and it will be better than any single university” Bill Gates said at the Techonomy conference, 2010, indicates the flourishing future of it. The chapter also proposes the research questions of this thesis how Chinese young generations think and choose between this new teaching method -“online education” and the traditional one. Then the chapter provides the methodology, the purpose and structure of this thesis, as well as a brief background of online education.

1.1 Problem area

After a few decades of development, online education has influenced countless people in the world. This effect has spread into China, and benefited millions of people who work in different aspects of the society. Because of the rapid developed information technology and the emergence of the Internet, everything has changed, it has penetrated into every aspect of our daily lives, working, gaming, and living as well as education. Young generation has more familiar with this new technology, and has the willingness to taste and learn from this combination of IT and education. Therefore, it offers an opportunity for online education to develop in this big market.

However, new educational way conflicts with the traditional one, things change to be more complicated and challenging. With thousands years of traditional education influences, this format already became a classic teaching method and can't be replaced by any others easily. The traditional way of teaching dominates the main education market, and has rooted deeply in some people’s mind. And there is a large proportion of people still don’t sensitive about information technology, especially on education.

How would they think about it? How would they choose? These questions as well as the current situation of online education in china, and the choice between it and traditional way of teaching are the main issues that will be studied in this thesis.
1.2 Purpose and thesis structure

The thesis first presents the theoretical research, uses the value chain as well as SWOT analysis to give the information of this industry, and then presents the method, conclusion and end with the suggestion.

Chapter three demonstrates the current situation of online education in China, which could be classified into three different categories based on the target customer, including academic education, non-academic education and E-learning. Then introduces the situation of academic education based on 69 universities approved by the ministry of education, and covers the issues of studying system, majors as well as other categories.

In the forth chapter of this thesis, use the method of questionnaire to analyze the current students’ perspective of online education to explore how they think about it and the how strong the willingness they would like to accept it. Then study and discuss the existing problems.

1.3 Method

To analyze the opinion of online education, I chose the method of interview. This process consists two parts. The first one was the questionnaire that answered by 96 interviewees, including college students in different majors, and professors. I sent the questionnaire to a professor who works in the testing university, and she gave the printed questionnaires to all students in her class and some colleagues. All of the interviewees were anonymous, they could answer the questions and express their thoughts truly. Due to the problem of collecting data, all of the questions were multiple choices without open questions.

And the second one was a focus group interviewed 4 person who taught English in English teaching institutes.

1.4 Definitions

Online education
Online education, also called modern distance education, is a new teaching method accompanied with the development of modern information technology. Teachers and students use multimedia technology, network technology, database technology within the network environment to complete the course. Utilize the form of face to face or non-face to complete the goal of education. It has different targets in the market, and offer different services accordingly. For academic education, students could graduate and get recognized by ministry of education after pass all of the courses and gain corresponding credits.

1.5 Background

Nowadays, the well and rapid developed technology influences almost all segments of this society that also includes teaching method. Students are not
only familiar with handling digital technology, they are more likely to excel during this digital revolution. Therefore, utilizing digital technology can allow for a deeper and more effective learning experience by providing powerful tools. Online education, which was first founded in America, with the inherent advantages, it became an outstanding and the most representative one that combines information technology and education.

This educational revolution not only influences the western countries, but also affects Asian ones. With the first pilot program of online universities established in China since 1998, the rapid development exceeded everyone’s primary expectation. After 13 years of development, the number of approved university has increased from 4 to 69. It created a new business model “education + business” 4, and developed flourishing with the government support and business investment, and has formed an integrated value chain.

1.6 The development of Internet

According to “China Internet Development Statistics Report” 24, since the first email sent in China in 1987, the number of the Internet users in China has reached 0.457 billion in the end of 2010, which increased 0.073 billion compare with 2009. The number occupied 23.2% of global Internet users and 55.4% of the of Asian Internet users in 2010. (Figure 1)

![Figure 1: the number of Chinese Internet users](chart.png)

Due to the fast development of Internet, the number of IPv4 in China has reached 278 billion, and currently, it is urgent to change IPv4 to IPv6 in order to solve the scarcity of IP address 24.

Apart from the wireless Internet accessing, there are 98.3% of the internet users using broadband Internet access to surf the Internet in China (other method such as dial-up Internet access) 32, however, the national average Internet download speed is only 2.37Mbps, ranked No.71 in the world, far behind the top five countries, Korean, Japan, Sweden, Netherlands and Germany (Bandao newspaper, 2009) 25.
2. Research method

In order to better understand this market, and find out the perspective of young generation, I used the questionnaire to be the research method. To be closer to the target, I chose a multiversity as my testing university, which located in Northeast of China. And professor Wang who is a friend of mine works in this university. She helped me to distribute questionnaire to different majors in different grades. Totally, there were 96 questionnaires that covered issues of advantage and disadvantage, tuition fee of both academic and non-academic online education. It also contained the result of inexperienced interviewees’ opinion about online education as well as experienced participants, and accompanied the CSI result of latter. (See questionnaire in Appendix)

2.1 Background of the interviewees

Since students are our main focus group, almost all of the questions are designed for them. But in order to get more information, Wang chose some of her colleagues and friends to answer the questionnaire to extend the interviewee pool. Therefore, there are various educational levels in my database, from junior college to master degree. (Figure 2,3)

There were totally 96 interviewees participated this survey, 23 were male and 73 were female. As we see from the chart, there were 57 out of 96 in the range of 18-22 years old, 16 person in the range 23-25 and 7 person age above 31. And their educational levels concentrated on bachelor. Only 15 and 4 were master and junior college degree, respectively.

Figure 2: Age range of the interviewees
Considering about the characteristic of online education, I designed two questions about the age of Internet and how many hours they would spend online generally. And the result was satisfying, surfing on the Internet became an important part of their daily lives. As a young generation, the Internet is not a new thing. Some of them approached the Internet since they were in primary school, and they are totally competent for searching the information they want in this huge universe. (Figure 4,5)

As shown in the chart, there were 39 out of 96 had the Internet age from 2 to 5 years and 33 interviewees aged between 6 and 10 years. Worth to mention, there were 13 participants had been using the Internet more than 10 years. And referred to the question about how many hours they usually spend on the Internet per week, most of them chose above 26 hours, 49 out of 96 participants. it means that they spent average 4 hours everyday, and just 4.1% interviewees spent less than 5 hours a week.
2.2 The interviewees’ experiences of online education

Before the work to explore the interviewees’ perspective of online education, I think it is important to find out the experiences of them, the one associates with online education. The purpose is to deeply understand the background and the history of the interviewees if they had taken the online education before, no matter academic or non-academic education. I designed a main question with three sub questions according to the condition to figure out the result, and the statistics figure as shown in the graphs.

According to the survey, there were 66 interviewees haven't taken any kinds of online education and for the rest part, 30 interviewees had experienced it before.

For participants who never taken online education before, asked them if they would like to take it later, and use the number to show the degree of their willingness, which 1 stands for absolutely not and 7 stands for absolutely yes. The pattern of their choices is shown as Figure 6.

![Figure 5: hours interviewees spend per week](image)

![Figure 6: the pattern of interviewees’ willingness to choose online education in future](image)
We can see from the chart, there were total 19 interviewees gave the number under 4, which we could consider them didn’t have the willingness to try it in the future. Compare with it, there were 77 participants voted the number above 4, and number “7” got the most ballots, 31 totally, which showed a strong willingness to have the experience of online education. This is good information for this industry, it indicates that a large proportion of people who has never set foot in this filed have the attention to take a change to experience it.

The followed questions consisted of two parts for the interviewees who had already taken online education before, no matter what kind of form and course it was.

The first question was what kind of major they took before, the options I listed were the top majors according to the data of ministry of education in 2009. And their choices are shown in Figure 7.

![Figure 7: majors that interviewees studied before](image)

From the chart we could learn that the biggest proportion of pie is English. This is not hard to understand, based on the situation that there are lots of different kinds of English language certifications, and some of them are connected with the graduation certifications, such as CET-4 and CET-6 (College English Test) for all the universities. And other kinds of language test refers to different purposes, for instance: for careers including BEC (Business English Certificates), TOEIC (Test of English for International Communication), BULATS (Business Language Testing Service); for studying overseas including IELTS (International English Language Testing System), TOEFL (Test of English as a Foreign Language), GMAT (Graduate Management Admission Test), GRE (Graduate Record Examinations), etc. Therefore, it takes an important place of online education.
And majors followed were others and literature that occupied 27% and 20% votes, respectively. The pattern is different from the data of the ministry of education. To analyze the reason, it because of the major they took before was mainly for tests or interests, not a primary major that aims for finding a job.

It is important to collect the data about these interviewees’ feedback of online education who had already experienced before, to find out if they enjoyed the process and the satisfaction, and figure out their willingness for continue this form of education. They were asked the question if they would like to choose online education in future. The answer is shown in Figure 8.

![Figure 8: the pattern of willingness to continue online education of the interviewees who had taken it before](image)

As illustrated in the graph above, there were only 5 out of 30 votes below “4”, and “7” got the most votes, 22 totally. We could use the indicator of CSI (customer satisfaction index) to analyze the meaning of the value. It is an indicator that used to measure the customer’s satisfaction. It divides the overall of satisfaction into six-point scale that ranges from very dissatisfied to very satisfied, and each level of customer satisfaction is given a rating that ranges from zero for very dissatisfied customers to 100 for very satisfied customers. (Figure 9) (Roger J. Best, 2008)

According to the CSI’s formula, we could adjust the measurement to calculate the CSI of these interviewees. The range will still start from 0 to 100, but divided into 7 segments equally, and each segment corresponds to a number from “1” to “7” according to the question above. And the value of each segment will be added by 17 from the beginning of the chain. (Figure 9)
The CSI could be calculated as below:

\[
\text{CSI} = 6.7\% \times 0 + 10\% \times 17 + 0 \times 34 + 3.3\% \times 51 + 6.7\% \times 68 + 0 \times 85 + 73.3\% \times 100 = 81.24
\]

Just simply look from the result, it was a relatively good score, which reflects that online education has its attraction and the ability to retain consumers who had experienced before, and this satisfaction is a crucial factor to expand its market. However, if we interpret the this value by using percentage way, it would give us more information. It indicates that the average CSI of 81.24 was derived from 80 percent who reported varying degrees of satisfaction (blue color in Figure 10) and 20 percent who reported varying degrees of dissatisfaction (red color in Figure 10).Apart of the 6.7 percent who were somewhat satisfied in their customer satisfied may pendulous between online
educaiton and traditional way, but the interviewees who voted 20 percentage varying degrees of dissatisfied probably won’t be a customer in this industry. Therefore, it is as much as important to satisfy dissatisfied consumers as keep satisfied ones.

“Customer satisfaction is a forward-looking indicator of business success that measures how well customers will respond to the company in the future. Other measures of market performance, such as sales and market share, are backward-looking measures of success. They tell how well the firm has done in the past, but not how well it will do in the future.” (Steven Schnaars, 1998)

The more important thing is that this high satisfaction of the interviewees (CSI 81.24) will lead to a high degree of customer retention in a competitive market, and finally contributes to customer loyalty, which is the highest level of customer commitment. They totally trust the value created by the product and would like to recommend it to other consumers, which eventually extend the market share and create value for the company.

2.3 Research questions

Questions here consisted of three parts, including academic education, non-academic education that mainly focused on English language teaching institutes and general perspective of online education. Questions were designed to find out how students think about online education, and the intention for trying it or willingness to continue taking it based on the interviewees who have taken before.

2.3.1 General perspective of online education

Advantages of online education

Considering the question about advantage of online education, interviewees focused on two points and gave almost even votes, no location restrictions and flexible schedule. These two characteristics are the main attractive points for online education, and the result was good that people were really interested in them. Without location and time restriction people could study whenever and wherever they want to, this greatly enhances the effect and positive attitude of studying. Moreover, it offers more opportunities for people to study, who are busy at work or various businesses. This form of study could assemble lots of scattered time into an integrated time and avoid the overlap of their working and study schedules. At the same time, people could master the place they want to study, not only restricted in the classroom where probable far away from the living or working place. Instead of wasting this time in commuting, people could learn themselves at home. All they need are just a computer and the Internet. And it could be more flexible, people could also decide the learning end device, break through the boundary of computer, it could be a smart phone, PDA or even iPad. (Figure 11)
And there were almost equal for another three options, lower tuition fee, good interaction and lower entrance requirement, according to 11%, 10% and 9%, respectively. Need to be mentioned, there were only 7 out of 96 interviewee chose good learn effect as the advantage of online education, and this also took a large proportion in the disadvantage of online education. It reflects that there are still more space for this industry to improve and excel the traditional way of teaching.

**Disadvantages of online education**

Considering the disadvantage of online education (Figure 12), the main point was a little out of my initial expectation, it came the answer of “no university atmosphere”. But think more about it, it is reasonable. Apart of the teaching quality between online education and traditional way, it is not appropriate to simply equal university to a place where just teaching lessons, it contains more than that. The college atmosphere plays a crucial role in a student’s life. Because of the period, during the college is the age that could easily be affected by the environment. College students are in a period that changing their personalities and attitudes of life and career, therefore, the atmosphere around them could influence them invisibly and has a great impact of their whole lives.

Generally, it is consisted of two parts. The first one is the academic atmosphere, such as the interaction between teachers and students, students and students. And guest lectures as well as seminars. The interaction happens in class is more important, the connection and discussion between teachers and students could bring more inspirations and sparks. The other one refers to the atmosphere of university’s life, the one built by the whole people and more than one generations. It is not rare that lots of people think back of their universities, the most impressive thing is not relative to the academic content, but the colorful college lives. The classroom, the bench, the library and the discussion, all of these parts largely enriched their study lives and became one
of the most precious memories. Moreover, there are lots of communities and activities that not only have fun, but also practice students practical abilities that could not be taught in class.

And of all these happen in the real university that can’t be substituted by the online education. Maybe the lessons held online could have the same effect as physical one, however, student could not experience the real and vivid study life. Therefore, it became the top factor of online education’s disadvantage.

![Figure 12: the pattern of disadvantage of online education](image)

The following three factors almost got the same votes and occupied 20% respectively. They were bad interaction, diploma recognition and can’t get feedback immediately. They concerned this form of teaching could not achieve the same effect as it does in the traditional way which teachers and students could communicate and discuss face to face. And the bad interaction could also interpret as the service between teaching centers and students.

This “free” of time and space could be a “bondage” of smooth communication. And this is the same reason for them to choose delay feedback. On the one hand, without the face to face teaching, students could not get the answer immediately; on the other hand, due to lots of email asked by students, teachers could not reply all of them in time.

### 2.3.2 questions about academic education

**Countries they chose**

Comes to the question which kind of online education they would choose among American online universities, other countries’ online universities and Chinese online universities, the first option got the most votes. (Figure 13) This is corresponding to the threat factor of SWOT analysis above.
This result could be explained by two reasons. The first one is the real strength of American online education, as analyzed above, America is the pioneer of this educational revolution and after decades' developed, it already got the most advanced system and excellent faculty. All of these could offer students the best education quality. The second one refers to the reputation of American online education. As we know, America is famous for its higher education, and occupies the top positions of the world university-ranking list. Therefore, it is not hard to understand how valuable a diploma of American university is and the intention of interviewees' choices.

The second place Chinese online university got 5 more votes than other countries’ online university. This was mainly because of the recognition of diploma. Undeniable, other universities have lots of majors that rank top places in the world, it was not appropriate to divide them just into 3 groups, however, the real situation is that Chinese employers prefer American diploma. In addition, considering the factor that language could affect the learning effect for some students who are not good at English, they would prefer Chinese online education.

Majors they chose

Then came to the question about which kind of major they would choose. The questionnaires were sent to students in different grades and majors, therefore, it implied the major that they would consider to study besides the one that they were studying now. According the data of the ministry of education, the top three majors of online education were administrators, engineering and law in 2009 nationwide. However, the top three positions in testing university were different, they were English, Law and Economics. (Figure 14)
The phenomenon here is that the top majors are dominated by liberal arts, such as English and Law got the same votes and ranked top one. And the other three majors followed closely, just 1 and 2 votes less. Surprising thing is that the last one was engineering, which ranked top three in the national wide survey in 2009.

Factors influence the choice of university

The factors could influence the choice of university including reputation, major, tuition fee and entrance requirement. The pattern of their choice is shown in Figure 15.

The factor has the most influence was the reputation of a university and then followed by major, occupied 44% and 35% votes respectively. The result still based on the halo effect, which was proposed by Edward L. Thorndike first. “It refers a cognitive bias whereby the perception of one trait (i.e. a characteristic of a person or object) is influenced by the perception of another trait (or several traits) of that person or object.”

Good traits are added to a particular university by people’s perception based on the good reputation of it. According to another survey which shows the relationship between reputation and major, lots of people prefer to choose a second tier major in a top universities than a hot first tier major in a second tier university. “ All of the majors in top university are good majors” that what they say. Once you get an admission of a famous university, it likes a guarantee of a good career and future. People in this group is not a small proportion, however, it was still good to see there were 35% people voted to major.

And the last factor was entrance requirement. Compares with traditional higher education, the entrance requirement of online education is lower. But from the survey we could learn it was not a key factor for students to choose; they were still consider the study quality first, did not take it as a back up choice.
The next question was about what kind of teaching method they would like to choose. It included a face-to-face teaching way in a main classroom, where teachers give lessons like the traditional one. And the class will be recorded and synchronous transmitted to all of the teaching centers where students are gathered in a classroom and watch the online video, and this was the second way. The third way of learning was that students master the time and place, decide whenever and wherever they want to study. And the last option was the self-control learning time plus a regular face-to-face consultation. The pattern of their choices is shown in Figure 16.

In the initial expectation, I thought the first way of learning would get the most votes, because it is the same way as traditional one, that study in a physical classroom and taught face-to-face. However, the answer was opposite, it
ranked the last, just 14 votes. The first one was self-control learning method, which got 30 votes out of 96 interviewees and followed by 27 votes represented watching video in the teaching center. The interesting thing is that the teaching way of the first three options are all non face-to-face, means that teachers and students don’t have the opportunity to communicate like traditional way. And the one likes it the most ranked the last in the survey. On the one hand, this reflects that the main motivation for people to choose online education is based on its flexible schedule, they could manage their time and spaces without any conflictions; on the other hand, it could support the viewpoint analyzed above that a certain extent of distance would eliminate the psychological fear. Because of the existence of this distance, the relationship between two parties is kind of gentle instead of strict way it does in traditional teaching method.

Apart from above, there is another way to explain why students more prefer to choose watching video instead of face-to-face learning, because it is more effective than traditional way. We can use forgetting curve to analyze it.

The theory of forgetting curve was first proposed by Hermann Ebbinghaus, 1885. It illustrates the decline of memory retention in time. As we know, memory could be divided into two kinds, short-term memory and long-term memory that based on the time of retention. The newly learned knowledge after we study will become a short-term memory, however, if we don’t review it in time, it will be forgot; after the in time review, it will become a long-term memory.

And forgetting curve demonstrates the relationship between memory and time. (Figure 17) From the graph we could see that the retention and time are asymmetric. The newly learned knowledge would just kept almost 58% in people’s memory after 19 minutes and 25% after 2 days without constantly review, and finally remain 21% after a month.

![Figure 17: The forgetting curve](image-url)
In another word, people will forget around 55% of what they learn within an hour. So if we count a lesson takes one and half hours, then students would forget almost 60% of the information after a class without in time review. Considering the method of review, we usually use note, and sometimes it could be a distraction when listening the lecture and taking the note synchronous. Besides, some of the information we couldn't note as accurate as said by teachers, the best way for reviewing is to have the experience to take the particular lecture again which is an impossible thing in real. However, online education offers an opportunity that we could have the experience to review the knowledge of the exactly same content time after time, which would maximum strengthen our memories. Students just need to replay the courseware when they need, much convenient.

As well as the forgetting curve, there is also a graph of studying effect. The attention will be concentrated in the first 30 minutes during a class, and then students would feel tired and sleepy after that. The followed information would not be memorized and digested by students. But all of these shortcomings could be solved by online education. Therefore, more students chose it than traditional way of teaching in the questionnaire.

**Tuition fee**

The last question about online academic education was the tuition fee; to find out which range that interviewee thought was reasonable and acceptable. Considering that almost of all the online universities charge the tuition fee based on credits. Therefore, the price listed in the options were corresponding to per credit. And the result is shown in Figure 18.

<table>
<thead>
<tr>
<th>Price/credit (Yuan)</th>
<th>80-100</th>
<th>100-120</th>
<th>120-140</th>
<th>140-160</th>
</tr>
</thead>
<tbody>
<tr>
<td>Votes</td>
<td>63</td>
<td>17</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

*Figure 18: the result of price per credit they chose*

Of course, interviewees preferred to choose the lower price, which made the segment 80-100 got 65.6% votes. And according to the data in Chapter 3, that the tuition fee of the online universities are concentrate on 120-160 Yuan per credit, which considerable higher than their expectations. Take the average value of 90 Yuan and 140 Yuan represents each side, and 80 credits for a bachelor degree starts from junior college, the price gap is 4,000 Yuan.

**2.3.3 Non-academic education**

There were 3 questions based on non-academic education, the first one referred to the training subjects they would choose; and the other two were based on the English language training.
As asked about the subjects that interviewees would consider choosing among English language, computer, professional certifications and some core courses in school. The vote concentrated on professional certifications that earned 46 out of 96 votes and followed by computer and English language, 19 and 18, respectively.

Based on English language training, votes focused on spoken English among listening, reading and writing which are the four aspects would be tested in all English exams. Spoken English got 60 votes and followed by listening and reading, gained 21 and 14 votes, respectively.

2.4 Focus group

The questionnaire gave us some valuable insights, how interviewees who were mostly students thought about online education, but there are still some issues that could be explored by people who are teachers, and give us some clues from another angle.

Therefore, I organized a focus group consisted of four people who taught English language in China before, and now are students in Sweden, three from KTH and one from University of Uppsala.

There were 2 of them studied English major in university before and then chose to be a English teacher in university or English teaching center. The other two were changed to be an English teacher from an Engineering degree, and all of them had the teaching experience more than one year before came to Sweden. All of them were taught in a traditional way in the university and never experienced online education before, no matter what kind of course was.

Considering the lessons they gave, the mainly format was traditional way, face-to-face teaching method. However, there was one interviewee had the experience to give lesson online.

“It was a special situation, it was a consulting class, not obligatory one, therefore, I sent email to all the students that who has questions could go to a particular classroom and bring a laptop, then I answered the questions asked by them via microphone and camera. “ said by one interviewee. “It was really a different experience, I think it is efficient and interesting, but I don’t know if it could be used in a formal class.”

All of the interviewees thought online education were efficient and had some strongpoints that traditional one doesn’t have, but they also saved some space for it, because they believed that a online class could not pass all the information as traditional one, students may get bored just by watching a screen all the time and won’t consider any more.

But they still believed that online education would develop further than it is today, and more people would love to try it, maybe they would be the one who tries it in the future.
3. Theoretical foundation

3.1 Value chain

The value chain, also known as value chain analysis, is a concept from business management that was first described and popularized by Michael Porter in his 1985 best-seller, Competitive Advantage: Creating and Sustaining Superior Performance (Figure 19) ⁶.

A value chain is a chain made of sequence of activities within a firm operating in a specific industry. Products go through the whole producing process and each activity adds some value for the end products. The final value of the product gained from the whole value chain is larger than the sum of every single activity.

Activities could be classified into two categories, primary activities and support activities. The former includes inbound logistics, operations (production), outbound logistics, marketing and sales (demand), and services (maintenance). And the latter consists of firm infrastructure management, human resource management, technology (R&D), and procurement.

![Figure 19: Porter value chain](image)

Primary activities:

- Inbound Logistics: refers to the activities such as receiving, storage and distribution, including transport of raw material, warehouse control and good storage.
- Operations: all activities that changing raw materials into end products and services, such as producing, assemble and package.
- Outbound Logistics: to distribute finished products to buyers.
• Marketing & Sales: marketing champions and activities’ design to attract consumers, such as advertisement, promotion and channels.
• Service: activities that add more value to customers, such as delivering, installation and maintenance.

Support activities

• Firm infrastructure: organizational structure, control systems, company culture, etc.
• Human resource management: all activities relate to employee recruiting, hiring, training, development, and compensation.
• Technology: technologies and innovation to support value-creating activities.
• Procurement: all input products to support the value chain, including raw materials, instrument for development.

We can analyze the value chain of online education and find out the primary activities within this industry. Then illustrate how every part works and delivers the value to the end product.

Primary activities in the value chain of online education in China (Figure 20):

![Figure 20: Primary activities in the value chain of Chinese online education](image-url)
3.1.1 Inbound Logistics

This section is aimed to offer raw material to the production line. Then the chain will process it in order and provide the finished product to the end consumer. Because of its position of this hierarchy, the quality of this part decides the whole value of the end product. In this industry, it refers to the supply of courseware and this activity consists of two parts: courseware material offering and courseware development.

The first part contains collection and selection. The former focuses on collecting materials relate to a particular course, it could be the literature, essay, exercise or exam paper, picture, video and all formats of information support to the course; Then these materials would be chosen and selected by experienced experts to be the courseware for farther producing. These materials will be edited to suit the teaching process and tailored for the target customer. This requires a certain extent of teaching knowledge in the corresponding field, therefore, experts who have a well teaching experience and good reputation are the main power in this process.

The second part concentrates on courseware development, makes the selected material into formal courseware which could be used in the online education through Internet. This is a technical process and requires the knowledge in IT and multimedia. To attract students and make the teaching process consistent, vivid and emphasis on key teaching points, the courseware should be designed elaborately. It is a combination of text, picture, video and hyperlink and so forth. Due to these requirements, professional institutes are usually responsible for this work. They have the professional teams, experiences and implements to be competent for this technical product.

Generally, these two parts of work could not be done by individual or a single unit based on requirements of both educational and technical knowledge. However, there are some companies provide the service of integrating these two parts into one mature product. These suppliers have both professors and technical staff; people will get the courseware just by informing them the particular discipline you want. These companies include Powerplus, Shidaiguanghua Company, etc.

3.1.2 Operations

The courseware mentioned above is just a single unit, and there are lots of subsystem, including registration, charging system, individual schedule, exam and teaching management system, etc. All of these parts should be assembled into an integrated system, online education management platform. It is a crucial part of this value chain and makes all the teaching activities possible.

It also provides a key part of online education, teaching. On the one hand, teachers could use this platform to give lectures, edit courseware, get feedback, and answer the question emails and so forth. It is designed to be a customization tool to suit different needs according to a particular course.
On the other hand, students could choose courses, take lectures, ask questions and take exams through this platform; therefore, it is also a bridge to connect teachers and students.

In addition, the format of courseware should be produced to suit all kinds of end instruments. For instance, PC, TV, cell phone and other portable devices. Furthermore, this also requires company follow the trend and designs the particular format for various new end instruments, such as iPad.

There is another important role in this process, the integration of value chain. The purpose of this process is to analyze the market and tailor the product. It contains the analysis of the customers’ needs and preference, and then adds these points into the course design; analyze the situation of each part within the whole value chain; designing of business model, marketing champion and so forth. It also includes how to distribute the money from the sale of end product to each part of the chain.

3.1.3 Outbound Logistics

The function of this activity is to distribute the processed product, well-designed courseware to the end consumer through the Internet. Considering the features of online education, lots of audio as well as video information and the real-time requirement, this needs an extremely fast transmission speed in order to guarantee every part goes well in the system. To be competent for this project, the transmission is based on optical fiber and satellite.

Considering of the big scale and the huge capital investment on this project, the one who can handle this business is very rare in China. Up to now, China Telecommunication is the first one engaged in this industry and dominates the market of transmission project of online education in China.

3.1.4 Marketing & Sales

The main task of this activity is to promote the finished product into the market. It mainly represented as universities’ admission brochures, advertisement on various media and consultation service, such as the information of certification and tuition fee, etc. The main participant of this part is the teaching center, and different teaching centers has different marketing strategies according to its own situations, for instance, the tuition fee is flexible and could be adjusted by the location. There are other channels to do the marketing, such as the special educational websites, good reputation forums and some educational conferences.

3.1.5 Service

This activity refers to all kinds of services aim to perfect the end product and add more value to customers. For online education, it mainly presents as teaching centers that spread around all of the provinces. The teaching center plays an important role in this system, it provides various services to fix students’ problems and help them to digest the course, likes a bridge to
## 3.2 SWOT Analysis Of Chinese Online Education (Figure 21)

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Open</td>
<td>• Diploma recognition</td>
</tr>
<tr>
<td>• Interaction</td>
<td>• Cant get feedback immediately</td>
</tr>
<tr>
<td>• Economical</td>
<td>• Not well-developed system</td>
</tr>
<tr>
<td>• Flexible educational system</td>
<td>• Can't guarantee the quality of the teaching center.</td>
</tr>
<tr>
<td>• Excellent management system</td>
<td>• Imbalance of areas</td>
</tr>
<tr>
<td>• Diminish psychological fear</td>
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<table>
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<tr>
<th>Opportunity</th>
<th>Threat</th>
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<tbody>
<tr>
<td>• Growing perspective</td>
<td>• Competition from foreign universities</td>
</tr>
<tr>
<td>• Supporting policy</td>
<td>• Piracy</td>
</tr>
<tr>
<td>• Business investment</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 21: SWOT analysis of Chinese online education*
connect teaching institute and students.  

Because of this is the first place where students could approach the teaching institute, its service and quality represents the image of a particular online school. The software requires a wealth of information, comprehensive database, excellent digital library and good reputation professors participate in consultation at the center in a regular time. Hardware requires enough space and high speed Internet access which could guarantee students acquire the data efficiently (Jiping Zhang)\(^\text{14}\).  

Strength:  

- **Open**  

The most outstanding feature of online education is its open characteristic. And this could be shown as three parts. One purpose of online education is to promote a concept of lifelong learning, to ensure more people have the opportunity to study. Therefore, the first part refers to open to all people, no matter the age, education level and occupations, etc. And the entrance requirement is relatively lower than traditional one. This offers an opportunity for people who didn’t perform well in the national college entrance examination.  

The second one refers to the breakthrough of space and time restriction. All of the teaching process is performed through the Internet; therefore, people could choose any university they want to without considering the location, even the foreign university.  

The schedule is more flexible than traditional one. Students could take the class whenever they have time. This is good for people already have a work or don’t have enough time for full-day study\(^\text{28}\) (Mao Zuhuan, 2000).  

The third one means the open resource. On the one hand, good professors could be shared, any class could be viewed by thousands of students or even more. On the other hand, there are large amounts of information in the Internet, teachers and students could exchange information and get resource easily\(^\text{27}\) (Lu Tingting, Hu Bo, 2008).  

- **Interaction:**  

As we know, communication is a key part of learning, it solves our questions, expands our knowledge. Although one key characteristic of online education is the separation between teachers and students, it still has the ability to connect them, or even more closer in some aspects.  

Because of the advantage of Internet, there are lots of interaction between teachers and students, students and students and even teachers and teachers. It supports real-time as well as non real-time teaching. And various teaching formats are available, such as guest lecture, discussion class, presentation and test, etc.
Furthermore, BBS and forums are available to support the lecture. Students could discuss and share the information, and propose questions to teachers by message or E-mail.

Online education requires students have a certain degree of self-study ability. Students should learn independently. In this environment, the relationship between teachers and students is different from the traditional way, students are becoming the main part of this learning process and teachers are responsible for assisting this process.

This transformation requires a period of time for students who are used to the traditional teaching way to adjust. Therefore, for students who are not familiar or don’t have the idea of self-learning, firstly, the conception is important. They should understand that the process of learning is not only receiving knowledge, but also a part of exploring and creating knowledge. Secondly, some quiz could be set in order to stimulate them to study actively. Besides, in order to adapt to this new learning method and cultivate the self-learning ability, especially for some students who may fail in this kind of learning way, online universities should design some supporting courses to strengthen their capabilities. For instance, courses designed to introduce how to use the Internet browser, how to search the information in the Internet and library, etc. And the discussion between students is necessary; they could share and exchange their minds.

• **Economical**

Lower tuition fee compares with traditional education. Currently, the tuition fee of all online universities is based on credits. The higher credits of a particular subject, the higher tuition fee correspondingly. Take Beijing University for example, the range is between 100-140 Yuan per credit, and this could be adjusted to a lower level for western area and not well-developed area. For bachelor degree starts from senior high school level, it requires 160 credits to acquire a diploma generally. Multiplied by an average value 110 Yuan per credit, the tuition fee is around 17,600 Yuan; for bachelor degree starts from junior college, it requires 80 credits and corresponding tuition fee is around 8,800 Yuan. To compare with traditional tuition fee around 25,000 Yuan and 12,000 Yuan respectively, it is much cheaper. Furthermore, it could also save the accommodation fee and other living expenses.

• **Flexible educational system**

Compare with fixed educational system of traditional universities, all online universities’ educational system is flexible. Take Beijing University for example, the range of a bachelor degree education starts from a junior college is 2.5-5 years. This gives students enough freedom to manage their study lives.

• **Excellent management system**
As I analyzed above in the value chain part, there are lots of subsystem in the management system. From the recruitment, register, pay the tuition fee, select course and register examination are all done through this management system. It saves human resource and a lot of money. In addition, this system also makes the whole management process transparent and decreases the number of personal error.

- **Diminish psychological fear**

Psychological factor should also be considered in the process of teaching. In the traditional physical classroom where contains lots of students, teacher is the main voice, and accompany discussions with some students. However, some students have a psychological fear to speak or ask questions based on face-to-face teaching method, especially in front of other students. They are afraid to ask a question to be considered as a "stupid" one or feel ashamed for don’t know the answer to a question asked by professor.

This psychological barrier blocks their passions of learning and finally turns them to learn passively, however, the distance of online education diminishes this problem. Because of this “distance”, students are braver than traditional way. They don’t worry about the issues mentioned above, they would ask in the class or write E-mail to consult teachers. The farther the physical distance, the closer the psychological distance. Without this fear, students study habit changes to an active way (Jiping Zhang)\(^\text{14}\).

**Weakness:**

- Diploma recognition

This issue is the most important and concerned one, is it recognized by the company and society? As we know, universities in the pilot program that approved by the ministry of education will award a diploma that could be recognized online. And this is a main attractive factor for students. However, all of the diplomas awarded by online university will be added a mark of “Online Education” to distinguish from traditional one.

In the perspective of employers, online education is too flexible and student-centered learning, can’t guarantee the quality of study, therefore, they prefer to choose the traditional education way. However, by the power of education bureau and universities, the education quality keeps increasing, and diploma is recognized by more and more employers.

- Can’t get feedback immediately

Although students could ask questions by message or E-mail to teachers conveniently, the feedback could not be got very fast, it exists some delay. Considering there are so many students take the course and in different progresses, teachers will receive lots of inquiring messages, therefore, it takes time to answer all of them. Especially some questions need a little discussion
that can’t be explained by a single mail or message, then it would take more time to understand.

• Not well-developed system

Although online management system is very convenient, there are still some shortcomings exist in the system, including software and hardware instruments. Compare with America and other countries that have been developing this form of education for lots of years, we are still in the phase of beginning, the database and resources are not complete and the whole process of online education is restricted by the information technology. Hence, there are still lots of space for us to improve and perfect this system.

• Can’t guarantee the quality of the teaching center.

Without distance, teaching centers become the only place to approach universities. Therefore, the characteristic of teaching centers directly influences and determines the whole teaching quality. Teaching centers require high standard hardware instruments, including enough teaching centers spread around the country to ensure convenient for all students located in different provinces; enough number of computers to take courses as well as high-speed Internet access; good professors to answer questions in a regular time face-to-face.

Because of different levels of development in different areas reflects different conditions of teaching center. It is hard to guarantee all of these teaching centers have the same high level of quality, especially for western area of China where is relatively lower level of development.

• Imbalance of development in different areas

Because of the geographical situation of China, imbalance of development in different areas becomes a serious problem, especially western area in china. Considering the geographical factors, most of coastal cities are concentrated in eastern regions and made it as a commercial center of China compares with the backland area of western region. Therefore, the economic gap between two regions is becoming bigger and bigger. And the income gap leads to different education investments, which contributes to different education levels in two regions. According to a survey, in western area, the number of people who has taken higher education just occupied 45.32% of eastern area and 56.57% of the national average; the number of people who has taken secondary high school education just occupied 48.43% of eastern area and 72.94% of the national average in 2001.

Most of the good teachers and universities concentrated in eastern and southern regions. Western area supposed to be the most important place for online education, without the distance restriction, students could enjoy the education in best universities and increase western educational level. However, due to the hardware requirement such as Internet and computers, it restricts
its development in this undeveloped area and increases the educational gap in China.

Opportunity:

• Growing perspective

After 13 years of development in China since the first group of online university established in 1998, this revolutionary education is getting popular and recognized by more and more people and the market keeps increasing.

With the growth of this industry, community noticed its importance and convenience. The inherent features such as flexibility and effectiveness could be used in any industry, and the target group expands from student to working people. Lots of companies have their own online education platform and use E-learning as internal training method to educate and test.

This perspective of online education is an active factor to promote this concept and mark a sign in people’s mind, make more people would like to choose it and expand this industry.

• Supporting policy

From the first beginning of online education started in China, government attached great importance to develop this industry and has approved lots of documents to support it growth, covered from recruitment to degree award, etc.; several national conferences were held to discuss the development and prospect of online education annually. The number of pilot universities that approved by ministry of education keeps increasing and has approached 69 till now (Chen yan 2009)

• Business investment

The new business model “education + business” makes more business could have the opportunity to access the field of education. Meanwhile, with the rapid development of online education, the market share expands very fast and entered the growing period, has a systemic value chain, management system and relatively lower risk. And with the encouragement of government, more and more companies noticed this new business and have the willing to invest in this industry (Huang Bo, 2002)

According to a report of “Chinese high growth enterprise data centers”, there are totally 21 times venture capital investments as far as disclosed, the total investment reached 151 million dollars and the average single investment was more than 7.21 million dollars (Teresa, 2008). With these investments, the online education will have enough capital to keep rapid growing.

Threat:

• Competition with foreign online university
One overwhelming feature of online education is the breakthrough of eliminating teaching distance. Students could choose all of the courses from the Internet not only offered by China, but also foreign universities. Considering foreign universities especially US, developed for many years, Chinese online education is just at beginning. They have well management system, teaching teams, a wealth of information, excellent lessons contain the latest knowledge, made them already a mature industry. Compare with them, there are some shortcomings exist in our system, and we are still in the discovering process and try to perfect it.

Since there are so many options in the market and the obsession of foreign diploma, lots of people would like to choose a popular major from a good reputation university abroad. Therefore, this is a really threat for China developing online education market.

- **Piracy:**

This problem is based on the online education which charges a tuition fee, not for totally free ones. As we analyzed above, online education could be categorized into 3 groups: academic education, non-academic education and E-learning. Only academic education needs to register in universities and pass the online exams in order to gain a degree, there are no issues about piracy. However, the latter two such as English learning institutes, IT and accounting teaching schools, sometimes consumers just need their courseware and could learn by themselves, then attend the national certification examination (not online schools) in order to get a particular certification. Piracy is produced in this situation (Senlin Lv, Bingshe Wen, 2009)\(^1\).

For instance, language schools have their own designed courseware and could be watched online after register. Some courseware doesn't have lots of interactions between teachers and students, just single way of teaching, all of key points to pass the exams are listed in the courseware, it is kind of an E-book. Therefore, pirates break into the system, download the courseware and then burn VCD or DVD to sell. The piracy just costs around 10 Yuan, which corresponding course could cost more than 1,000 Yuan in order to get. This has a really negative influence to these online educations.

### 4. Situation analysis

#### 4.1 Factors influence the online education

Quote Kumiko Aoki and other researchers’ conclusion\(^1\): the development of the virtual university is influenced directly by three factors. The first one is that university tries to attract more and more students who are not living in the campus, this could enlarge the number of student. The second one is students could conquer the problem of distance and time, make the schedule more flexible than before. The third one is the rapid development of technology
realizes the possibility of online education and makes it more attractive and effective than the traditional way.

### 4.2 Three phases of Chinese distance education

There are three phases of Chinese distance education: the first one is correspondence university. This type of education means that the university offers students literatures, then students study by themselves. The second one refers to broadcast university that boomed in the 80s, 20 century and China has the biggest broadcast university in the world now. The third generation of distance education is online education (modern distance education), the one I am studying in this thesis (tianya, 2009)

### 4.3 The potential in china

With the rapid development of information technology, the Internet user in China increases dramatically. According to the data of "The 27th Statistic Report on the Internet Development in China " published by CNNIC (China Internet Network Information Center) in Beijing, January 2011, the number of Chinese Internet users has reached 457 million at the end of December 2010, increased 73 million compares to the end of 2009. This means there are one-third people using Internet in China, and a large proportion of them are young generation. This situation offers a solid foundation and a great opportunity for developing online education.

Online education has a great potential market in China. As we know, secondary high school students and junior college are the main target groups of online education, and according to the data of ministry of education in 2009, the number of secondary high school graduates nationwide was 8.23 million, the number of junior college graduates was 2.85 million; and the number of enrollment of universities and junior college were 3.26 million and 3.13 million, respectively in 2009(Figure 22). And the gap between graduate and enrollment was the potential market for online education.

The government gave great support to this project, either policy or capital. In addition, the non-academic online education is also a potential market, including primary and secondary students education and vocational education. For instance, as English plays more and more important role in the young generation, the English teaching institutes such as EF has great market in china, and the language online teaching is becoming more effective. Considering the vocational education, more people want to expand their knowledge or step into a new field, and majors they choose are influenced by the demand of the market, such as the most popular majors are IT, accounting, management and so forth.
In China, the online education is developing rapidly. According to data of the ministry of education based on 69 pilot universities. Since the first step of online education in China in 1998, due to the restriction of technology and the immature market, there were just 2931 students nationwide, but just a year later, the number climbed to 32,000 in 1999, and till 2004 the enrollment of students was 2,365,908 nationwide. To the end of 2009, the number of online education nationwide has reached 4.17 million (Figure 23). This dramatic increasing reflects the phenomenon that online education is accepted by more and more people and it becomes a better solution to conquer the difficulty of disadvantages within traditional way of teaching.

![Figure 23: The number of students from 1998 to 2009](source: data collected from the ministry of education)

According to a survey of iResearch, the market share of Chinese online education has reached 35.2 billion Yuan in 2008, increased 23.9% than 2007 (Figure 24). And academic education occupies a large proportion. By the estimated, the market will reach 72.3 billion Yuan in 2012 (Tian Le, 2009).
4.5 Three categories of online education

Based on the different targets and needs, Chinese online education could be classified into three different categories: Academic education, Non-academic education and company training (Xiao Shengli, Cheng Jie, 2000)²⁶(Figure 25).
4.6 Academic education

The first category, academic education refers to higher education, the university. Based on the feature and advantage of online education, ministry of education officially approved Tsinghua University, Zhejiang University, Hu’nan University and Beijing University of Posts and Telecommunications as the first pilot program of online education in China in September 1998. It is a milestone of Chinese online education. The university in the pilot program is allowed to proceed self-enrollment and has the power to decide the enrollment scale, major, tuition fee, etc.

According to the document, the main tasks of pilot universities are:

1. To carry out academic education.
   To recruit the social students, mainly through the way of online teaching to complete the degree education; for full-time students, create the online course and student could obtain credits of a single subject, and get recognized between universities.

2. To carry out non-academic education.
   Launch continual education courses for the community, including training courses, job training, certification exams and self-exams, to offer the educational service for the community practitioners.

3. To explore online teaching mode.
   Gradually establish the online education model through the pilot universities, including curriculum, teaching content, teaching methods, self-study, counseling, assignment, experiment, online testing, quality assurance and monitoring of teaching in order to enhance the teaching process management.

4. To explore the online teaching management mechanism.
   Gradually establish and improve the management mechanism through the pilot universities, including admissions, registration, tuition fee, school management, test organization, credit, certificate issuance, graduate teaching and other online teaching management system. To establish an online teaching management mechanism which suits the need of society.

5. To develop the high-quality online teaching resources, question bank and online testing system. Protect the intellectual property, establish the form of resource sharing and accelerate the development of China's information industry (Ministry of Education)\(^5\).
Two years later, the number of pilot universities has increased to 31 and several documents about online education were released in the same year. Then the number increased to 45 in 2001, and 67 in 2002. Up to now, the total number of the university that has online education system already reached 69 (Figure 26). There are 17 universities in Beijing, 8 universities in Shanghai, 7 universities in the Northeast of China, and the rest of them spread in other provinces. To approach the students in different regions, all of the universities have their own physical online education teaching centers located in all provinces. This could access students easily and effectively.

Because of the existence of these teaching centers, there are two ways to proceed the online education.

The first one is real-time education. Students are gathered in a teaching center and taking lessons that transmitted by Internet. Because this form is in real-time, students could ask questions and get answers immediately and teachers could get feedback in the same time. It is same as live lessons and discussion could be happened during the course.

The second way of teaching is self-learning. Students could watched the courseware whenever and wherever, and learn by themselves. Students could browse school’s website and replay the course, download the literature, check the schedule and discuss questions with other students. Besides, students could also send E-mail to teachers for questions. And Teaching centers organize regular face-to-face counseling (Huangrong Huai, Luoxiao Chun).  

Generally, these two forms of teaching are combined together, and support each other in order to get the best learning effect (Ren weimin, 2003).

4.7 The situation of Chinese academic online education

In this part, I collected data of 21 online universities among 69 pilot universities approved by ministry of education. The selection was based on the location, I chose 7 top universities in Beijing, and other 14 universities could represent the provinces they located in. They are “Peking University”, “Beijing Jiaotong University”, “Renmin University of China”, “Beijing University of Posts and Telecommunications”, “University of Science and Technology Beijing”, “Beijing University of Aeronautics and Astronautics”, “Beijing university of
Geosciences”, “Shanghai Jiaotong University”, “Northeastern University”, “Jilin University”, “Sichuan University”, “University of Electronic Science and Technology of China”, “Huazhong University of Science and Technology”, “Xi’an University of Science and Technology”, “SUN YAT-SEN University”, “Nanjing University”, “Xiamen University”, “Shandong University”, “Tianjin University”, “Chongqing University” and “Central South University”.

The questions include following issues: the educational level; the number of majors they offer; educational system; enrollment requirement; tuition fee; diploma format and how to take class. And all of the collected data is based on the latest admission information published in 2011.

4.7.1 Educational level

According to the survey, the educational level covers various degrees, including a junior college degree starts from secondary high school, a bachelor degree education starts from a junior college, a bachelor degree education starts from secondary high school and a secondary bachelor degree. However, they mainly focus on the two firsts education levels mentioned above.

As shown in the pie chart (Figure 27), all of the universities offer bachelor degree starts from junior college; in addition, this is the only degree of online education that offered by Peking University and Nanjing University. There are 19 universities offer junior high school degree starts from secondary high school. And 4 universities offer bachelor degree starts from secondary high school, including Renmin University of China, Shanghai Jiaotong University, Xi’an University of Science and Technology and Xiamen University. Four universities offer secondary bachelor degree, including Beijing Jiaotong University, Renmin University of China, University of Science and Technology Beijing and Shanghai Jiaotong University.

4.7.2 Majors

Because pilot universities approved by ministry of education have the right to decide the major they want to offer, the number and content offered by universities are different.
As illustrated in the column chart (Figure 28), most of the universities have 11 to 20 majors, and the range between 11 and 15 is the most common. There are just two universities offer major above 20, and Shandong Universities has the highest number, 37 majors totally.

The majors they offer not only represent their academic power, such as law and finance subjects in Renmin University, management and Chinese Language and Literature subjects in Peking University; but also decided by the demand of market, for instance, majors concentrated on computer science and technology, English and administrators, and they are offered by almost all of the universities.

According to the data of ministry of education in 2009 (The ministry of education)\(^2\), the total number of entrants was 1,625,687. And the top majors that had the highest number of students illustrated as in the column chart (Figure 29).

**Figure 28: The number of majors in selected universities**

**Figure 29: The number of students in different major in 2009**
Source: data collected from the ministry of education

### 4.7.3 Educational system

According the survey, all universities implement flexible education system, and the years depend on the education level. For instance, almost all of the bachelor degree starts from junior college requires 2.5 to 5 years to finish the
degree except Xi’an University of Science and Technology, which the educational system is from 2.5 to 4 years.

For bachelor degree starts from secondary high school offered by Rinmin University as well as other 3 universities offer this kind of education, the educational system is 5 years, and should finish all the courses within 5 to 7 years.

4.7.4 Certification

Students need to pass the exam of common course held by national pilot online universities in order to get a qualification to register an electronics diploma in the ministry of education. And students who get all the required credits, pass all the exams and thesis, and get the qualification mentioned above, will get a certification awarded by the university.

In china, there are two kinds of certifications after graduation. One is “certification of graduation” and the other is “diploma of graduation” which is relatively more valuable than the former.

Based on the survey, there are 9 out of 21 universities award “certification of graduation” which marks the label of “Online Education”, and “diploma of graduation” without any marks, such as Beijing University of Posts and Telecommunications and Jilin University. For the rest universities, both of them have the mark of “Online Education”.

4.7.5 Admission

There are different admissions according to different degrees. Generally, secondary bachelor degree doesn't need any entrance exam, just requires the bachelor degree when applying, for instance, Shanghai Jiaotong University. For other degrees, applicants should have a lower certification of graduation when applying for a higher degree, for example, a graduation certification of junior college is required when applying for a bachelor; and a graduation certification of secondary high school is required when apply for a junior college or a bachelor degree.

Generally, schools will take the national entrance exam as their admission criterion too, just lower the admission score. Some schools also have their own entrance exams to select students, but there are some exemptions for students who already fulfilled the requirement.

4.7.6 Tuition fee

As the authority approved by the ministry of education, all pilot universities have the power to decide the tuition fee by themselves. Because of 21 universities investigated this time implement credits system, all of the tuition fee are based on the number of credits and money for each credit. Formula: Tuition fee = credits × money per credits.
And money per credit is flexible, depends on the major and area, for instance, western area is relatively lower than eastern and southern areas, and art majors are higher than engineering and economics. The range is between 80 and 170 Yuan per credit, and mainly concentrate on the segment 120 to 160 Yuan. Only one exception is Tianjin University, which has the fixed tuition fee, 8000 Yuan for all majors except three-dimensional animation design program, which costs 13,200 Yuan.

4.8 Non-academic education

Compare with the academic education, the second category, non-academic education also has great potential market in China. The age range of this group is very wide, including children, primary school students, high school students and the people already has a work, wants to expand their knowledge or explore deeper in their professional career.

According to the data of “2009 National Education Development Statistical Bulletin”, up to the end of 2009, there were 280,200 primary schools and the number of primary school students was 100.71 million in China; there were 29761 secondary high schools, 14607 were normal high school, and the rest were adult high schools and secondary vocational schools. The total student number of high school education was 46.4 million; in addition, there were 138,200 infant school nationwide and had an enrollment of 26.5 million children. (Ministry of Education) \(^{11}\) (Figure 30)

![Figure 30: The number of basic education student in 2009](image)

Source: 2009 National Education Development Statistical Bulletin

101 Online School is the first school that noticed this huge market and developed it. It was established in September 1996 as the first online education school faces to primary and high school students. It is a milestone of this industry in China.

It focuses on the education from primary third year to junior high school, including all the disciplines and gathers all the excellent teachers in these fields. According to the date, the enrollment of 101 Online School has exceeded 5,000,000 till now and the figure keeps increasing. This reflects the huge potential of this market.
However, there is still no comparable schools that concentrate on the infant education like 101 Online School does, neither the size nor brand awareness, even the market is very huge as calculated in the chart above.

The importance of infant education is obviously, as we know, children are sensitive to the sound and image and much easier to accept new things, and this is the golden time for education. Online education could provide lots of video and pictures and repeat them as many times as possible, it could stimulate children’s brain to a great extent.

This not well-developed market is a big opportunity for online education, furthermore, the infant education not only face to the children, but also the parents, pregnant parents and kindergartens. It could be B2C model as well as B2B. Parents who are pregnant don’t have enough time to go to the class every time due to the work, therefore, online education is a good choice for them all. Furthermore, the inconvenience of movement of pregnant women could also be a positive factor to stimulate the development of online class.
5. Conclusion

This thesis presents the current situation of online education in China, and focuses on the people’s perspective about this revolutionary education, especially the young generation. It concentrated on the issues: **How would they think about it? How would they choose?** And explores if they have the intention to embrace online education or stick to the traditional way of learning. And what kind of detailed teaching method and majors as well as other important issues they would consider.

The first question, “how would they think about it”, we got the answer through the questionnaire. We found out that all of the interviewees acknowledged the advantages of online education, no barriers of time and space, which offers them much convenient way to study. However, there are still some shortcomings such as the lack of university atmosphere and diploma recognition need to be conquered.

To answer the second question if they would like to choose online education, we can use the data of CSI to analyze. By calculating the value of Customer Satisfaction Index based on the participants who had taken any forms of online education, and got the result 81.23. This relatively high score reflects the teaching quality and good learning effect of online education, and according to the data the person who voted very satisfied had the strong willingness to take it in the future and would probably recommend other people to choose it. For people who never tried this form of learning, the figure illustrated that 80.2% interviewees voted above number “4”, and number “7” got the most ballots, 31 out of 96 votes, also shown active intention to participate in it in the further. All of this information could be interpreted that the people has strong positive attitude toward online education, and market of online education has a great opportunity to keep increasing in China.

A business could proceed and make profit only if it has a perfect value chain, and every part of the chain works well. Use the theory of value chain to analyze Chinese online education, we can have some conclusions as below which need to be improved.

First, the quality of inbound resource is not very good that can’t express the advantage of online education. The online courseware should be interesting and vivid, that could attract students. However, some of the courseware just simply interprets the traditional teaching slide that can’t stimulate the interest of studying. And the majors are too concentrated and overlapped, some of them just set to follow the currently trend. Universities should strength the major that could represent their academic powers, not drifted by the changing trend. Based on position of this chain, the quality of this part is very important, it is the key and primary condition for developing the rest of the chain.

Second, the communication between various parties in the value chain should be improved. The departments of the lower activities should found the problem of consumers, report it to the departments which position higher in chain and
solve it. The whole process should be more integrated, not every part does its own business separately. This could be shown on operation activity, which has the role of integration of value chain. And has missions to analyze the customers’ needs and preference, and then adds these points into the course design; and the situation analysis of each part within the chain as well.

Third, improve the service. For instance, due to the large number of teaching centers spread in all provinces, it is hard to guarantee the same quality of both hardware and software, so does the service. This part is important, because it directly serves the consumers, the quality influences the whole business. The experiences of consumers, satisfaction and reputation are the foundation for further development.

According to a survey of iResearch, the main issues of online education are “bad interaction”, “diploma reorganization” and “high tuition fee”. The first two factors are proved in the questionnaire. It indicates that there are still lots of space for improving the service.

5.1 Suggestion

Compare with the traditional way of learning, online education is still a new thing, it just came into Chinese horizon less than a decade. By the development of the Internet, it penetrated into someone’s lives. However, still a large proportion of people hasn’t experienced or even doubt about it. Therefore, it should be some strategies to extend its market, and let more people know and have the willingness to try it.

People will never know the feeling before try it, no matter for what. Hence, want people to understand and embrace online education, the first thing is to offer them an opportunity to experience it. As the pioneer of online education, American universities moved the first step, again.

To chase the origin, it was a project called MIT OCW (MIT Open Course Ware), which is an initiative of the Massachusetts Institute of Technology (MIT) to put all of the educational materials from its undergraduate and graduate-level courses online, partly free and openly available to anyone, anywhere, by the end of the year 2007. Up to December 2010, there were more than 2035 courses available online, which not only the textbook, slide that written by MIT professors, but also videos. The video is available in streaming mode, but could also be downloaded. And they’re various channels to distribute this courseware. For instance, many video and audio files are available from iTunes U, which is a service launched by Apple enables people could share all the educational materials for free. (Figure 31)

This action has inspired lots of other universities, which include Harvard, Yale, Cambridge and so forth. They responded immediately by making their course materials available as open educational resources and putting them on the platform.
From the chart we could see that all of the courses are classified by subjects, mainly 13 categories. And they could be chosen by different formats, audio and video. Just one click you could download it in your computer or portable devices.

Worth to be mentioned, most of these open courses are very popular in China right now, and have a large group of fans, especially the college students and white-collars people according to a survey. (Northern city daily, 2010)\(^6\) Most of them would use more than one hour to watch these courses everyday and lots of blogs and Internet discussion groups were created to change information and share courses. It already became a trend in China. So what does it tell us?

It reflects that people has the perceptive of online education as well as the willingness to take it. Just they need to try and experience it before really do. If it were something that we never touch before, we would not fully trust and choose it. Therefore, in order to let more people know about it and extend the market, I suggest that Chinese online universities should make some courses open, the ones that could represent the academic strength a particular university and share them to the public to offer a chance for people to experience. Not ask for the whole course, could be the introductions and some real case studies that make students involve in the class and experience the charm of online education. By doing this move, people would have further understanding of online education and willingness to take it.
5.2 Limitation

First, the questionnaire was sent to a university, and the interviewees were mainly students, which could not enlarge the range of different age people, in order to investigate how they would think about online education.

Second, didn’t have the chance to interview the students who voted never wanted to try and definitely wanted to continue online education, to find out the shortcomings and strongpoints in their perspectives.

Third, the data of questionnaire was collected in China and sent back to me, therefore, all of the questions were multiple choices without open questions, which made me can’t get more information to analyze the data.

5.3 Further research

Sample size could be expended, and more universities should be involved in the survey not only restricted in one. It will reflect more issues than now. Research based on the pilot universities should be included in the study as well to explore how the system works.

Besides, some of the analysis are based on my point of view and lack enough evidences due to the reason that I didn’t have the chance to interview the interviewees personally, there probably exist some errors. Therefore, more deeply interview should be done in the further research.
6. Appendix

A) Questionnaire about online education

1. Have you ever taken any kind of online education before?
A no   B yes

1.1 If “yes”, which field was it?
A English   B Administrators C Engineering D Literature D Others

1.2 Will you consider continuing online education later?
(1-7, 1 = absolutely not, 7 = absolutely yes)

1.3 If “No”, will you consider to take online education later?
(1-7, 1 = absolutely not, 7 = absolutely yes)

2. The advantages of online education in your perspective?( multiple)
A no location restrictions   B flexible schedule    C good interaction
D lower tuition fee   E lower entrance requirement   F good learning effect

3. The disadvantages of online education in your perspective?
(multiple)
A. diploma recognition   B teaching quality   C bad interaction
D no university atmosphere   E can’t get feedback immediately

4. If academic online education, which university you would choose.
A American online universities   B other countries’ online universities
C Chinese online universities

5. If academic online education, which major you would choose.
A administrators   B engineering   C law   D English   E economics   F literature

6. which education form would you choose?
A online education   B broadcast university   C self-study examination   D adult education

7. which one would you consider for choosing an online university?
A reputation   B major   C tuition fee   D entrance requirement

8. About the teaching method, which option do you prefer?
A face-to-face teaching in the main classroom  B webcast study in the study centers  
C learn when I have time  D self control learning time + face-to-face consult  

9. The tuition fee you think is reasonable (Yuan/credit) 
A 80-100  B 100-120  C 120-140  D 140-160  

10. If non-academic online education, which subject would you choose? 
A English  B computer  C professional certifications  D core courses in school  

11. For online education of English teaching institute, which one would like to choose? 
A spoken English  B listening  C reading  D writing  

12. For online education of English teaching institute, which price you think is reasonable? 
(          Yuan/hour)  

13. For online education, which option you think is more suitable? 
A junior college starts from secondary high school  
B bachelor starts from secondary high school  C bachelor starts from junior college  

14. Gender 
A. male  B. female  

15. Age 

16. Education 
A. junior college  B. bachelor  C. master D PHD  

17. Years of using Internet 
A below 2  B 2-5  C 6-10  D above 10  

18. Hours spend on Internet per week 
A below 5  B 6-15  C 16-25  D above 26
B) Focus group question

1. How long have you taught English before?
2. How was the teaching method you had?
3. Have you experienced online education by yourself?
   If yes, how do you think about it?
4. Have you tried to teach online?
   If yes, how do you think about it?
5. What do you think is the most different between traditional way and online education?
6. Do you think that one day online education could replace traditional way?
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