CHINESE TARGET MARKET RESEARCH FOR VIRTUAL REALITY TECHNOLOGY IN EDUCATION FIELD

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ABSTRACT

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ABSTRACT
This thesis studies three Chinese target markets for virtual learning environment technology. The emphasis is to contribute the valuable market information to Commissioner Applebones Ltd. The research releaser problems are: 1) What is the situation of the Chinese Educational Market? a) What is the customer behaviour of the target markets? b) What are the basic policies and regulations in the relevant business field? 2) Who are the possible business contacts or what is the focus group? A qualitative method was chosen for this research and the data was gathered by desktop research and in-depth interviews. The scope of this research was defined as junior high schools and the criteria were defined by the commissioner as technological-oriented, foreign language oriented, experimental type of schools. The basic theoretical framework for this study was obtained from pertinent literature and complemented by updated information gained from online source.

The findings and results of this study are of concern to the general introduction of the Chinese education market. This also includes the relevant regulation and policies, customer behaviour in terms of school principals' role in decision making. The lists of the schools that are fulfilling the given criteria in Shanghai and Hangzhou region and the current information communication technology (ICT) situation and development of Hong Kong Fung Kai Innovative School are presented, as well as the possibility of pilot testing for Virtual learning environment technology. There are several schools recommended as the possible focus group. Although the Hong Kong key contact was not positive with the immediate business cooperation due to Fung Kai Innovative School's development schedule and technologically limitation, the commissioner seeks long-term relationship and future possibility. It is suggested that further study could be made with narrow scale and emphasis can lay on the focus group. The market segmentation, the case study for competitors locally or internationally as well as the benching marking of successful entries to Chinese market is proposed topics.

Keywords: Virtual Reality, Chinese e-learning, Chinese educational market, culture factor in decision-making process

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1 INTRODUCTION

The aim of this thesis is to provide the commissioning company, Applebones Production Ltd. with a general view and up-to-date information on three target markets in China: Shanghai, Hangzhou and Hong Kong. The consumer research was planned together with the commissioning company as well as the University of Oulu, Department of Management. A qualitative approach was applied to this study and the data was collected by means of observation and in-depth interviews. The main focus of this thesis is the target markets' observation and analysis. Customer behaviour, the current situation and the basic pertinent regulation and policy of the Chinese target markets are introduced.

Virtual-reality technology is claimed to be the latest trend in modern education. Overcoming the limitations of region and geography, it provides for the demand of lifelong study and distance education. Now, it has emerged in China and is likely to have large market demand, therefore the Chinese education market became one of the target markets that the commissioner company was interested in. For this reason the research is carried out.

The research plan is based on discussion between the author and commissioner. According to the business line of the commissioner, the research scope was defined as junior high schools in the target markets, however there are a few primary schools involved as well, because of their relevancy and compliance. The commissioner has defined three criteria for the data collection: technological-oriented, foreign language-oriented and experimental type of schools.

Due to limited English information available in the field, some of the sourced information is translated by the author.

Research problem

The commissioner Applebones Production Ltd. is willing to introduce their Virtual Learning Environment and service abroad. The aim of this study is to gather relevant information from the Chinese target markets in order to provide the commissioner with a better understanding of the chosen markets. According to commissioner's request, the research range is defined as educational organisations, in this case concentrating on Junior High schools. The research problems are as follows:

- What is the situation of the Chinese Education Market?
  a) What is the customer behaviour of the target markets?
  b) What are the basic policies and regulations in the relevant business field?
- Who are the possible business contacts or what is the focus group?

Commissioner- Applebones Productions Ltd.

Applebones Production Ltd. is a privately owned game production and consulting company. It was founded in 2008, located in Oulu, Finland. The company is committed to introducing the learning environment concept and providing digital services. It offers a virtual learning environment and education services. It specialises in educational 'First Person Shooter' (FPS) games. The educational interactive applications and games are their main focus. Applebones aims to provide creative, educational, collaborative content and functions through interactive games and educational solutions. Applebones has strong experience and knowledge in education, educational applications and the gaming industry. They commit to changing future generation educational applications and games. Their active and actual networks in both the pedagogical- and gaming industry sector enable them to successfully provide educational real-time FPS 3D games (Seikkailu Oulun linnassa, Snellmann). (Applebones company 2008 Production, date of retrieval 2.9.2010)

The mission of Applebones is to introduce Future Learning Environments and bring complete change to the current working culture. Through cooperating with customers, Applebones defines the initial data, level of aspiration and builds the software and technology to create the virtual learning environment. Applebones challenges the traditional learning culture by offering a fresh vision of future learning and it promotes the Pisa award-winning school system with a slight difference. Their goal is to grow and internationalise with partners and become a leading company in the field by 2015. (Applebones 2010, date of retrieval 2.9.2010)

Their main products include educational and collaborative content and functions through interactive games and educational solutions. REX (realXtend) was employed in their games by cooperating with Ludocraft, which enables a real-time 3D environment for the user, to act and play in an actual 3D world to meet and communicate with others. Consulting services is another focus area, including educational games, applications and gaming industry consultation. It also provides a service for composing surveys and offering individual counselling for companies in the creative industry. (AppleBones Company 2008, date of retrieval 2.9.2010)

2 RESEARCH PROCESS AND METHODS

Marketing research is defined as a systematic design, collection, analysis, and describing the data and findings related to a specific marketing situation that a company faces. (Kotler, Keller 2009, 130) Marketing research not only plays a vital role in providing the information for the formal planning and control functions for the marketing people, but also is responsible for organizing and presenting the information in a way that will eventually contribute to the planning and control activities of an organization. (Kinnear and Taylor 1996, 17.)

The marketing research project can be considered as a series of steps. There are 9 steps listed in Figure 1. to present the whole procedure. To identify the information need is the first step in the whole journey. The purpose of the research is to provide the information for the decision making process and information need must be accurately defined. The next step is to establish the research objective which will establish the reason why the research is carried out meanwhile listing the information needs. The third step is to design the research project and find out the pertinent source of the data for study. Data sources include internal and external sources. The former includes previous research studies or records and the latter includes reports and magazines. If the data is not available directly, telephone, email, interview, observation, experimentation and simulation are the alternatives. In the data collection procedure, the link between the questions and information needs is supposed to be created, so are the observations and records. To define the sample, the very first concern is the population that the sample is drawn from. The next concern regards the methods used to select the sample, while the final issue is the size of the sample. The data collection process is challenging because it involves a large portion of the effort in which error may occur. Once the data have been collected, the data processing begins. The data analysis is supposed to conform to the information needs. In the last step, the result should be handed to the commissioner either by a written report or spoken presentation in a simple but comprehensive way. (Kinnear and Taylor 1996, 17.)

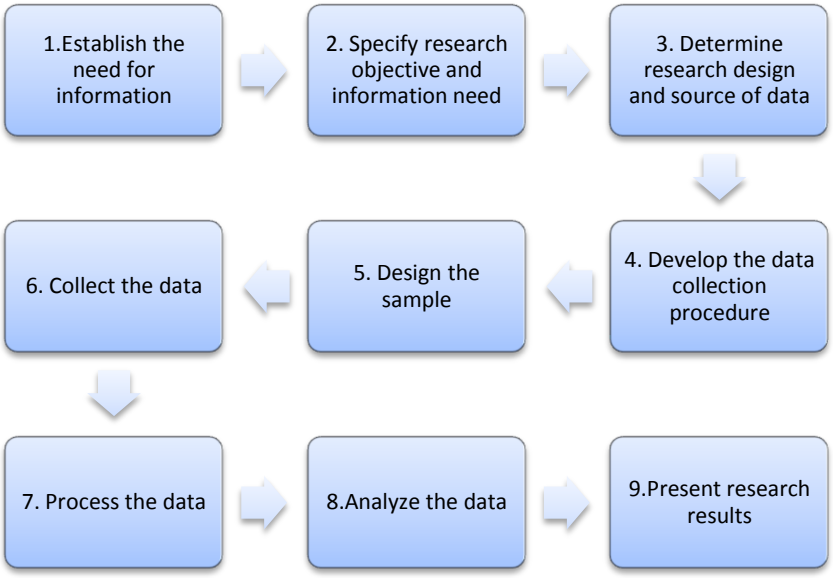

FIGURE1. *Steps in the research process* (Kinnear and Taylor 1996, 64)

2.1 Research Objective, Structure and Methods

Based on the commissioner's business plan, the goal of this research is to obtain the general view of the two chosen target markets of China mainland and to carry out a survey on a Hong Kong key contact school, to collect the data and find out the result and to report to the commissioner for the purpose of building up a possible business relationship or to identify the focus group.

This thesis consists of three sections: theoretical framework, data collection and result analysis. The theoretical framework contains customer behavior analysis, a general overview of Chinese e-learning and Virtual Reality technology application in educational fields.

Qualitative research methodology was chosen in this market research based on pragmatic reasons. Quantitative methods were not applied, since there was no hypothesis to present. Instrumentation and empirical data were almost completely missing, which in reality can be added for future study when the Commissioner Company reaches the stage of increasing their visibility on the Chinese markets. Even though the collected data is countable in numbers, the statistical analysis is not deemed to be practical for such a narrow slice of optional candidates. Due to limited knowledge of the target markets and the large number of possible candidates, the commissioner requires a general view and better understanding of two mainland-China chosen

markets. As for the Hong Kong market, since there has been pervious contact, the commissioner seeks to have up-dated information on their school plan and information communication technology (ICT) development.

Desk-top research was the second main information gathering method for this research. It makes a lot of sense to study the previous work done in the pertinent fields, as well as there being significant benefits in this process, which in turn generated the general view on the target markets. A great proportion of the information presented in this study was gathered through the internet in English or Chinese. Only a small amount of printed sources was used. Overcoming the geography obstacle, adequate online sources ensured the process of researching went smoothly. **In-depth Interview** was the main technique to collect data from the Hong Kong market. Through telephone interview to the key informant contact person of Hong Kong Fung Kai School, the most recent and relevant information was obtained and reported.

Case study is the strategy of this research. Case study research brings understanding to a complex issue, extends experience and adds substance to the previous knowledge. The emphasis of Case study rests on detailed contextual limited number of happening, situation and relationship. (Soy 2006, date of retrieval 11.11.2010.) The commissioner Company has little knowledge about two Chinese mainland target markets and they wish to obtain more information of the target market's situation, such as what the educational information technology (IT) situation and development is, who their possible business contacts and customers are and how many possible business contacts and customers there may be in the target market.

2.3 Data Collection, Reliability and Validity

In the cases of Shanghai and Hangzhou, data was collected through desktop research and filtered by observation with the criteria given by the commissioner as technology-oriented, foreign language oriented or experimental junior high schools, in order to provide the commissioner the possible future focus group. The method is recursive abstraction. It was difficult to find much information from previous research in the pertinent field or much information about the schools that fulfilled the criteria. Therefore, every district educational bureau of Shanghai had been examined in order to collect the valid data. Moreover, every result, i.e. every school's website has been examined in order to analyze the applicability of the data.

In the case of Hong Kong, the data was collected by in-depth interview and was analyzed by observer impression. However, because of the specialty of the area from the Chinese perspective, some more local personnel accuracy was applied; Commissioner Company was able to provide one key contact person that was interviewed in semi-structured way.

The questionnaire design combined art and science together and one guiding principle was that the questions should proceed from the general to specific. (Kinnear and Taylor 1996, 78) The questionnaire of Hong Kong Fung Kai was formed through the discussion between commissioner and researcher, according to the concerns and interests of the Commissioner Company. It covered the general questions of Fung Kai Innovative School, such as school hardware condition and students' interests in e-learning, as well as specific questions, such as the situation of School IT and the possible development and possible implementation of the Virtual Reality learning Environment.

This thesis employs quite wide strategic observation through the researchers' personal closer insight. The reliability of the data has been kept with participating the Chinese schooling system. The Commissioner requires cognitive testing for developing their quantitative survey systems and services. Datasets were collected and analyzed without coding. Instead recursive abstraction was used with careful reasoning before each consequent summary step. No real interpretation or criticism was presented to the data before adding it to the datasets. However, the commissioner's predefined limits were used to filter the kernel of candidates from thousands of options.

Reliability and validity of the result were affected by two factors, the well-planned and followed research process and the well-organized questions. They are established on thorough knowledge of Chinese culture and the interview with the Hong Kong key contact person. Since the research problems of the thesis is to find out the possible business contacts or the focus group and to gain general understanding of the situation of Chinese target educational markets, there have been meetings and discussions held between commissioner and author throughout the thesis process for the duration of the thesis. The contact of the key informant interviewee was provided by the commissioner. His voice can present a real picture of the Hong Kong market, due to his position, experience and multi-background in the field. He has served in the Hong Kong Educational Bureau previously and currently he is the school supervisor of Hong Kong Kung Kai Public School. He is also in charge of Hong Kong Education City Limited which is the largest one-stop

professional education website, with information, resources, interactive community and online software tools, to promote the academic use of IT and to enhance learning and teaching effectiveness. The interviewee is the key person in the decision making of the Kung Kai School and he is also the market specialist. Emails were the main approach of communication between interviewee and interviewer before the actual interview.

3 VIRTUAL-REALITY (VR) TECHNOLOGY

3.1 Introduction of VR Technology

Definition of VR Technology

Virtual Reality (VR), also known as Virtual Environment technology (VE) is often using 3D graphics generating technique, interactive multi-sensor technique and high-resolution display technique to produce realistic three-dimensional virtual environment. The users can wear a special head gear, gloves or other sensor data equipment, or they can use a computer keyboard, special mouse, etc. to interface with the main system. With these they can enter the virtual space, to become a member of the virtual environment. It means real-time interaction, perception and operation of many various objects in the virtual world to gain experience and immersive experience. (Chinaret 2009, date of retrieval 1.7.2010.)

History of VR Technology

Historically everything started from 1938 (History of Science 2010, date of retrieval 27.09.2010), when French theater was described as representing the reality in a virtual way. All of the objects on theater platform are put there to present reality, but not being really used all the time as they are used in the real world.

As early as 1960-1962, there was “Sensorama” (Mazuryk & Gervautz 2010, 2 date of retrieval 27.9.2010) prerecorded colorful movie with stereo sound, but also with scent, wind and vibration effects. It was first real try to create VR, but it was not interactive. Soon after that, on the year 1965, the concept of VR construction was made. It included interactive graphics, force feedback, sound, smell and taste. Still that was just a concept, not realized, until first 3D displays with head gears started to appear.

At the same time when computers started to emerge, they were used to calculate and model several natural and technical processes and systems. In the beginning it was with only numbers, but soon in 2D (in the beginning only Black and white) graphics. Later the computing power made it possible to add movements (rotation of molecules, simple mechanical parts moving on display) and some other options that made the display more interactive. When mouse was added to the regular tools, the first graphical workstations were possible.

Each new tool or computing routine that was added to the first mainframe computers, even games, made them more able to manipulate visual objects on screen like they were three dimensional or changing the viewing angle to some objects only inside computer memory. Many of those routines were also commercialized and sold later for powerful personal computers.

Nowadays Virtual Reality can be defined in several ways. For example “Computer simulations that use 3D graphics and devices such as the DataGlove to allow the user to interact with the simulation.” or “Virtual reality lets you navigate and view a world of three dimensions in real time, with six degrees of freedom. In essence, virtual reality is clone of physical reality.” (Mazuryk & Gervautz 2010, 4 date of retrieval 27.9.2010.)

With modern computers and special equipment it is now possible to make complete feeling of being somewhere else. Then all of the physical ways of sensing, all the visuals, touching, sounds hearing, scents, taste and even feel of “presence” can be virtual (Wallach, Safir & Almog 2009). But some simple VR is also possible with quite normal personal computers. That kind of VR can be called as Window on World (WoW). Still it can be interactive (mouse, keyboard) and it can give feedback to the user depending on the action (3D games). Also several computers on Internet can communicate with each other, and expand the calculation power, enlarge the VR surroundings, add more manipulatable objects, real time discussions and alike. In that case some of the feedback user can have, is coming from real persons, but is totally indistinguishable from artificial computer generated programmed virtual feedback.

In case where the VR is made in large computer clusters or servers, the user can sit by almost any computer, and interactively look and hear what is calculated to be happening in the main computer. In this way the VR is not as real life looking as actually working with the 3D display, stereo-sound and all the other VR extensions. But then the same data can be shown in simple ways to make it possible for users behind slow connections or not most modern computers to see and do what the VR system has been built for. This way the Internet is providing also a way to have VR for many users at the same time all over the world. And as each user is manipulating the data according to his time and ways, this can be used to remote teaching and several other tasks that can be provided from far away.

Specialty of VR Technology

Nowadays this more and more common word is an idea combining many different kinds of tools, systems and ways of thinking under the same roof. It can be divided into several subcategories, where the Virtual Environment, the reason why it is started and how it is produced, gives classification type. All of them are still artificial and not real in the normal sense of the word. It provides real-life style interface to many opportunities. With simple tool, like mouse, it is possible to visit otherwise unreachable places, it is possible to look into history, see real images and human imagination products from all angles. Also with that it is possible to give same VR to all who are interested in the same subject. Several millions of people can use VR for example studying, when only text and some styles are changed according to the user's cultural understanding. (Chinaret 2009, date of retrieval 1.7.2010.)

Virtual reality technology has the following five main features:

1) Immersion make the students feel like to be in a "virtual reality" environment, to believe there is indeed human existing in a virtual environment, and in operation user can play the role from beginning to end, the same as the real objective world.
2) Interaction in the virtual environment. The students are the same as in a real environment, and things have interactive relationship, in which students interact with the main body. The virtual object is object of interaction, between subject and object. The interaction is comprehensive.
3) The concept of virtual reality is to inspire people's creativity, not only immersed in this environment to enable students to obtain new instructions nor to improve perceptual and rational knowledge, but also to enable students to generate new ideas.
4) Action implies the students to the real objective world of human action or practical way to operate the virtual system, so that students feel that they were faced with a real environment.
5) The autonomy of the virtual world model objects and rules in their own independent movement. Even the laws in "virtual reality" can be virtualized. (Chinaret 2009, date of retrieval 1.7.2010.)

Application of VR technology

VR technology has been applied in wide fields nowadays, for instance, in aircraft pilot training, medical rehabilitation, training for surgical procedures, engineering and scientific visualization, manufacturing design, the control of remote (tele-operated) vehicles, and computer games. Some

of these designed virtual worlds are presenting the real world. Other virtual worlds are only artificial and only existing in computer memory. (Ruddle & Snowden 2010, date of retrieval 9.8.2010.)

VR is still expensive tool in high realism. The applications are limited by trade-off between cost and benefit. Also every user has personal sense how they feel about being involved in virtual world. User can be able to notice difference between the vision field and auditory information, which can be shown as delays in receiving the information when view is changed. However to larger extent, it does provide alternative methods to combine the real-world and virtual-world information. (Ruddle & Snowden 2010, date of retrieval 9.8.2010.)

Modern computer graphics allow photo realistic information to be displayed by detailed visual way. Some other tricks make it more efficient and detailed. The patterns contained in texture can raise speed of the optic flow, which enhance the user's feeling of movement in the virtual world. User's vision can be restricted due to the technical and cost limitations, for instance normal 200 degree vision might be minimized to 50 degrees only. In this way, the user is observing the virtual world through blinkers. This lacking is inhibiting user to get used to surrounding to the virtual world, and they often miss the events that occur just outside the peripheral vision even though they might notice it in the real world. (Robert & Snowden 2010, date of retrieval 9.8.2010.)

3.2 VR Technology in China

In education, virtual reality technology has broad role and influence. To experience in person is more than the abstract preaching convincing. Taking the initiative to interact has essential difference than simply passive viewing. No wonder that the experts point out that in education sector - new technology will bring us new educational thinking, to solve intractable problems of our past, will bring about a series of major changes. Capable systems are especially widespread in scientific and technological research, enabling virtual simulation on campus, virtual education, virtual labs, educational entertainment and other applications. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

The application in scientific research

Colleges and universities have conducted in many areas of study related VR issues. VR has great role in promoting research in many universities, for instance: Beijing University of Aeronautics and Astronautics applied distributed flight simulator. Zhejiang University in architectural respect, such as, the virtual planning, virtual design application. Harbin Institute of Technology had good experience in the practice of human-computer interaction. Tsinghua University yield distinctive research result in respect of tele-presence. In addition, Xi'an Jiaotong University, Shanghai Jiaotong University, North China University, Northwestern Polytechnical University, East China Shipbuilding Institute, Anhui University, and others have many projects and research applications. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

1) Campus Virtual Simulation

As it is commonly known, learning environment, the campus culture plays a great role in education. Teachers, students, schoolmates, classrooms, laboratory buildings, even the school plants; every element has an influence on people and their growth. To some extent, those effects are far beyond what they can gain from books. The characteristics of e-learning as well as the characteristics of virtual reality technology, has enabled campus virtual simulation. Therefore, the virtual campus is the initial joint-venture of virtual reality technology and e-learning. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

Tianjin University started with Silicon Graphics hardware back in 1996 a project based on international standards VRML. They developed the virtual campus, which allowed those who have not been to Tianjin University to have access to the school. Just by entering into the Chinese Internet, online education has barely begun. Still it is very impressive to have such an achievement. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

FIGURE 2. *Tianjin University Virtual Campus* (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010)

With the advent of the Internet age and the rapid development of online education, especially when broadband technology is applied in large-scale, some domestic universities has been gradually promoting the use of virtual campus mode. Successively Zhejiang University, Shanghai Jiaotong University, Peking University, Southwest Jiaotong University and other famous universities, have built virtual campuses by using virtual reality technology. We can also notice this from several other channels too; the Fourth Beijing and Hangzhou University have adopted the same idea to create a virtual campuses. Due to lack of more comprehensive consideration or a bold attempt, the actual use of virtual campus is still relatively simple. Still network conditions, lack of capable hardware, and the economical situation have objectively started to hamper its promotion. While the actual function of the virtual campus is mainly browsing, an enlarging variety of browsing, 61 degrees of freedom and new platforms are all characteristics which attracts people in a new way. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

The National Ministry of Education in China has mentioned virtual campus in a series of related documents, from which it is possible to clarify the status and role of virtual reality in China. The documents provide directions and clear the role of virtual campus. Some time ago, Zhejiang University displayed their virtual campus environment at the National 863 Results exhibition. Virtual reality technology with the combination of education was well promoted. With the development of online education, people are growing unsatisfied with simply visiting the campus environment. Three-dimensional visualization of the virtual campus is ready to come out. People want a complete virtual campus system. The new technology will lead to revolution in the way of

education, which enables people to experience the full range of education. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

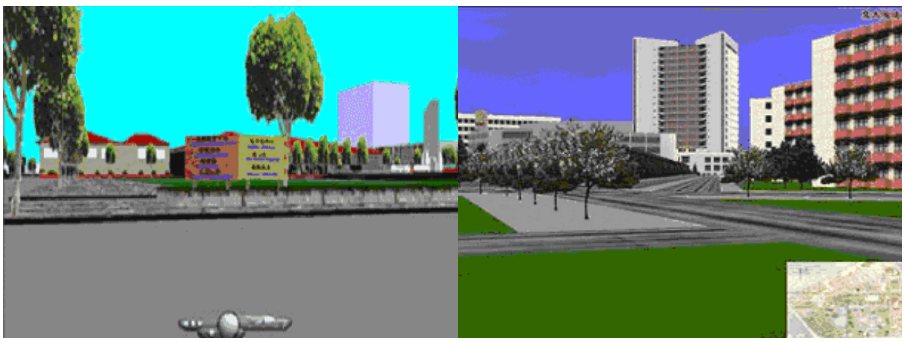

FIGURE 3. *Shanghai Jiaotong University and Xian Jiaotong University virtual campus* (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010)

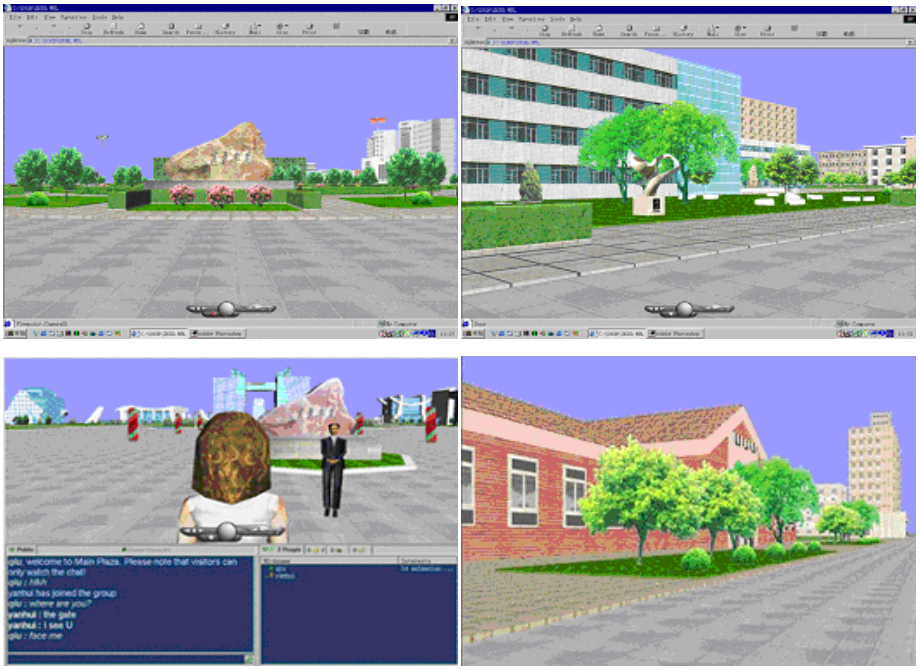

FIGURE 4. *Group pictures of Renmin University virtual campus* (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010)

Another example is the Open University of China Distance Education, which has used even larger human and material resources and adopted internet-based game graphics engine. On this basis, combined together with the practical function of the university and a network integrated graphics engine, the current application of VR technology of campus are breaking general browsing. As a base platform for large-scale applications, the effect has been very good. Chinese

industry reflects it strongly towards the Ministry of Education and to several institutions of the technical evaluation. Their learner-centered ideology enables the vision of some human features to virtual reality technology as a basic platform distance education, which is pioneered and advanced in domestic and even international. The practical application of their bold action will create a new milestone; let the people feel the full range of teaching and school culture, which is in people's real educational need. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

2) Virtual teaching (Experimental Laboratory)

Because of the characteristics of virtual reality technology, its practical applications are widely applied in the teaching of science and engineering, especially in construction, engineering, physics, chemistry and other disciplines, which have a qualitative breakthrough. Here is couple of schools that are known for their technologies.

– School of Architecture of Tongji University Virtual Reality Laboratory

  Have adopted rather high-end equipment, for instance huge SONY projectors and several workstations. High-end SGI graphics workstations with top-level amplifiers (8-channel, stereo around the room), are combined with special control equipment. "Simulating the architectural landscape as well as related to the structures." Although high-end equipment is very expensive, it opens the possibilities for building up the advanced teaching technology and boldly attempting to enable the student's new learning methods. They have already set up related post-graduate courses. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

– Southwest Jiaotong University, the application of virtual reality

  Southwest Jiaotong University is committed to engineering roaming virtual reality applications, tracking simulations in the field of advanced technology, developing series of international standards for computer simulation and virtual reality applications, in urban planning simulation, driver training and other interactive type simulation. They have divided visual simulation into the simulation environment and simulation-driven parts. Simulation environment includes model design, scene structure and texture design and special effects design. Simulation-driven part includes the scene-driven, model to mobilize processing, distributed interactive, large terrain processing. That requires high fidelity simulation environment for real-time response to users interactive manipulation. They have a strong

production team, i.e. simulation environment and simulation software development team. The usable resources include various grades of SGI graphics workstations and multiple applications that can complete the development of a variety of simulation applications. The system has been used for developing for instance, City Planning, large-scale Engineering Roaming, Virtual Tourist Attractions, Virtual Real Estate Marketing, TDS-JD Motorcycle Riding Simulator. (Why100 000 Computer Learning Network 2010, date of retrieval 27.7.2010.)

4 CHINESE EDUCATIONAL MARKET

4.1 Chinese Schooling System

China has adopted the education policy of "nine-year compulsory schooling system" since 1978, which secures all children to attend school and have education for at least nine years. Students are required to finish both the primary school program and the junior middle-school program. For further higher education, students must pass examinations of different levels. (Shme 2010, date of retrieval 5.10.2010.)

Chinese education consists of pre-school education, primary school education, High school education and higher education. High School Education in China is divided into two parts: three-year junior high school program and three-year senior high school program. Students start to study science subjects such as chemistry, physics and biology, and geography from Junior high school stage. Besides, history, English and political lecture are also compulsory. (Shme 2010, date of retrieval 5.10.2010.)

As a continuation of junior high school education, the span of senior high school education is also three years. In this stage, students have to complete all the subjects for both science and art students. During second year of senior high school students are allowed to choose their direction, either science or art. It is compulsory to pass all exams to get graduated and eventually take part in university entrance exams. Usually, two sets of examinations are designed to the students who have different labels. (Shme 2010, date of retrieval 5.10.2010.)

4.2 Introduction of Chinese E-learning

History and current situation

In China, currently the distance e-learning is still at starting stage and insufficient comparing to many other developed countries. However, the need and future of Distance learning is positive and optimistic. Most of the universities, schools, teaching institutions and other educational units have built their own online teaching or teaching resource library, and many online education colleges also have emerged. The Interactive, sharing, Macross nature of Distance Learning, is

conducive to open learning, flexible learning and lifelong learning ideal of mankind. Naturally, the significant of Distance Learning in the educational system become prominence world widely. (Jiang, Guan 2007, 137-138.)

Chinese Modern distance education started 1998, and has been developing gradually and grown rapidly into the large scale. According to the inspection results and analysis of Chinese "New Century Network Curriculum Project" in 2003, there were 320 distance education projects, showing that China's current development level of the majority of online teaching in general has had remarkable increase over previous years. (Jiang, Guan 2007, 137-138.)

The overall framework is well-designed, functional integrity of the performance, three-dimensional development, large amount of information and material; screen designed tends to be more fresh and bright, bringing out a breakthrough in experimental teaching and normal teaching areas. The present problem is also obvious, for instance, distance education instructional design does not reflect the active participation of students nor actively maintain choosing possibility. The type set for individual learning and adaptation of teaching is not sufficient. Cooperation of students and research innovative teaching design is also less organized. (Jiang, Guan 2007, 137-138.)

The Inspirations for Developing Chinese E-learning

1) Distance Education needs to focus on “Professionals and Specialization”

Development of distance education should shift focus from technology to humans, idea highlights that the distance study demands “Professional learners” with learning motivation and imitative. Distance education should be learner-demand-driven, designing lesson plans and resources, implementation of information and management of learning support services. Enough tools to provide students with personalized distance education services. On the other hand, distance education cannot do without “specialized teachers”. The teachers need to focus on strengthening the training management, through an organized plan to cultivate in training. They are to observe and exchange information in various ways and constantly improve teacher quality and the concept of distance education. They need opening changing mindsets and attitudes, sharing expertise and skills to enhance learning, to develop study habits to adapt to the complex needs of users. (Jiang, Guan 2007, 137-138.)

2) Distance Education needs to focus on “standardization”

Development of distance education in China has basically reached its maturity; most institutions have built a distance education system and resource libraries. However, the institutions, teaching organizations under the immediate need, are only independence to develop their own distance education systems. Their original database platform has not followed uniform standards and norms. Distance education as a whole, this current independent network of education, not only causes human, material and financial resources and time to be wasted. In the end it will lead to the development of curriculum isolated, closed system. It cannot meet the information age, knowledge of the highly integrated and Interdisciplinary requirements of mutual penetration. In order to allow different regions, different schools are to keep uniform standards. It is necessary to establish standards, develop a comprehensive quality management system. Optimize the allocation of resources, and narrow the gap between the geographical and education among schools. There is a need to give the role and impact of excellent courses and specialized teachers a full play to enable learners to benefit the entire country. It helps to enhance the overall level and quality of China's education. Therefore, it is much-needed to take attention to norms; it is directly related to the future of distance education platform versatility and compatibility. (Jiang, Guan 2007, 137-138.)

3) Distance Education needs to focus on “quality service”

From the industry point of view, distance education is attached to the service. It is an extensive concern to improve the service quality of distance education as a new perspective.

- Distance education quality standards should be as diversified as possible. The quality of distance education and development of the characteristics of diversity, quality standards required the diversification of distance education. Due to different stage different developing level, different types of distance education programs is required to develop and implement targeted quality standards, to effectively meet demand, promote distance education in a positive way.
- Focus on the process of distance education evaluation and management. Quality of service to the concerns and stress that the whole process of distance education services, not the final "product" (students and persons are physical education products) which requires the evaluation and management of distance education must be run through, to grasp the process of.
- Focus on internal process improvement and increased quality. Quality of service and quality of internal processes as the basis of distance education services and conditions to

improve the quality of internal processes and to improve the quality of distance education process, and thus improve the overall quality of distance education an important way.

- Enhance the quality of distance education and scientific evaluation. Due to the complex nature of distance education, distance education quality evaluation requirements eliminate interference factors in the premise. On the one hand, to strengthen the process of monitoring access to a wealth of objective data, subjective information; on the other hand, the statistical and scientific analysis, through the combination of competent and objective increasing scientific assessment. (Jiang, Guan 2007, 137-138.)

In short, the most concern of distance education lies on quality, therefore it is important to recognize and grasp the nature and characteristics of its industry, following the laws of its service sector to serve the economic and trade concepts and rules as the standard, and establish a market-based and actively adapt to global distance education market competition operating mechanism, through the growing marketing, quality awareness, brand awareness, cost consciousness, to achieve all aspects of the work from the empirical to the scientific type. (Jiang, Guan 2007, 137-138.)

4) Distance Education needs to focus on “Policy development”

Distance education is an integral part of our education; lifelong education is a necessary requirement. Distance education policy is the government's national distance education development and the primary means of control. Such as: strengthening the policies and regulations, clear positioning, overall planning, the development of modern distance education into the overall development of education planning, to avoid the university independently, duplicate construction; in organizing investment, technical standards and the promotion of learning support to ensure the service standards, and other educational Joint integration, human resources and education evaluation criteria such as quality certification issued policies and regulations. Speed up the construction of public learning support system, establish a unified national platform and regional platforms and Distance Education Universities’ resource management system; strengthen supervision of the distance education institutions, to enhance the quality of the experimental college in the assessment of the implementation of "delisting" system ; To promote cooperation between universities; colleges and universities give full play to the advantage of strong teaching staff, sharing resources, credit exchange, expand the opening possibilities; increased government investment, the implementation of poverty-stricken areas, "tilt" policy. Policy is double-edged sword; both can support and encourage the development of

distance education and can also regulate, restrain and control its development. Either encouraged or norms are better for distance education development. (Jiang, Guan 2007, 137-138.)

In 2005, the Third Session of the Eleventh National People's Congress and the Third Session of the Tenth CPPCC National Committee, the deputies were concerned about the development of distance. China Zhi Gong Party submitted a special Proposal “Promotion of healthy and orderly development of modern distance education”. The proposal mentioned that with the rapid development of distance education in China, and also during some of the common problems, such as inadequate understanding of the distance education; schools are not organized. That leads to faster expansion of the amount of distance education, but also lower quality. (Jiang, Guan 2007, 137-138.)

4.3 Relevant Polices and Regulations

Polices and Regulations Related to E-learning and E-service

At the spring of 2005, in both “The third session of NPC” and “Third Session of the Tenth CPPCC National People's Congress”, there were multiple copies of the CPPCC proposal for the introduction of distance education given out and several subjects were brought out. In the October 2005, the development of modern distance education was written into "National Economy and Social Development the Eleventh Five-Year Plan's recommendations". It demanded to speed up the legislation in the development of lifelong learning, to ensure that the development of distance education should be the content provision, while continuing development of "Internet Distance Education Promotion Law”, "Distance Education Certification and Assessment Ordinance" and other separate regulations. In the relevant laws and regulations the position of distance education should be made clear. The role of variety of distance education and training in national education system of lifelong education and in society will be clearly defined. Law should clarify the framework, policies of the development of distance education, and the initiatives and educational quality standardization of the distance education institutions as well as the responsibilities and rights protection of distance education learners. (Ding, X.F. 2009, 30.9.2010.)

These Interim Measures are formulated in order to promote education, information services on the Internet and modern distance education healthy and orderly development, of modern distance

education and norms in education information services through the Internet behaviour, according to relevant state laws and regulations. (Interim Administrative Measures on Educational Websites and Online Schools 4/7/2000 Article1)

To operate various types of educational website or online schools, the following requirements are compulsory:

(1) having the necessary funds and funding sources of valid certificates.

(2) complying with state laws, regulations and provisions of the State Administrative Department in charge of education and other conditions.

(Interim Administrative Measures on Educational Websites and Online Schools 4/7/2000 Article9.)

In addition to meeting the conditions of Article 9, to operate educational website or online schools must be approved by the competent administrative departments of education. Legal persons should have the same type of education qualifications or cooperate with the agency to provide quality assurance by the cause of their legal or corporate legal entity. (Interim Administrative Measures on Educational Websites and Online Schools 4/7/2000 Article10.)

Educational websites and online schools may involve higher education, basic education, early childhood education, teacher education, vocational education, adult education, continuing education and other types of education, public information and education services. (Interim Administrative Measures on Educational Websites and Online Schools 4/7/2000 Article6.)

Educational websites or online schools run by Joint venture should provide accounting firm or auditing firm a credit certificate or verification report.

Educational websites or online schools run by joint venture should provide applicants of the articles of incorporation, shareholders agreement and other documents. (Interim Administrative Measures on Educational Websites and Online Schools 4/7/2000 Article11:4-5§.)

These Measures are formulated in order to regulate Internet information services activity and to promote the healthy and orderly development of Internet information services. (Administrative Measures on Internet Information Services 24/9/2000 Article 1.)

Internet information services activity in the People's Republic of China shall comply with these Measures.

“Internet information services” as referred to herein means the service activity of providing information to Internet users through the Internet. (Administrative Measures on Internet Information Services 24/9/2000 Article 2.)

Internet information services are divided into two categories: operational services and non-operational services.

“Operational Internet information services” means the provision of information, web page production or other services to Internet users through the Internet for compensation. (Administrative Measures on Internet Information Services 24/9/2000 Article 3:1-2 §.)

To engage in operational Internet information services, the following conditions must be satisfied, in addition to compliance with the requirements provided in the Telecommunications Regulations of the People's Republic of China:

(1) having a business development plan and a related technology scheme;

(2) having sound and complete measures for the protection of network and information security, including measures for the protection of website security, an administrative system for the security and confidentiality of information and an administrative system for the security of user information; and

(3) for service items that fall under the scope provided in Article 5 of these Measures, having obtained approval documents from the relevant supervisory departments. (Administrative Measures on Internet Information Services 24/9/2000 Article 6.)

If an operational Internet information service provider applies for domestic or foreign stock exchange listing or conducts joint investment or cooperation with foreign investors, the prior examination and approval of the supervisory department for the information industry under the State Council shall be required. In addition, the percentage of foreign investment shall comply with the provisions of relevant laws and administrative regulations. (Administrative Measures on Internet Information Services 24/9/2000 Article 17.)

4.4 Customer Behavior Analysis

Marketing Stimuli and Customer Psychological Process

There are several factors that have inevitable influence on customer buying behavior. Cultural, social, and personal factors are fundamental determinants of a person's wishes and conduct. The country, family and other key institutions that a person grows up has essential impact on the person. Likewise the subcultures or reference groups, for instance, the nationalities, religions, racial groups and geographic regions, will characterize a person and his behavior. In addition, personal characteristic has a very direct influence on consumer's buying behavior. For example, age and stage in the life cycle, occupation and economic situation, personal preferences and self-concept, lifestyle and values all of these are concerning. A lifestyle is described as a person's living form or mode in the world as showed in the life activity, interests and opinions. (Kotler & Keller 2009, 192-200)

Culture factor play an important role in school lead's lead-ship. It is showed in the study that school leaders are more influenced by Chinese culture in school management and organization. The western values and practices have impact on them in relationship building, staff performance and promotion. There are also other influencing factors, such as gender, politics and

development. China is conceived as personal relationship and private information directing the business and social activities. There are four areas that summarize the basic formulation of Chinese relationship building and management: respecting age and hierarchy, collectivism, saving face and Guanxi culture. Guanxi can be translated as social connection or social relationship. It is throughout culture deep-rooted element, it plays a vital role especially in doing business with official or governmental organization. Influenced by Confucianism, Guanxi and authority chain can been assumed as the two-axis of relational coordinate. The Guanxi axis based on long-term trust, mutual respect and loyalty, through discussion or negotiation, it attempts to reach valuable information exchange or reciprocity. The other axis authority chain requires only obedience, taking the order and stick to rule, showing respect and loyalty to authority. (Law 2009, 304-306.)

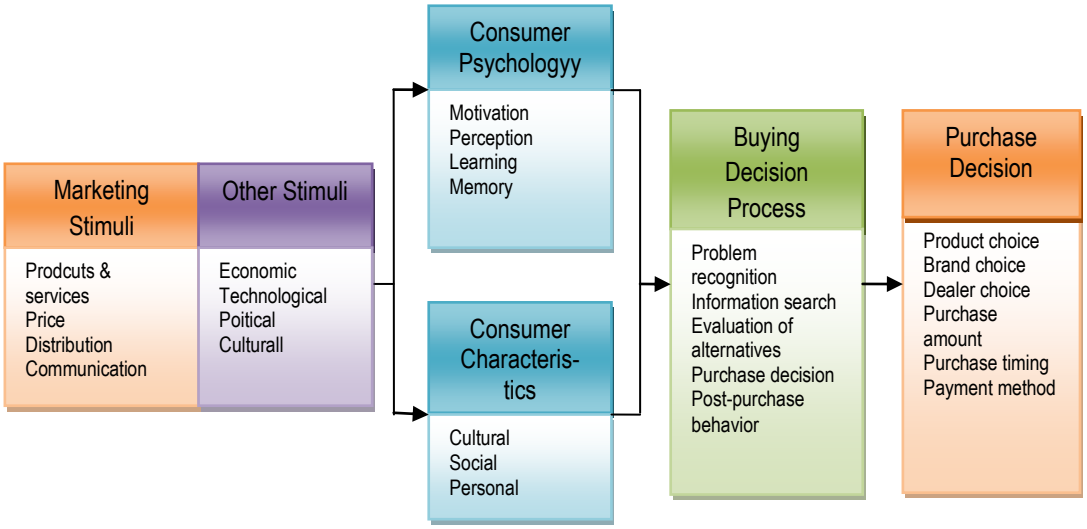

FIGURE 5. *Model of Consumer Behavior* (Kotler & Keller 2009, 202)

The model showed in Figure 5 presents the marketing and environment stimuli influence the customer's consciousness, a set of customer's psychology and character in purchasing and decision making. The motivation, perception, learning and memory are the four key psychological procedures influencing the customer behavior. A motivation originates from a need and it became an action when the intensity reached to adequate level. (Kotler & Keller 2009, 200-202)

When a customer is motivated, his or her final action is depending on the person's view of the situation. Perception is the process every customer will go through. The customer will choose, organize, and interpret the information to have a meaningful picture of the situation. Perception

can function more efficiently than reality in the marketing world. Customer can emerge different perception toward the same objects due to three different perceptual procedures: selective attention, selective distortion, and selective retention. The selective attention challenges the markers to have correct and effectual measurement to identify which stimuli attracts customer's attention. For instance, a customer who is motivated to purchase a computer will notice the DVD name in ads. In practice though, the customer may not catch the congruent stimuli that marketers put up. This is how selective distortion works, because the customer tends to interpret information according to his or her own perception. The information is often distorted to fit to customer's previous learning of the product beliefs and expectations. This behavior works to benefit the marketers with strong brands, when the customer distorts neutral or ambiguous brand. Previous knowledge causes more positive influence. Selective retention explains that the customer tends to remember one brand's good points and neglect the competing brand. However subliminal perception is claimed one way to affect customer behavior through the convert, subliminal message marketer embeds in ads. (Kotler & Keller 2009, 204)

Learning is one approach that marketer can build up. The product demand is increased by joining the product with strong drive which is internal stimulus impelling action. It cues which is the smallest stimuli that determine when, where and how a customer responses. This is understood with positive reinforcement. A new company can enter a market by appealing to the similar drive cues that competitors claim. Or they can create a different set of drives and cues to avoid possible existing discrimination. (Kotler & Keller 2009, 205)

Marketing can be considered as a process that a customer gains right kind of product information or service. Customer learns about the product and maintains them in the memory. If the experience or knowledge of product became a node in customer's memory, the customer's brand association is built up. The brand association indicates the all brand-related thoughts, feelings, perception, images, experiences, beliefs, and attitudes and so on that becomes the link of brand node. Memory process is very constructive and can be re-constructive depending on the intervening factors or other encounter happenings. (Kotler & Keller 2009, 205-206)

The Customer Buying Decision Process

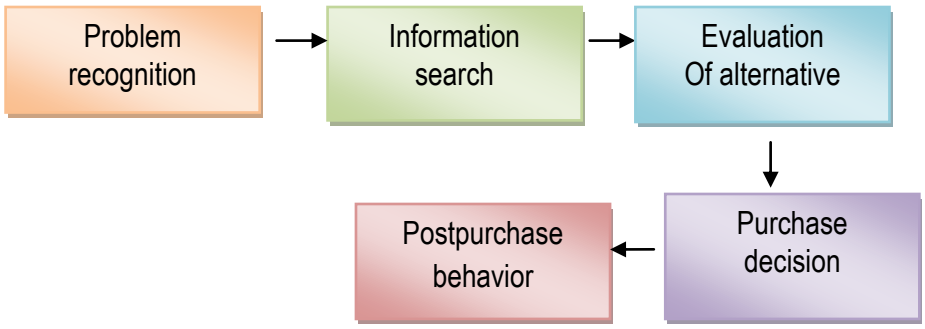

FIGURE 6. *Five-stage Model of the Customer Buying Process* (Kotler & Keller 2009, 208)

Customer is motivated to purchase when a problem or need is stimulated by internal or external factors. Marketer needs to reorganize the customer's specific or possible need by gathering information. The information collected from large number of customers can be developed as future marketing strategies that generate consumer interest. Information sources turn all into four groups personal (families, friends, neighbors), commercial (advertising, web sites), public (mass media), experiential (handing examining, using the products). Through collecting information, customers gained knowledge about the brand and product. However, marketers should not neglect other brands' role in customer's choice sets. It is vital for marketer to identify the market partitioning. The way how the customer evaluates the alternative and make a final decision can be understood by several steps. Firstly, the customer tries to meet a need, and then he or she seeks some benefit from the production solution. Thirdly, the customer views a particular product as a bench of attributes with different abilities to get the benefits to fulfill the need. The customer's belief and attitudes are gained by a learning process. Attitude is believed to be very difficult to be switched. It models customer's mind of liking and disliking toward certain object. It is wise for a company to fit its products to the existing attitude instead of attempt to change it. (Kotler& Keller 2009, 208-211)

In term of school IT development, there is a small amount of human, financial, and material inputs. It is no doubt that the school principals' task to be involved in decision-making has become imperative. They have play an vital role in developing clear objectives and applying reasonable policies, systems and norms for schools to establish and carry out educational IT. (Xiao 2009, date of retrieval 10.11.2010.)

There are several needs that motivate the school principals to take IT as the proposal. It is the basis for principals to understand the IT environment in the teaching environment of school education. From the perspective of school technical needs, school principals should consider and be aware of existing technology environment. This means from hardware and software to the level of both teachers and students' ability to apply the technology. This way the decision-making could match the school planning and amount of funding provision. From the perspective of IT, there is a need for the principals to consider, for instance the amount of computers that are available, the situation of school network, the necessary software and hardware maintaining and updating requirements as well as material cost, labor fees. From the perspective of staff needs, one aspect that must be noticed by school principals is that the staff training for the IT application in teaching. The other aspect is the number of students at school who have needs to learn and communicate by computers and if IT application in the classroom can improve student learning and improve the academic results of students. From the perspective of policy needs, if there is policy that promotes the application of IT which should also integrated with the original mission of school. (Xiao 2009, date of retrieval 10.11.2010.)

School principals as chief executives have the final denial right. School principals cannot be evasive. As final decision-maker, particularly having responsibility related to school education, they establish and carry out aspects of IT with a small number of human, financial, and material resources. For the principals, the decision making is the most important of all tasks. So through thinking, open mind, physical coordination and prudent attitude are required in the principals' decision-making process. The decision-making of educational IT is a process of purposeful, well-planned, and action-based with accurate evaluation measure. It requires teamwork to improve the demand from time to time. It is demanded that school principals have certain knowledge and skills on IT. They need to be talented enough to make one-sided review of school technology-related effects. However, most principals are neither professional nor technical personnel; therefore how to make a reasonable allocation of useful technologies for schools to improve the effectiveness of teaching is dependent on the support of a professional team. (Xiao 2009, date of retrieval 10.11.2010.)

School IT construction is a complex project and system. It requires large number of necessary conditions, in which the relevant ability and leadership is a prerequisite and critical literacy. In this study, it is found that principals' attainment and knowledge will directly affect the development of

school education and overall development. Moreover, school principals also emphasis on their own IT literacy attainment which has significantly impact on the development of school education and overall development. This plays a great role in promoting school IT development. (Wang, Du & Wu 2006, date of retrieval 10.11.2010)

The study shows that the national recognition of ability of principals' educational leadership rests on the following five aspects: Culture, Symbol, Education, Relationship and Technology. According to the Chinese culture, principals play an important role in passing beliefs, subtle in a way that all school staffs and students would be convinced by the school's mission in order to work together to establish a common vision. The symbolism of School principals reflected in such way that the principals have clear vision of future direction and value. Their words and deeds have huge impact on school staffs and students. Education aspects required the school principals to have the ability to solve the possible problems and to design the educational activities. School principals should be masters of human relationship, being able to improve morale, encourage cooperation and participate in decision-making. Last but not least aspect is school principals' sense and ability of technology in planning, organization, coordination, implementation and evaluation. In the process of IT development in the education, the direction and development of school highly reply on the principal's knowledge and decision making, interests and action. (Wang, Du & Wu 2006, date of retrieval 10.11.2010.)

5 MARKET ANALYSIS (CASE STUDIES AND RESULTS)

This chapter provides the sight of the Chinese customer behavior, especially the cultural and social factor that influences the decision making on purchasing educational product. The schooling system of Chinese target markets and its current situation was introduced. The basic regulations and policies related to e-learning, educational websites, online schools or education online information service was covered. Through the observation there are several schools which fulfilled the criteria of the commissioner and are recommended as the possible business contacts or focus group.

5.1 Case study of Shanghai

Shanghai is one of the biggest cities in China, with the population of 19.2 million in 2009 (Lu, Z. 2010, date of retrieval 15.7.2010). It is divided into 18 county-level divisions, including 17 districts and 1 county (Chongming County). They are Pudong New district, Huangpu District, Luwan District, Xuhui District, Changning District, Jing'an District, Putuo District, Zhabei District, Hongkou District, Yangpu District, Baoshan District, Minhang District, Jiading District, Jinshan District, Songjaing District, Fengxian District, Qingpu District.

FIGURE 7. *Shanghai District Map* (China Tourist Map 2010, date of retrieval 9.9.2010)

5.1.1 Situation of Shanghai Education and Development

According to Shanghai population and research center, at the end of 2009, the city had 66 the ordinary colleges (including independent institutes); 871 general secondary schools; 751 ordinary elementary schools; 29 special education schools. The number of students and the graduates in ordinary university is growing continually. However; the number of middle school students and the graduates continues to drop (see Table 1).

TABLE 1. *Students Situation of All Types of School At All Level* (Shanghai Municipal Statistics Bureau 2010, date of retrieval 15.07.2010)

Category	Number of Students[a]	Growth rate (%)[b]	Number of graduates[a]	Growth rate (%)
College and University	51.28	2.0	12.69	3.9
General Secondary School	77.07	-3.6	22.51	-13.5
General High School	60.37	-2.3	17.03	-15.2
High school	17.76	-7.8	7.04	-26.0
Junior High School	42.61	0.2	9.99	-5.6
Polytechnic School	11.50	-4.8	3.39	-8.6
Vocational School	4.14	-13.8	1.73	4.2
Technical School	1.06	-19.7	0.36	-36.8
Primary School	67.12	13.6	11.36	8.8
Special Education School	0.50	-2.0	0.09	12.5

a) Times 10 000
b) Calculated with % = 100*(Number this year – Number last year)/Number last year

Up to the end of the year 2009, there were 54 organizations that provided master degree program in Shanghai. Postgraduate education recruited 37,400 students, 103,500 students were currently studying and 28,300 students were graduating. Shanghai city nine year compulsory education matriculation rate maintains above 99.9%. There were 86 schools, which provide education for the children who don't have local citizenship. Those schools are ranked as non-government funded education and are managed by the people education administration. They invest

43,000,000 Yuan to improve the school conditions, the proportion of non-Shanghai citizenship children who are studying in Public schools or government entrusted voluntary school achieved 92.7%. In the end of year 2009, there were 21 private colleges and universities that had 95,200 students studying; there were 111 private general high schools which had 82,200 students in school; there were 171 private primary schools with 151,000 students in school; there were 18 independent adult universities with 366,200 students in school; there were 47 adult middle school with 34,300 student in school; there were 789 professional technical training organizations with registration 1,858,000 students; there were 278 old age educational institutions with 514,700 students in school. **(**Shanghai Municipal Statistics Bureau 2010, date of retrieval 15.7.2010.**)**

The basic education system of Shanghai is very well developed. It was the first city to implement the 9-year compulsory education in China. Local government, together with the local municipality, directs and suburbs, has the administration over the educational system. Shanghai has achieved many new plans and reforms in the education area. For instance, the "Standardized School Project", which was launched in 1999 in the whole city area in order to standardize the urban schools and rural schools in terms of administration, staff training, capital construction and school facilities. (Shanghai Education Association for International Exchange 2010, date of retrieval 7.10.2010.)

The modern boarding high schools have started to emerge in mainland of China. More than 11 modern boarding high schools have been established by 1999. The initial investment was more than RMB 2 billion Yuan. As for the private schools, in the light of national policy "Active Encouragement of the great support, correct guidance and powerful management", they have developed with great speed. There were altogether more than 159 primary schools and middle schools, which accounts for 7.1 % of total schools. Great attention has been paid onto the compulsory curriculum reform and the extra-curriculum activities. Different activities and events are added to student's school life, such as sports, IT, environment protection, arts, and painting. (Shanghai Education Association for International Exchange 2010, date of retrieval 7.10.2010.)

The table on next page clearly lists the number of the schools in each district of Shanghai region as well as the suburbs. There are 774 junior high schools within Shanghai region. Among them, there are 46 experimental schools and 16 foreign language schools (Cf. the full list in appendix).

TABLE 2. *Shanghai city and Sub-district Schools Basic Situation* (Shanghai Municipal Education Commission 2008, date of retrieval 6.10.2010)

Index	Number of schools	Complete[a] schools	Junior High schools	Senior High schools	Consistent[b] schools	Number of students in total	Number of teachers and staffs in total
City total	**774**	**142**	**141**	**349**	**142**	**617 724**	**68 886**
District total	**735**	**132**	**137**	**328**	**138**	**588 042**	**65 287**
Huangpu	24	6	6	10	2	21 375	2 725
Luwan	15	1	4	8	2	8 379	1 222
Xuhui	42	10	9	21	2	38 596	4 343
Changning	28	6	5	16	1	22 588	2 685
Jingan	15	4	3	6	2	13 964	1 712
Putuo	50	10	10	16	14	31 391	4 152
Zhabei	42	11	7	20	4	29 261	3 524
Hongkou	42	4	12	20	6	29 369	3 082
Yangpu	57	8	14	29	6	39 196	4 663
Minhang	59	8	10	26	15	41 750	5 323
Baoshan	53	6	8	28	11	38 858	3 905
Jiading	31	6	6	11	8	24 195	2 714
Pudong	109	31	17	54	7	100 207	9 624
Jinshan	30	2	7	18	3	26 395	2 862
Songjiang	32	8	3	6	15	30 927	3 377
Qingpu	27	1	4	16	6	24 413	2 435
Nanhui	42	8	6	12	16	38 403	3 970
Fengxian	37	2	6	11	18	28 775	2 969
Suburb total	**39**	**10**	**4**	**21**	**4**	**29 682**	**3 599**
Chong Ming	36	9	4	21	2	28 426	3 509
Nong changju	3	1			2	1 256	90

a) combined junior & senior high school
b) nine-year compulsory education also can be extended to 12-year

5.1.2 Schools' IT Development Project

Application of Information Technology in Shanghai Primary and Secondary Education Project

Since 2007 the Shanghai municipal government initiated and implemented practical projects in education, "400 primary and secondary school facilities information environment". In July 2007, for promoting this project, the Shanghai Education Commission launched the "Shanghai Application of IT education schools" project. Also Shanghai Education Commission selected Jinri Primary School at Nanhui District and Huacao Central School at Minhang District as the first pilot schools. Shanghai Distance Education Group, as the builder of the Shanghai Education Resources Center, will provide guidance and service support for the implementation. Through nearly one year of implementation, the overall information literacy and IT application level of these two schools' staffs rise significantly. It was shown that the first implementations have received good results and the implementation should be extended. (Application of IT in Shanghai Primary and Secondary Education Project Promotion Office 2009, date of retrieval 28.9.2010.)

To extend the good results these two schools have achieved, the city Board of Education decided that from June 2008 onwards, within ten districts of the city, there were 20 schools selected to carry out the "Shanghai Experimental Primary and Secondary Information Education Application Schools" project. Under the guidance of the Compulsory Education Department of Shanghai Education Commission, Shanghai Distance Education Group built a management website for "primary and secondary education information application in Shanghai Experimental School" project. It is for the purpose of promoting the "Shanghai Experimental School Information Education Application Project". The principle of this website will be based on published information and shared resources to build up. On one hand it could achieve multi-party interaction of city, district and school. On the other hand it could meet the actual demand of the multi-level, multi-unit sector for supporting the development and implementation of efficient work. (Application of IT in Shanghai Primary and Secondary Education Project Promotion Office 2009, date of retrieval 28.9.2010.)

School Software Installation Notification

According to the Shanghai Municipal Education Commission, the IT in rural primary and secondary education will be applied to promote the integrated working plan. The main task is of building information software platform. For promoting the further implementation to primary and secondary education in rural areas, the Project Promotion Office will provided four sets free of charge IT teaching software (Jinshan Application of IT in Rural Primary and Secondary Education Project Promotion Working Group 2010, date of retrieval 28.9.2010.)

There are four planning aspects:

1) Campus podcast platform: to help the teachers to carry out online observation and evaluation and to achieve the district / schools' video resources sharing.

2) Digital resource management platform: to help schools to establish effective school-based repository, thereby enhancing the effectiveness of classroom teaching, playing a supporting role promote the resources.

3) The teacher knowledge base software: to provide a theoretical support and outstanding case guidance for the teacher's daily classroom management in order to improve the efficiency of class management, to promote home-school communication and to deepen the level of the school's IT applications.

4) Teaching lesson planning software (EDUOFFICE): It is educational software that was developed for IT teaching according to the actual need of teachers and students. (Jinshan Application of IT in Rural Primary and Secondary Education Project Promotion Working Group 2010, date of retrieval 28.9.2010.)

Each school is required to install these in the near future and to complete the work well. The installation has several requirements for school's hardware and software. Those requirements are listed on the table in next page. If the requirements could not be fulfilled, the school is supposed to purchase the hardware and software on their own in accordance with the procurement process. The installation time for an initial period was by the end of May or in the middle of June 2010.The specific time of installation depended on each school. The technical training will be organized before the installation. (Jinshan Application of IT in Rural Primary and Secondary Education Project Promotion Working Group 2010, date of retrieval 28.9.2010)

TABLE 3. *Platform for server hardware and software installation configuration requirements (minimum standards)* (Jinshan Application of IT in Rural Primary and Secondary Education Project Promotion Working Group 2010, date of retrieval 28.9.2010)

School server hardware basic configuration		School server software basic configuration	
CPU	Not less than two 2.0Ghz cpu processors	System	Windows 2003 sp2
Memory	Suggested 4GB (2x 2 GB) at least 2GB of memory	Database	MS SQL Server2005
Hard Drive	Recommended hard drive size 146GB * 3 (RAID5)	.net	2.0 above
Ethernet LAN	2 GB/s	IIS	IIS 6.0 and above
Drive	DVD ROM		
Power	Hot Plug Power Supply		

According to building requirements of education area network, it is suggested that the following server configuration should be considered when schools purchase servers on their own.

Tower servers

Dell T310: Intel Xeon x3430, 2.4G Hz/ 4G (2x2GB) 1333MHz memory / 4x 1TB 3.5 inch 7.2K RPM SATA HDD / DVD / keyboard and mouse / integrated control card Dell (tm) PERC 6I / redundant power supply / 3 years IT professional support services 7 * 24 * 4 / non-display / must be authorized by the original manufacturer. (Jinshan Application of IT in Rural Primary and Secondary Education Project Promotion Working Group 2010, date of retrieval 28.9.2010.)

There are 31 primary schools and junior high schools chosen to apply this project. Jinwei Middle School, which is one of the recommended schools in thesis, is among them.

5.1.3 Recommended Schools and Introduction

According to the commissioner's request, the scope of data collection in this thesis is junior high schools including public schools and private schools. The commissioner would like to know which those schools are and to have general knowledge on them in order to determine interested possible contacts. The experimental schools, foreign language schools or IT-oriented schools are those that the commissioner is interested and wants to acknowledge through this thesis. There are 46 experimental schools and 16 foreign language schools within Shanghai region. The school lists can be found in appendix. Due to the restriction of the time and length of the thesis, it is not

feasible to have every school introduced and presented. In this case the foreign language schools have become the key recommended objects.

Through visiting Shanghai Educational Bureau webpage, every school in accordance with the given criteria has been picked up, gone through and filtered. Eventually six candidate schools have been introduced in the thesis. Firstly, these schools met the criteria given by commissioner. Secondly, they have well-organized website and some of them have school webpage translated in English, which is also easier for the commissioner to read or to have access. Thirdly, many of these schools had well-equipped school hardware and facilities, which ensure the possibility of ICT practice. Fourthly, all of these schools have good reputation and have gained local people's trust. The mission or the goals of these schools are open, seeking for creative development. Last but not least, many of them have experience to cooperate with foreign schools which secure their ability to accept new technology and things.

Shanghai World Foreign language Middle School is one of the most fully reinforced language schools in Shanghai. The school is headed by the chair of the June Yao Group, Wang Junjin. It is well-known for its specialized courses and leading role in the teaching of foreign languages and English. It has been the first International business school in the Xuhui District. **Shanghai Peijia Bilingual School** is a citizen-managed school with permission of enrollment from all over the Shanghai region. School advocates 'Excellent Teaching and Joyful Learning'. Peija dedicated to curriculum reform. It has set up multi-courses system in order to meet students' development needs. In the process of practicing and exploring new courses, the school strives to build its brand of projects with the characteristic of Peijia. **Shanghai Ganquan Foreign Languages Middle School** is worth its salt. Surpassing English language, there have been Japanese, Korean, Germen, French, and Russian language courses set up. In 2003, Department of Foreign Students was set up. It has also set up office abroad and thereby it initiatively achieved to enroll students abroad. In 2006, a "Foreign language Research Center" was established. **Bilingual School Affiliated to Shanghai International Studies University** was founded in 2001 as the first experimental bilingual school. School has a lot of exchange programs with foreign schools. School facilities are well-equipped and the learning environmental has been taken into full account, for this reason the entire campus is integrated and functioning as an "English Village". **Mengshan Middle School** is dedicated to reform and play a leading role in promoting local teaching and researching organization, in order to achieve school interaction and explore new style research. School emphasized the full development of all students, focusing on quality

education of students. **Jinwei Middle School** founded in 1958, is one of the largest junior High schools in Jinshan District. Its special feature is the technology utilization. It was nominated as "Technology Special School of Jinshan District". The recommended schools' list is available from table 3.

TABLE 4. *Six Recommended Schools for the case of Shanghai*

School Name	Category	Website
Shanghai World Foreign language Middle School	Public transformation [a]	http://www.wflms.cn/
Shanghai Peijia Bilingual School	Private	http://www.peijia.com/
Shanghai Ganquan Foreign Languages Middle School	Public	http://www.ganquanschool.com/sites/gqmscn/home2010.asp
Bilingual School Affiliated to Shanghai International Studies University	Private	http://swsyxx.2000y.net/
Mengshan Middle School	Public	http://mengshan.jsedu.sh.cn/
Jinwei Middle School	Public	http://jwzx.jsedu.sh.cn/

a) The Chinese school had only two kinds of attributes: Public and private. Now the emergence of new educational system: "Public high school transformation" abbreviated as Public transformation refers to the schools that are transferred from the Public to Private schools in the process. The ultimate destination of such schools is either return to public schools or to stay as private schools. (Public high school transformation, zhidao.baidu.com, date of retrieval 9.9.2010)

Shanghai World Foreign language Middle School (WFLMS) was founded in 1996 and became under the control of the June Yao Group in 2005. The school is headed by Mr. Wang Junjin, the chairman of the June Yao Group. Mr. Wang won Economical Characters of Touching China in 2007 and he is one of the Standing Members of the Administrative Committee of the Federation of Industry and Commerce of China. As one of the best middle school in Shanghai, WFLMS is famous for its specialized courses and leading role in the teaching of foreign languages and English and it was the first International business (IB) school in the Xuhui District. It is a member of many organizations such as CITA, NCA and CASI. WFLMS is a pioneer in diversified education and cultivates socialized and outstanding students. The mission of WFLMS is to train modern Chinese students to meet the needs of diverse society and rapidly changing world which in line with the ideal of IB's international comprehension and communication. (Shanghai World Foreign language Middle School 2008, date of retrieval 27.9.2010.)

Shanghai Peijia Bilingual School is a modern citizen-managed school, ranging from primary section to all levels of high school. It is entitled to have enrollment application for all Shanghai people and foreign students as well as for employment of foreign teachers. It has wide connections with the West, and keeps good exchange programs with European and American schools including teachers and students. The school combines updated management theory into practice. Its aim is to advocate 'People First' values and to set up excellent teachers' team by all-round quality management and by a learning organization culture. The school's motto is 'Excellent Teaching and Joyful Learning'. It holds ultimate mission of 'Improving developments for both students and teachers by forming development and cooperation culture. It sets advanced theory of the second curriculum reform. It establishes multi-courses system which suites students' development needs. In the process of practicing and exploring new courses, the school builds its brand of projects, curriculum culture with the characteristic of Peijia. 'Focus the groundwork, Advocate the communication, Develop the personality', Peijia wins the sustained development and stable improvement by the advanced educational theory and excellent education techniques. (Peijia Bilingual School 2010, date of retrievial 27.9.2010.)

Shanghai Ganquan Foreign Languages Middle School founded in 1954, is a combined junior and senior high school. It is entitled to enroll foreign students. It is a school of Shanghai Foreign Exchange Open-up School, English Experimental School, Japanese Standard Curriculum Middle School, Member of the National Foreign Language School, Foreign Language Experimental School affiliated to Shanghai University, Base for the National Association of Japanese Language School and Nationwide Japanese Language Teacher Training Base. (Shanghai Ganquan Foreign Languages Middle School 2010, date of 27.9.2010.)

For over 30 years, school has cultivated a lot of talented students in foreign languages, and Japanese language is the school characteristics. Currently, 6 foreign language courses have been set up, including English, Japanese, Korean, Germen, French, and Russian. The principle of the school is aiming to train modern people to be cultivated, competitive, and characteristic and having a worldwide view. Its goal is to reinforce the management, spread in the area, improve the features and develop the initiation. The school pursues to find out the value of a person, develop the human potential, improve the quality and enhance the characteristic of a person. It aims to have an international view and simultaneously promote national consciousness and personal specialty. (Study in Shanghai 2010, date of retrieval 27. 09.2010.)

In 2003, the school established the Department of Foreign Students. So far, the scale of the foreign nationals has increased from the initial 3 to 70, including Japan, Korea, Germany, the United States, Finland and other countries. In 2006, the school established Shanghai Ganquan Foreign Languages School offices in Tokyo, Japan and Seoul, South Korea. Thus it has achieved the initiative and normalized of recruiting oversea students aboard. In March 2006, the school set up a "Foreign Language Research Center." In July 2007, as the “National Leading Group Office of Chinese Language Council International” nominated nationwide “Base of Chinese Language Council International” to promote primary and secondary schools, Ganquan was among eight bases. In 2008, the school ranked among the "World Chinese Language Association," the governing unit. (Shanghai Ganquan Foreign Languages Middle School 2010, date of 27.9.2010.)

Bilingual School Affiliated to Shanghai International Studies University, a private school founded in 2001, was under the control of Shanghai International Studies University, Shanghai Yangpu District Government and Shanghai Yangpu District Education Commission. In 2004, school was nominated by Shanghai Education Commission as the first experimental bilingual school. The international exchange programs of school are popular, the partners including Bernard Texas School, Adelaide Australia. They enable the mutual exchange between school, students and teachers and increased a great deal of interest in learning foreign languages among the students. (Baidubaike 2010, date of retrieval 27.9.2010.)

The school teaching facilities are well-equipped, including laboratories, multi-functional classrooms, advanced audio-visual classrooms, electronic reading room, computer room and other auxiliary classrooms and gymnasium, student dining hall, the synthetic surface track and basketball courts, as well as advanced Internet network and the CCTV system. School takes the learning environmental impact into full account, especially for the students who are foreign language learners. The design and decoration of the campus, accommodation areas, classrooms and offices’ layout are integrated well to create a bilingual education environment. The entire campus is therefore functioning as an "English Village”. In September 2006, School moved to new campus which covers 194,249 square meters. Now it has achieved kindergarten, elementary, middle and high schools as a whole, to become the most modern, open international school in Yangpu District. (Baidubaike 2010, date of retrieval 27.9.2010.)

Mengshan Middle School was known formerly as the No.2 High School affiliated to Shanghai Normal University, but was renamed as Mengshan Middle school in 1998. Through hard work over years, Menshan people have laid a solid foundation for the school development and also won good reputation by the society. It has both primary and junior departments. In August, 2002 for the purpose of the education and teaching reform, the school joined with No.5 Middle School of Fossil to form the new Menshan Middle School that located in Jinshan District of Shanghai. School campus covers 22,440 square meters, construction area is about 15,600 square meters, including 32 classrooms, 21 special classrooms, 250 meters synthetic surface track, restaurant, basketball court, table tennis room, comprehensive gymnasium parking lot.(Information Center of Shanghai Jinshan District Education Commission 2008, date of retrieval 28.9.2010.)

School is committed to reform and play a leading role in the region. English teaching is the characteristics of the school. In the yearly cooperation with Bosch Kai College of Technology, school has established foreign language classes where the foreign teachers could have direct communication with students. School also creates a lot of activities such as English clubs, English Corner, English Festival and Bilingual Program. School also raised a local teaching and researching organization on purpose of promoting different schools' interaction, cooperation and training. Mengshan School explores new style research, innovation and new methods of professional teaching development as well as balancing development between urban and rural education. (Information Center of Shanghai Jinshan District Education Commission 2008, date of retrieval 28.9.2010.)

Mengshan School pursues the development of all students, focusing on quality education. It has organized a lot of activities and events, such as, Basketball Club, Literary Club, Performing groups, News Agencies, Youth Salon, Happy Afternoon, Sunshine Sports for the students to play, to entertain, to learn, to think and to be innovative. By participating, students learn to understand and cooperate with one another, which in return benefit their self-development. School received a lot of rewards and honor for providing good opportunities for students to achieve full development. (Information Center of Shanghai Jinshan District Education Commission 2008, date of retrieval 28.9.2010.)

Jinwei Middle School founded in 1958, is one of the largest junior High schools in Jinshan District. There are 29 classes with more than one thousand students. (Jinqwei Middle School 2010, date of retrieval 28.9.2010) School covers an area of 15,285 square meters; there are 92

computers available with Internet connection. The school environment is elegant and well-constructed. New dormitory building is clean, spacious, with a student restaurant that can accommodate more than 400 students. School has been assessed as excellent school for parents. School has been nominated as "Advanced National Defense education school", "Technology Special School of Jinshan District". Students are proactive and win Award of Scientist Academic competition. (Education Space Station 2007, date of retrieval 28.9.2010.)

5.2 Case study of Hangzhou

Hongzhou was chosen as one of the target markets by the commissioner because it is the friendship city of Oulu. Hangzhou is the capital city of Zhejiang Province, vice provincial level city confirmed by the State Council, located along Southeast coast of China. It is the center of politics, economy, science, education, and culture of the province. Hangzhou city is one of the key national tourism resorts. Hangzhou is renowned for its long history, "Home of Silk", "Tea Capital". (Hangzhou Municipal Government 2010, date of retrieval 18.10.2010.)

There are 8 districts, respectively Shangcheng, Xiacheng, Gongshu, Xihu, Jianggan, Binjiang, Xiaoshan, and Yuhang, and 5 surburbs, respectively Fuyang, Lin'an, Jiande, Tonglu, and Chun'an, are under control of the governance of Hangzhou City. The whole city covers an area of 16,596 km2 with a population of 6,776,400 by December, 2008. (Hangzhou Municipal Government 2010, date of retrieval 18.10.2010)

FIGURE 8. *Map of Hangzhou* (Museum of Learning 2010, date of retrieval 18.10.2010)

5.2.1 Situation of Hangzhou Education and Technology Application

The educational system in Hangzhou is similar to the Shanghai, including preschool education, nine-year compulsory education, senior high school education and higher level education, which is further divided into vocational education and adult education. The teaching level of primary and high schools in Hangzhou has generally grown rapidly. At national level Hangzhou has 12 key secondary vocational schools. Also at the provincial level there are 42 key senior high schools, 4 key comprehensive senior high schools, and 30 key secondary vocational schools. They occupy over 65% of all the senior high schools and secondary vocational schools. The government is the main player in running the schools, and social forces have minor role. (Hangzhou Education Bureau 2005, date of retrieval 18.10.2010.)

Both of the balanced development of compulsory education and high-quality and basic education modernization has been pushed forward. At end of 2008, enrollment of children under 3 years old to kindergartens reached 97.1%. The total number of elementary schools in the city was 418, junior high schools 260 and senior high schools 76. There are 98.7 percent of junior high school graduates enrolled by senior secondary schools of various levels. The number of the school attendance of migrant workers children reached 138,300 in Hangzhou. (Hangzhou Municipal Government 2010, date of retrieval 18.10.2010.)

At the end of 2008 there were 98,900 students in 18 vocational Colleges. The number of vocational schools above provincial level was 39, which had 108,100 students. Vocational education has been promoted much. Adult education was formed basically by multi-layer network. At the end of 2008 the 6 collages meant for adults in the area had 156,700 students. The number of middle schools for adults was 17 with 24,400 students and totally there were 327 schools for adults training technology, and they had 557,200 students enrolled. For general studies in the area, there were 36 colleges and universities with 409,600 students. The number of students was up by 4.3 % and 29,700 students graduating. During the period the enrollment rate of colleges and universities was 51.9 % and had increased 1.5 % from previous year 2007. (Hangzhou Municipal Government 2010, date of retrieval 18.10.2010.)

There are 260 junior high schools in Hangzhou region. The schools within 8 municipal districts will be observed closely. By visiting 8 districts' Educational Bureau, it is found out that there are 22 experimental schools and 4 foreign language schools. According to Hangzhou City Education

Bureau, there are 6 junior high schools are entitled to enroll foreign students. All the school lists are available in the appendix. Similarly with the case of Shanghai, there are 5 schools recommended in Hangzhou area, including 3 Experimental Schools and 2 foreign language schools.

5.2.2 Recommended Schools and Introduction

Haiyan Experimental Primary School is strongly technological oriented. It has long history and one of the key schools in the area. **Anjilu Experimental School** has several other affiliated schools and one Early Educational Research & Development center to work to. If one school is reached, it will bring possibility to the affiliated schools. **Jiangnan Experimental School** highly advocates quality education. It dedicates to enlarge the board of horizon of the students to have international perspective. It emphasizes the physical and mental development of students and provides students a lot of opportunities to develop themselves outside the textbook. **Guotai Foreign Language School** is a private school. The school principal is the soul of the school that can be seen as a priority in decision-making. School emphasizes student's English education. There have been a lot of exchange programs and communication opportunities with foreign schools. **Yuhang Xinda Foreign Language School** has fully implemented the small "classes' education" which enables more attention drawn on single student. It devotes to cultivate student spiritual development. The school hardware is well equipped and completed. All of the schools' contacts are available from the table as below.

TABLE 5. *Five Recommended Schools for the case of Hangzhou*

School Name	Category	Website
Haiyan experimental Primary School	Public	http://www.zjhysyxx.com/2010/index.asp
Anjilu Experimental School	Public	http://www.ajledu.net/scho_lrld.aspx
Jiangnan Experimental School	Private	http://www.hzjnsy.com/index.aspx
Guotai Foreign Language School	Private	http://www.chinaguotai.com/
Yuhang Xinda Foreign Language School	Private	http://www.hzxd.cn/

Haiyan Experimental Primary School is located 98 km south of Hangzhou, was founded in 1910. School campus covers an area of 145,686 square meters, building area of over 10,965 square meters. There are 39 classes, 1894 students and 101 faculty members. The school environment is elegant with advanced teaching facilities, including a high standard of multimedia room, audio room, laboratory, table tennis room, piano room, lecture hall, and other 28 special classrooms, a high standard synthetic surface playground. (Haiyan Experimental Primary School 2010, date of retrieval 11.11.2010.)

As the first modern educational technology experimental school, Haiyan (translated as Salt) has won “the national theme of site appraisal award” and prize for “competitions of campus network in Zhejiang Province". The construction and development of school’s IT is one of the school major features. The IT education needs to achieve overall development of the strategic planning with international perspective. Since the implementation of the new curriculum reform, the direction of school’s IT construction has become clear. To fully utilize IT as a tool for teachers and students’ services, it has built an effective IT campus. Therefore, information management, modern teaching and personnel sustainable development of information literacy has become an important part of school IT development. (soso2010, date of retrieval 11.11.2010.)

School Information Work Leading Group of the Master Plan (School Principal’s Office), School information center for technical support (IT group) and IT education and scientific research group (Education and Research Office) are the three levels of institutional settings. They form the information management network and enable the school work to be conducted in an orderly manner. The main duties of the leading group is the decision-making for information work, hardware and software building up, the development of the campus network, information collection and sorting. The leading group is also responsible for guiding the research and development (R&D) of school resource database and online school. Through the network, everything is managed and implemented. Haiyan Experimental Primary School is the pioneer and beneficiary of application of IT. It is the school theoretical and practical basis of the full implementation of IT that the application of IT in teaching, research and the exploration of integrated development of the campus network-based educational environment. Information Center members (network administrators) are responsible for hardware and software acquisition planning, the campus network maintenance and staff training. Each grade group is responsible for the reception and transmission of information, participation in school blog and building up the

base site. Every department and division has a clear mission and meanwhile the members cooperate together and held regular meetings, technical training for exchange of communication. (soso2010, date of retrieval 11.11.2010.)

School becomes more and more modern educational technology and equipment oriented. At the moment, there are 12 sets of multi-media teaching facilities, one network classroom, two computer classrooms, two printing and copying rooms, a courseware production studio, a CCTV system. School has established a red scarf television and a radio station, opened a campus network. More than 100 computers for students' use and the same amount of computers are also available for teachers. Nearly ten thousand e-books together with all kinds of online education resources count more than 200 Gb. According to incomplete statistics, school information, education technology and equipment of existing assets exceeded more than four million RMB. The teachers make courseware with PPT and all of them have registered blog on school website for educational purpose. (soso2010, date of retrieval 11.11.2010.)

In addition to requirements of the school curriculum for students by opening the "IT" class, the system for students to learn computer knowledge during spare time school has also been arranged, such as, study groups for students to study Chinese and English keyboard entry, school report computer editing, computer painting and robot programming training courses. School has won in various competitions at the provincial level. Meanwhile, in order to further improve the utilization of education equipment, the full development of student skills. From year 2004 onwards, part of the three sixth grade students organized a children's computer grade examination. Over years' effort, school has made work efficiently and received good results. (soso2010, date of retrieval 11.11.2010.)

Anjilu Experimental School is located along the shore of the beautiful West Lake. Since the date of birth, the dream and glory is the pursuit of the school. Anjulu Experimental School is leading in the educational reform in China. It was founded in 1954, formerly known as Hangzhou Anjilu Primary School. It has become the key school of Zhejiang Province, Zhejiang Experimental Primary School. In 1989, the school was listed as "one of the hundred national-wide key schools." In 1990, as academic reform pioneer, it was among one of those firstly accomplished nine years compulsory education schools in the province, and therefore changed its name to Hangzhou Anjilu Experimental School. (HangZhou Anjilu Experimental School 2006, date of retrieval 1.11.2010.)

Over 50 years, the school has formed a "One School Three-Department" school structure. It has built up an educational group including Anjilu Experimental School which is complete with a nine-year consistent education system; Anjilu Experimental School Early Education R&D Center, and three other schools that affiliated to Anjilu Experimental School. They are Hangzhou Dacheng Experimental School, Hangzhou Jingcheng Experimental School and Anjilu Experimental School Weiping town Hope Primary School. As an opening unit, school has received visiting guests from 58 countries and regions. There have been 26 groups of teachers and students visiting 10 countries and regions. Through international exchange programs, school teachers and students were able to accomplish academic communication and exchange. In the new century, the school is ready to update the ideas and concepts, to be more open minded and striving for the goal of national first-class school. (HangZhou Anjilu Experimental School 2006, date of retrieval 1.11.2010.)

Jiangnan Experimental School is nine-year experimental school. It was co-founded by Hangzhou No.2 High school Education Group and Hangzhou Education Bureau of Binjiang District in 2005; School campus covers 501,810 square meters. School structure is flexible for the integration of high-quality education resources. "A broad international perspective, the physical and mental development of a harmonious and happy start in life" is the school philosophy of education pursued. School's education facilities are high standardized. Currently the school covers over 70,000 square meters and green area is nearly 30,000 square meters, equipped with a 400-seat lecture hall, 400 meters standard synthetic surface track and field, swimming pool, basketball court, badminton court, table tennis room. The indoor sports facilities have been completed and put into use. School has specially configured education specialist facilities to meet the needs of students in the Early English education, art, and computer. It has advanced education and teaching philosophy, profound culture and management experience. Currently there are 64 classes in the school, including 24 junior high school classes and 40 senior high school classes. The number of students is 2434 and faculty members are 186. (Jiangnan Experimental School 2008, date of retrieval 1.11.2010.)

School pursues of "light burden, high quality". It tries to create "Happiness Jiangnan" campus culture. It is based on the moral, intellectual, physical, and aesthetic all-round development. It strives for "the effectiveness of classroom teaching and the effectiveness of operations", and strictly controls the amount of work to ensure that students enough activities as well as rest and sleep time. The school education and scientific research was listed among "One Hundred

Outstanding Schools" in Zhejiang Province and it is the technology specialist school in Binjiang District of Hangzhou. It has received guest groups of foreign education delegations from United States, Austria, Nepal, Singapore, Thailand, Australia and Germany to visit the school. The mission of the school is to stimulate the sense of growth of students and pursue lifelong development of the teachers and students. (Jiangnan Experimental School 2008, date of retrieval 1.11.2010.)

Guotai Foreign Language School was founded in 1993. Hangzhou Guotai Education Group was founded by a Taiwanese Miss Zhang Xiaoying with private investment. It is based on Hangzhou Foreign Language School of Art. It includes six campuses, 79 classes with more than 3,900 staffs and students studying full-scale, full boarding education institutions. Students enjoy the same benefit and status than public school students. Guotai Education Group emphasizes the English education and universal art education. Each of the different nationalities, different backgrounds, different ages, and different characters children are provided with a full range fair education. (Guotai Foreign Language School 2010, date of retrieval 1.11.2010.)

The principal is the soul of the school. The Chairman of Guotai Education Group Miss Zhang Xiaoying is strong, competent, noble and genuine. In her schedule, there is hardly weekends or holidays. She dedicated herself to the founding of the school and showed extraordinary passion to the education. Miss Zhang is a Piano educator, and representative of Hangzhou People's Congress, CPPCC Standing Committee of the Hegan District. Nowadays, Guotai Education Group has contained children day-care, preschool, elementary, middle, high school, consistent education and boarding school. Guotai Education Group has dedicated teaching facilities that are spacious venue with standardized multimedia classrooms, computer room, library, art room, dancing room, piano room, flower room and other teaching facilities and modern amenities. Students and teachers' dormitories and teachers' office are equipped with heating and air conditioning. (Guotai Foreign Language School 2010, date of retrieval 1.11.2010.)

The intensive English teaching is the main brand of Guotai Education group. By employing qualified foreign teachers, each student is able to communicate with native English speakers. Guotai Education Group has become the pilot base of national bilingual education and has achieved encouraging results. In 1998, Guotai Education Group signed a joint educational agreement and became the twin school with Canada Columbia International College preparatory school. Guotai Group high school graduates can be sent to Canada, the United States and other

countries' universities to the preparatory studies. In March, 2005 Guotai Group together with Marburg School from Hesse state of German, officially became twin schools, and signed the exchange program for teachers and students. In June, 2005 Guotai Group, with Los Angeles private high school signed a joint school agreement and became twin schools. In June 10, 2006 Guotai Group and Oliver University of the United States signed a joint education agreement. In 2007, France and South Korea signed joint education agreements with Guotai Group. Over 16 years, Guotai Education Group has had advanced educational philosophy, strong teaching faculty and science. The life management system has gained highly praise by domestic and foreign news media, the community and the general attention of parents. (Guotai Foreign Language School 2010, date of retrieval 1.11.2010.)

Yuhang Xinda Foreign Language School is the first primary and secondary school integrated nine year compulsory private boarding school in Yuhang district of Hanzhou. It cooperates with Yuhang High School which is a key school in Zhejiang province. It is the only school that fully implements small class education in school. The school covers an area of 165,921 square meters, building area of 25,000 square meters. "Students Oriented, Parents First" is school serving concept, aiming to cultivate student spirituality and develop students' personality. There is a computer room with more than 40 computers with LCDs, internet system, music room, art room, dancing room, piano room, laboratory, lecture hall. Every classroom is multimedia classroom with large screen display. It implements bilingual education. There are a lot of foreign language lectures arranged for students. (Yuhang Xinda Foreign Language School 2004, date of retrieval 1.11.2010.)

5.3 Case study of Hong Kong

5.3.1 Fung Kai Innovative School

Based on the suggestion of Commissioner Company, Fung Kai Innovative School was taken as the case study. Commissioner has started business contact with Fung Kai Innovative School since 2008. There have been visits and discussions between Commissioner Company and Fung Kai Innovative School. Fung Kai Innovative School is one of six subsidiary schools of The Fung Kai Public School. Fung Kai Innovative School was known as formerly Fung Kai No.2 Primary School, which is one of the most established schools locally. In 2007, as the only case within

Asia, Fung Kai Innovative was chosen to participate in the “School of the Future - Innovative Schools Program” with Microsoft. In September 2008, the school was officially re-named as Fung Kai Innovative School for the promotion of the innovative way of learning for the 21st century. (Fung Kai Innovative School 2009, date of retrieval 8.11.2010.)

In 2008, School relocated to the new campus with area about 11,500 square meters. In addition to 24 standard classrooms, there is an auditorium, basketball court, and 9 separated special rooms, including libraries, IT learning center and the campus TV station, language learning center, student activity center, music room, English learning center, visual art room, nature exploration room and 2 remedial rooms, dancing room, assembly hall. With the support of Fung Kai Public School Board of Directors, school built All-weather cafeteria which can accommodate 400 people. In addition, a digital theater with professional lighting and sound system and sky gardens and other equipment were also built up. All classrooms have SmartBoard, WIFI, and New PA system (interactive communication) for sharing, flexible grouping furniture, and reading corner. (Fung Kai Innovative School 2010, date of retrieval 8.11.2010.)

As an "Innovative School", school is equipped with the latest ICT equipment aiming to create a global learning community for the children of the future. It is believed that Innovation, creativity, critical thinking, collaboration, communication and global networking are the key elements for success in learning. The school’s professional learning community, instructional expert system and comprehensive IT support create a caring, sharing and empathetic environment for the school staffs and the school students. A student-centered learning environment was accomplished through adopting comprehensive and interactive strategies in the teaching. The mission of Fung Kai Innovative is to provide administrative support to teachers so as to reduce their heavy workload, integrating ICT elements in learning and teaching. It strives for designing individualized learning portfolios so as to cater for students' diversity in both learning and assessment, connecting students to the global community for learning, not just in the classroom but virtual learning from the global world. (Applebones 2010.)

In order to provide quality learning environment, classrooms and special rooms have installed electronic whiteboards, projectors and computers. Students can apply to the use of timely IT, interactive and creative learning activities. In addition, school laid a total of 41 Access Points (AP), wireless network coverage to the whole school, and networks are using optical fiber transmission backbone, the maximum speed is 769Gbps. It has more than 200 different types of

computers, respectively, notebook, netbook, UMPC, and different desktops. It also has designed an innovative IT learning center functioning together with campus television equipment. The center allows students to learn new IT knowledge. It could also transform into a high-definition TV station on campus, for the purpose of filming. The school's central broadcasting system is connected with the high-definition television with the campus. In such way, little journalists can film high-definition programs, which can be penetrated into every corner of the campus. The school has trained a small group of pioneers to help operating the IT equipment. It enables students to master the computer equipments. (Fung Kai Innovative School 2010, date of retrieval 8.11.2010.)

Since 2008, the school gradually introduced a student's e-curriculum. In conjunction with school teaching philosophy, it strives to equip the students the quality and skills to face advanced IT and the creative 21 century. "Innovative programs" is the base, combined with the "interactive classroom", "electronic textbooks", "inspired teaching" and "quality training", by means of technology, students' skill of communication, creativity; problem solving and self-confidence were trained. (Fung Kai Innovative School 2010, date of retrieval 8.11.2010.)

In 2009, from second-year students to four-year students started to implement school-based e-curriculum. Eee PC1001HA was selected as the e-learning tool for the second-year students, and SHAREPOINT as a platform for integrating IT into learning and teaching. Via e-textbooks, groups study, online discussions, questionnaires and other interactive whiteboard activities, students have enhanced their creativity, problem solving, collaboration and communication skills to achieve construct knowledge together. (Fung Kai Innovative School 2010, date of retrieval 8.11.2010.)

5.3.2 Interview and Results

The interview eventually took place on 28th of October 2010 after long waiting period after the first email invitation was sent. The key informant interviewee is the school supervisor of Fung Kai Public School. He is also the director of the "Hong Kong Education City" website. He can be regarded a market specialist for Hong Kong market because he worked for Hong Kong Educational Bureau. Therefore he has very good knowledge of the real situation of Hong Kong schools and his answers are very reliable.

According to the interviewee, the IT is the key element in the school learning and teaching process and therefore it is the focus. In practice, there are four aspects mentioned. First aspect is the hardware and software input in the school teaching and learning process. The school campus and physical environment is covered by wireless network. Every second to fifth year student has his or her personal notebook. The notebook is lightweight and portable which is easier to carry and use. ASUS Eee PC 701 4G is the mode that students are using at the moment. The school has no special preference on the brand. The Lenovo has also been applied. It is depending on the price, function and information and suggestion given by Microsoft Company every year, which is the cooperator of Fung Kai Innovative School. Instead of blackboard, teachers use computer and Smart Board screen to show the students the teaching content. Microsoft SHAREPOINT as a platform, could allow students to submit their homework, upload and download materials, do group work and have discussions. The students can also work together as a group and give presentation on Smart board during the lecture. (Ma 28.10.2010, interview.)

Second aspect is the curriculum content. The school at the moment cooperates with three local publishers to compile the e-material that can fit into the notebook of students. E-material combines the original content from the books purchased by the students with additional materials. The students can study and do homework by notebook and visit school intranet. It is a tool for students to surf online and they can also use Microsoft office suite to do homework or newspaper cuttings. (Ma 28.10.2010, interview.)

The third aspect is the assessment system “Assessment for learning and Assessment of Learning”. It is online self-assessment for the students. The advantage of it is the “Just-in-time” effectiveness and immediate feedback to both the students and the teachers. The student could detect his or her problem timely and the teacher could also give corresponding help. They could also notice their gap with other students. (Ma 28.10.2010, interview.)

The fourth aspect is ICT self-learning center which provides personal help to different students. It helps the top students to proceed with higher level of learning. The happy-link provides the advanced courses for the top students to study. Equally, it also has materials for the slow students to repeat and consolidate the knowledge learned. (Ma 28.10.2010, interview.)

The students are very interested in doing study by computers. It is good to start to work with computers from an early age; in such way the students could learn how to protect their identities and personal information. Additionally they could also learn to respect copyrights. The notebooks of the students are small and nice-looking. The students can freely use own PC and visit websites freely at school. Every student has his or her personal PC and every student from second year to fifth year has his or her e-book containing the entire subjects. Therefore, they could learn English and pronunciation by e-book and Mp3 that can be downloaded from school internal website. (Ma 28.10.2010, interview.)

There are some latest moves in ICT of both in Fung Kai Innovative School and Fung Kai No. 1 Secondary School, which is another subsidiary school of Fung Kai Public School. In both cases, there have been funding bids submitted to Hong Kong Education Bureau for a comprehensive approach to reap the most benefit of ICT in education as a whole. (Ma 26.10.2010, email message.)

There have been three proposals submitted to Hong Kong Educational Bureau from three subsidiary schools of Fung Kai Public School. The proposals were mainly about asking support for the ICT in education process and promotion of ICT. The Hong Kong Education Bureau has received more than 100 proposals from all the schools locally. It provides a budget of 68 million HKD to financially support to the pioneer schools for the teaching and technology exploration. Fung Kai Innovative and another Secondary subsidiary school of Fung Kai Public school has together submitted two funding bids to get more financially support to provide students a better technological environment and to develop e-learning materials. The results will be published in December 2010. (Ma 28.10.2010, interview.)

VR technology as one of the most advanced learning tools. The interviewee has background knowledge of it as well as virtual learning environment. However, due to lack of hardware technology for instance the low speed of CPU and PC power, Fung Kai Innovative School hasn't felt a strong need for development of virtual learning environment at this stage. VR technology is considered as a future developing direction. Perhaps within one or two years, with the development of the hardware, Virtual learning environment will have more possibility to become students' learning tool. (Ma 28.10.2010, interview.)

It is mentioned that “Hong Kong Educational City”, an education website, has been started by Hong Kong Educational Bureau and has been developing over 10 years. The interviewee is also in charge of it. It is an open platform for all of the students in Hong Kong to do e-learning. The students can do homework, research, group work, and discussion through the internet. And it could be the possible candidate for the commissioner to start pilot testing of their VR Learning Environment. An Interview about “Hong Kong Education City” website was suggested by interviewee to be carried out later on. (Ma 28.10.2010, interview.)

6 CONCLUSION

The aim of this thesis was to take a glance at three Chinese target markets to find out possible business contacts or the focus group for future research. There were two questions which needed to be answered: What is the situation of the Chinese Education Market? Who are the possible business contacts or what is the focus group? The thesis also sought to gain a general view of the Chinese schooling system, relevant regulations and policy within the business scope. To acknowledge the customer behavior in terms of school decision makers was the primary concern of this thesis.

Due to the large scope of the research object, the commissioning company defined the samples for this research as Junior High Schools with the following three criteria: technology-oriented, foreign language-oriented and experimental type of schools. Most of the information was gathered by desktop research. Data was collected through observations and filtered by the given criteria. In the case of Shanghai and Hangzhou, due to lack of previous research records in the pertinent fields, every single local district's Educational Bureau had been thoroughly examined in order to find the results. Based on the existing business relationship with Hong Fung Kai Public School, the commissioner would like to acquire the latest information and current development of the Fung Kai Innovative School. Therefore, an in-depth interview was applied in the case of Hong Kong. The professional background and position of the key informant interviewee ensured the reliability of the results.

Since 1978, China has adopted the education policy of "nine-year compulsory schooling system" to ensure all children attend school and receive an education for at least nine years. Chinese education consists of pre-school education, primary school education, High school (3-year junior high and 3-year senior-high) education and higher education. Chinese e-learning is still at an elementary stage, but it is developing quickly. Chinese Modern distance education started in 1998. To develop Chinese distance education there are four aspects of concern, including "Professionals and Specialization", "standardization", "quality service" and "Policy development". The two administrative measures mentioned in this thesis are meant to regulate Internet information services activity, promote education and information services on the Internet, which in return enables healthy and orderly development of modern distance education. These two

regulations are: Interim Administrative Measures on Educational Websites and Online Schools and Administrative Measures on Internet Information Services.

Cultural factors play an important role in a school headmaster's leadership. Guanxi culture is one of the most common characteristics making up the Chinese national identity. Guanxi is translated as relationship or social connection. It is fairly imperative to gain trust and learn to respect and be loyal to authority. School principals are the executives of the schools and play an extremely important role in the school's decision-making process. The development of ICT and the evolution of modern education became both a motivation and a challenge for the school principals to put IT development in school management and educational reform into their agenda. To some extent, the ability of IT literacy has become one of the measurements of a school principal's leadership. In the process of educational IT development, the principal steers the direction of school decision making, interests and action.

Shanghai was the first city to implement the 9-year compulsory education and has achieved many educational plans and reforms. The Local government, together with the local municipality, districts and suburbs, has the administration over the educational system. Shanghai municipal government has taken IT in education into consideration. In 2007, "Application of IT in Shanghai Primary and Secondary Education Project **"**was initially implemented and 400 primary schools were chosen as the pilots. Jinwei Middle school was one of those recommended to be a pilot school. There are 774 junior high schools among which there are 46 experimental schools and 16 foreign language schools. The experimental and foreign language school lists are available in the appendix. There were 6 schools introduced and recommended in this thesis. They are Shanghai World Foreign language Middle School, Shanghai Peijia Bilingual School, Shanghai Ganquan Foreign Languages Middle School, Bilingual School Affiliated to Shanghai International Studies University, Jinwei Middle School , Mengshan Middle School.

In Hangzhou region, there are 6 schools entitled to enroll foreign students. The total number of junior high schools is 260, including 22 experimental schools and 4 foreign language schools. The 5 schools which were presented and recommended in this thesis are Haiyan Experimental Primary School, Anjilu Experimental School, Jiangnan Experimental School, Yuhang Xinda Foreign Language School, Guotai Foreign Language School**.**

There was in-depth interview carried out in the case of Hong Kong. Hong Kong Fung Kai Innovative School is one of the subsidiary schools of Fung Kai Public School. It is the only Asian

school that was chosen to participate in the “School of the Future - Innovative Schools Program” with Microsoft. The mission of Fung Kai Innovative is to reduce the teacher’s heavy workload through administrative support, join integrating ICT elements in learning and teaching, designing individualized learning portfolios catering for students' diversity in both learning and assessment, connecting students to the global community for learning and to not be restricted by the classroom but expand in virtual learning from the global world. Each school is outfitted with the latest ICT equipment to create the children of the future, a global learning community.

It is mentioned by the interviewee that there are four key aspects in the integrated ICT construction and development of Fung Kai Innovative School. a) The hardware and software inputs in the school teaching and learning process. b) The electronic curriculum content compilation and usage. c) “Assessment for learning and Assessment of Learning” as the assessment tool. d) CIT self-learning center. Students are very interested in ICT. Every student has his or her own personal PC with which students can do their homework, have group discussions, visit school intranet, read e-books, listen to educational Mp3, assess self-performance and get personal help through the self-learning center. There has been one proposal submitted by Fung Kai Innovative School to gain more financial support from the Hong Kong Educational Bureau for the school’s ICT development. The result will be published by the end of this year. The interviewee had background knowledge of the application VR technology and virtual learning environment. However, due to the worries of constraint by the level of hardware, the interviewee mentioned it is not on their immediate schedule to implement the virtual learning environment. It is assumed that it might be accessible within the next one or two years.

7 DISCUSSION

According to commissioner's business plan, the process of the final thesis was extremely practical. There have been several meetings held in between to discuss the direction and finding of the study. In the beginning, the direction of this study was not very clear. There was a lot of strength laid on the study of Chinese e-learning. However, one of the Commissioner Company's main products is Virtual learning environment; therefore the research focus was tuned to Virtual Reality Technology in China. Later on the commissioner defined the research scope as the Junior high schools. The three criteria for the data collection was fixed as technology-oriented, foreign language oriented, experimental schools. The commissioner would like to have a general view of two Chinese mainland target markets, while at the same time capture the latest information and developments from the Hong Kong contact. It took plenty of time to collect data due to the large scale of the markets. Owing to lack of precious research records in the relevant field, every local education Bureau had to be examined for data gathering. All the school lists are listed in the appendix. There are 6 schools from Shanghai and 5 schools from Hangzhou chosen to be recommended and introduced in the thesis.

Hong Kong Innovative School is one of those main business contacts that the commissioner has built up previously. They have been expecting the interview of the Hong Kong contact. The answer from the key informant interviewee did not seem to be positive for the immediate cooperation; however the commissioner is seeking to build up a long-term business relationship. The good news is that one more interview about Hong Kong City was suggested. The Hong Kong City is an education website which has been started by Hong Kong Educational Bureau and is under the charge of the key informant interviewee. It provides all students in Hong Kong an e-learning platform. It is the commissioner's hope to begin pilot testing of their Virtual Reality Learning Environment through this platform. Therefore, a further survey will be carried out later on.

The open questions for this thesis are: Would it be more fruitful if the research criteria could have been further defined? Is it necessary to segment the target markets? Is it too demanding for Applebones as a small company to focus on both the public and private school sectors? It is argued that focusing on the public sector might require a longer period to yield results. Currently there is educational reform taking place in China, which aims to transfer the focus of education

from the so called examination-oriented to quality-oriented education. However, it can happen that due to the policy of educational benchmark entry point, no matter the school level or the employment level, the public schools place undue emphasis on the proportion of students entering schools of a higher level. Therefore many of them might not be willing to spend energy or financial resources on the investment of VR technology. Publics schools are under the administration of local educational bureaus, therefore the bureaucracy can be one of the hindrances. The advantage in this case can be the quicker yielding results. On the other hand, it is claimed that the private sector is much easier to access. Although the private schools are under the control of local educational bureaus, they tend to be more independent in terms of curriculum design and financial investment. However, the mass gain can be much slower and have less influence because every single school has to be examined.

In large, contemporary Chinese cities, there have emerged a lot of weekend schools and amateur clubs. They are intended to provide for the students a way to have extra-curricular activities in order to develop their full potential and learning capability. They are also the possible markets for the commissioner to have the pilot testing for virtual learning environment in Chinese markets. The advantage and strong point of these schools is their special priority status compared to common schools. They have more freedom with their curriculum and are more independent in decision-making. In addition, computer and VR technology joint with learning would become a new selling point for them to attract new customers.

There are several topics or directions research could take later on, such as the qualitative research of the focus group, the challenge from competitors locally and internationally and the case study for successful Chinese market entry and benchmarking.

All in all, it was rather pleasant experience although the whole process was time-consuming. It is an interesting topic to study. There have not been many similar topics studied previously which is a challenge as well as an advantage. The commissioner is also very pleased with the results which provide the possibility and direction for further marketing research.

In the end, I would like to give thanks to my tutor who participated the commissioner's meeting with me and gave me a lot of guidance during the thesis process. Besides, I'd like to give thanks to my commissioner who provided me with such an interesting topic to study. It has been a pleasure to cooperate with them and I am happy they are very pleased with the results. And also

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School List **APPENDIX 1**

1) 46 Experimental Junior High Schools in Shanghai Region

- **Yangpu District**

1. Anshan Experimental School
2. Fudan Experimental School
3. Yangpu Experimental School
4. Tongji University Experimental School(EN.)

- **Pudong District**

5. Jianping Experimental school
6. Jincai Experimental School
7. Middle School affiliated to Jiaotong University Experimental High School
8. East China Normal University Zhangjiang Experimental School
9. Pudong Education Institute Experimental School
10. Mengya Experimental School
11. Shanghai Chenggong Jiaoyu Experimental School
12. Gaoqiao Experimental School Affiliated to Shanghai Normal Univesity
13. Yangjing Juyuan Experimental School
14. Shanghai Experimental School (EN) Middle School Department
15. Shanghai Educaitonal Institue Experimental School

- **Xuhui District**

16. Shanghai Experimental School International Department

- **Hongkou District**

17. No.1 Experimental School Affiliated to SISU
18. Hongkou Experimental School
19. Fuxing Experimental School
20. No.1 High School Affiliated to East China Normal University Experimental School

- **Minhang District**

21. Experimental School Affiliated to Shanghai International Studies University(SISU)
22. Rixin Experimental School
23. Gaoxing Experimental School
24. Shanghai United International School Jiaoke secondary campus (EN)
25. West Shanghai Experimental School
26. Shixi Experimental School

27. New Basic Education Experimental school(EN)

- **Baoshan District**

28. Wusong Experimental School
29. Baoshan Experimental School
30. Yuepu Experimental School
31. Gongfu Experimental School
32. Experimental School Affiliated to Shanghai University

- **Qingpu District**

33. Qingpu Experimental School
34. Shanghai Education Institute Yuying Experimental School

- **Jiading District**

35. Jiading Foreign Language Experimental School Affiliated to SISU
36. Taoliyuan Experimental School
37. Liucheng Experimental School

- **Songjiang District**

38. Songjiang Experimental School Affiliated to East China Normal University
39. Jiufeng Experimental School

- **Fengxian District**

40. Fengxian Experimental School

- **Luwan District**

41. Qixiu Experimental School

- **Putuo District**

42. Experimental School Affiliated to Shanghai Conservatory of Music
43. Zhongyuan Experimental School
44. Xin Huangpu Experimental School

- **Changning District**

45. Jianqing Experimental School

- **Jinshan District**

46. Jinshan Experimental School Affiliate to Shanghai Normal University

2) 16 Foreign Language Junior High Schools in Shanghai Region

- **Jingan District**

1. Shanghai International University Jingan Foreign High School

2. Shanghai International Studies University(SISU) Jingan Foreign Middle School

- **Yangpu District**

3. Shanghai Internatonal Studies University East Shanghai Private Foreign Language School
4. Bilingual School Affiliated to SISU Private East Shanghai Foreign Language High School

- **Pudong District**

5. Pudong Foreign Language School Affiliated to SISU
6. Huayang Foreign Language School
7. Shanghai Ladder Bilingual School

- **Songjiang Distirct**

8. Foreign Language Middle School Affiliated to Shanghai Normal University
9. Xiwai International School(EN)
10. Foreign language Middle School Affiliated to Shanghai University

- **Hongkou District**

11. Shanghai Foreign Language School (EN)

Xuhui District

12. Shanghai World Foreign language Middle School

- **Putuo District**

13. Shanghai Ganquan Foreign language Middle School
14. Shanghai Peijia Bilingual School

- **Luwan District**

15. Aurora Foreign Language

- **Fengxian District**

16. Yangguang Foreign Language School

The Links of international Schools in Shanghai

http://www.shmec.gov.cn/english/list.php?type=Directory

3) **21 Experimental Junior High Schools in Hangzhou Region**

- **Shangchen District**

1. Zongwenxiaoying experimental school
2. Chongwen Experimental School

- **Xiachen District**

1. Jiankang Experimental School
2. ZJICM Experimental Middle school

3. Jingcheng Experimental School
4. Dacheng Experimental School
5. Anjilu Experimental school*

- **Gongshu District**

1. Beiyuan Experimental School

- **Xihu District**

1. Baochu Pagoda Experimental School
2. Xihu No.1 Experimental School
3. Xizi Experimental School
4. Xixi Experimental School

- **Hegan District**

1. Tianhang Experimental School
2. Maoyisheng Experimental School
3. Chunya Experimental School
4. East town Experimental School affiliated to Hangzhou Normal University
5. Caihe Experimental School

- **Yuhang District**

1. Yuhang Experimental School
2. Shulan Experimental School

- **Xiaoshan District**

1. Xiaoxi Experimental School
2. Yuying Experimental School

- **Binjiang District**

1.Jiangnan Experimental School*

4) 3 Foreign Language Schools in Hangzhou Region

- **Shangcheng District**

1. Hangzhou New Century Foreign Language School

- **Jianggan District**

1. Guotai Foreign language School*

- **Yuhang District**

1. Yuhang Xinda Foreign Language School*

5) There are 6 Junior High schools that admit foreign students

1. Hangzhou No.6 High School

2. Hangzhou Jiangxindao High School
3. Hangzhou Wenlan High School
4. Hangzhou Caihe High School
5. Hangzhou Baochuta Elementary School Hangzhou SCHM School
6. Yuhang Linping No.1 High School
7. Hangzhou Fareast Foreign Language School (including kindergarten, primary, junior and senior high school education
8. Xiaoshan Beigan Junior High School

Recommended Schools in Shanghai APPENDIX 2

TABLE 1. *Recommended schools of Jingan District* (Shanghai Jingan District Junior High School-list, eduu.com, date of retrieval 9.92010)

School Name	Category	Website
Shanghai Minli High School	Public	http://www.minli.edu.sh.cn/Wicresoft.PGS.Portal.Web_Portal/Default.aspx?AppID=2
Shanghai No.1 High school	Public	http://www.yizhong.edu.sh.cn/
East China Model High school	Public	http://www.huamo.com/website/index.asp
Shanghai PeiMing Middle School	Public	http://www.peiming.edu.sh.cn/
Shanghai Wusi Middle school	Public	
Shanghai Shidai Middle School	Public	http://www.jashidai.edu.sh.cn/Web/SDZX/47001.htm
Shanghai Shixi Junior High School	Public	http://www.sxcj.edu.sh.cn/
Shanghai Yucai Junior School*	Public	http://ws1.yucai.sh.cn/pages/index.aspx
Shanghai Aiguo School	Public	http://www.aiguo.edu.sh.cn/index.asp
Jing-an Education College Applicated School	Public transformation	http://www.jecas.edu.sh.cn
Shanghai No.71 School	Public transformation	http://www.71school.edu.sh.cn/qyxq/index.asp
Shanghai International University Jingan Foreign Middle School*	Private	http://www.sjfh.edu.sh.cn/

TABLE 2. *Recommended schools in Putuo district* (Modern Education Putuo 2010, date of retrieval 25.09.2010)

School Name	Category	Website
JinyuanSenior High School	Public	http://www.hsjy.pte.sh.cn/po/
ShanghaiGanquan Foreign Languages Middle School*	Public	http://www.ganquanforeign.com/
ShanghaiJinhua Private Middle School	Private	http://www.sjhzx.com/
Shanghai Peijia Bilingual School*	Private	http://www.peijia.com/
ShanghaiCaoyang Middle School	Public	http://www.hscy.pte.sh.cn/xy/index.asp
N0.2High School affiliated to Tongji University	Public	http://www.hstjef.pte.sh.cn/

TABLE 3. *Recommended schools of Xuhui District* (Shanghai education 2010, date of retrieval 9.92010)

School Name	Category	Website
ZiZuYuan Middle school of Shanghai	Public	http://zzzx.xhedu.sh.cn/cms/
No.3 Middle school Attached to Shanghai Normal University	Public	http://www.ssd3.sh.cn/web/ssd3/1801.htm
Shanghai Nanyang Model High School*	Public	http://www.nanmo.cn/index.jsp
Shanghai Southwest Model Middle School	Public transformation	http://xnmf.xhedu.sh.cn/
High school attached to Shanghai Normal University*	Public	http://www.fz.shnu.edu.cn/web/index.htm
Shanghai No.54 High School	Public	http://wszx.xhedu.sh.cn/
Middle School Affiliated to ECUST	Public	http://ldfz.xhedu.sh.cn/index.php
Ziyang Middle School of Shanghai	Public	http://zyzx.xhedu.sh.cn/
Shanghai Wanpin Middle School	Public	http://wpzx.xhedu.sh.cn/cms/
Shanghai Xuhui Middle School*	Public	http://xhzx.xhedu.sh.cn/main.jsp
Shanghai High School*	Public	http://www.shs.sh.cn/english/index.html
Shanghai Weiyu High School*	Public	http://www1.weiyu.sh.cn/po35/
Shanghai World Foreign language Middle School*	Public transformation	http://www.wflms.cn/

TABLE 4. *Recommended schools of Hongkou district* (Shanghai Education 2010, date of retrieval 27.09.2010)

School Name	Category	Website
No.1 High School Affiliated to East China Normal University*	Public	http://www.sdfz.sh.cn/SchoolDigtal/Introduction.aspx
Changqing Middle School	Private	
Shanghai Fuxing Senior High School*	Public	http://www.sdfz.sh.cn/SchoolDigtal/Introduction.aspx
Luxun High School	Public	
Jiguang Senior High School	Public	
Jiangwan Junior High School	Public	
Beijiao Senior High School	Private	http://www.beijiaoedu.com/html/index/index.html

TABLE 5. *Recommended schools of Yangpu District* (Shanghai Education 2010, date of retrieval 27.09.2010)

School Name	Category	Website
Bilingual School Affiliated to Shanghai International Studies University*	Private	http://swsyxx.2000y.net/
Tongji Junior High School	Public	http://tt.yp.edu.sh.cn/tjzx/
Anshan Junior High School	Public	http://tt.yp.edu.sh.cn/Ascj/
Experimental school of Tongji University	Private	
No.1 High School affiliated to Tongji University*	Public	http://www.tjyfz1.edu.sh.cn/cjcx/ztwzsz/xqzw.html

TABLE 6. *Recommended schools of Jinshan District* (Shanghai Education 2010, date of retrieval 27.09.2010)

School Name	Category	Website
Jinshan Junior High School	Public	http://cjzx.jsedu.sh.cn/
Mengshan Middle School*	Public	http://mengshan.jsedu.sh.cn/
Shanghai Jinwei Middle School*	Public	http://jwzx.jsedu.sh.cn/
No. 2 Middle School of Zhangyan	Public	http://zyez.jsedu.sh.cn/zyez/
Shanghai Qianwei Middle School	Public	http://qwzx.jsedu.sh.cn/
Shanghai Xingta Middle School	Public	http://xtzx.jsedu.sh.cn/
Shanghai Lvxiang Middle School	Public	http://lvxzx.jsedu.sh.cn/
Shanghai Shanyang Middle School	Public	http://syzx.jsedu.sh.cn/

Questionnaire of Kung Kai Innovative school **APPENDIX 3**

1. Is IT a key element in learning and teaching process that Fung Kai School focus on?

2. Are the students very interested in doing study by computer?

3. Is it easy for the students to have access with computer?
    a. How many users there are per computer?
4. Or the use somehow is limited by hours, time or maximum users at a time?
    a. Can students use their own PC or mobile device?

5. Are there many materials or e-books in conjunction with the e-learning?

6. What is the solution for the language learning at Fung Kai Innovative School?
    a. Audio- visual room?
    b. Is there special computer software for language learning?

7. Does the local Education Bureau have plan or project to support school's ICT or e-learning? Are you using any mobile learning solutions?

8. Have you heard Virtual Reality Technology? Have you experienced VR?

9. What is your opinion of the potential of VR application in educational area?

10. Is VR in conjunction with Fung Kai's school mission in your opinion?

11. Does the school have budget for the ICT or e-learning?

APPENDIX 4

TABLE 7. *Shanghai City and Sub-district junior high school student's basic situation by Shanghai Municipal Education Commission* (Shanghai Municipal Education Statistics 2008, date of retrieval 6.10.2010)

Index	Graduate	Enroll-ment	Junior High	First year	Second year	Third year	Fourth year
City total	**105 832**	**107 686**	**425 141**	**107 897**	**107 960**	**106 910**	**102 374**
District total	**100 135**	**103 542**	**405 861**	**103 752**	**103 312**	**101 911**	**96 886**
Huangpu	3 412	2 934	12 310	2 942	3 053	3 070	3 245
Luwan	1 555	1 290	5 511	1 292	1 329	1 455	1 435
Xuhui	6 287	6 784	26 139	6 817	6 704	6 557	6 061
Changning	3 935	3 815	15 088	3 833	3 858	3 785	3 612
Jingan	2 324	2 144	8 873	2 144	2 197	2 308	2 224
Putuo	5 333	5 285	20 554	5 305	4 913	5 177	5 159
Zhabei	5 180	4 600	19 331	4 602	4 584	4 992	5 153
Hongkou	4 716	4 537	17 926	4 540	4 472	4 499	4 415
Yangpu	6 251	6 115	24 714	6 127	6 243	6 143	6 201
Minhang	6 426	8 134	29 934	8 138	7 645	7 336	6 815
Baoshan	6 079	7 423	27 885	7 466	7 136	6 964	6 319
Jiading	4 018	4 475	17 933	4 487	4 502	4 700	4 244
Pudong	18 848	19 554	72 443	19 575	18 675	17 856	16 337
Jinshan	5 126	4 232	18 575	4 232	4 690	4 824	4 829
Songjiang	4 839	5 371	22 937	5 371	6 171	5 934	5 461
Qingpu	4 176	4 540	17 342	4 550	4 502	4 320	3 970
Nanhui	6 982	6 555	26 556	6 569	6 459	6 778	6 750
Fengxian	4 648	5 754	21 810	5 762	6 179	5 213	5656
Suburb total	**5 697**	**4 144**	**19 280**	**4 145**	**4 648**	**4 999**	**5 488**
Chongming	5 580	3 819	18 260	3 820	4 361	4 743	5 336
Nongchangju	117	325	1 020	325	287	256	152