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The E-Commerce Application Experience in Selected Asian MBA Programmes

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Abstracts

The objectives of the paper are: (1) to analyse the effects of changing towards a knowledge economy and the development of MBA programmes in selected Asian countries, including Singapore, Malaysia, Hong Kong, China and Taiwan, China; (2) to study how e-commerce applications can be applied to MBA programme studies; (3) to find out what kinds of competitiveness are derived from MBA education with e-commerce facilities; and (4) to conclude lessons learnt from applying e-commerce technology into MBA programmes.

A stakeholders approach has been used to conduct a primary research and a secondary research during the period between April and May 2002. 107 were interviewed, and 174 questionnaires returned.

E-commerce technology has positively affected the rapid growth of MBA programmes, particularly distance learning and online programmes. An e-commerce education model can help to better understand how we can utilize the concepts of supply chain and e-commerce technology in MBA programmes. The supply chain of distance learning and online MBA programmes rely heavily on e-commerce technology. In full-time, part-time, and distance learning MBA programmes, teachers required students to access information from the Internet. Many MBA courses must have university technical support to be successful.

Globalisation of MBA programmes cannot be successful without e-commerce technology. This globalisation knowledge will give MBA graduates a competitive advantage after graduation. In the design of MBA curriculum, teachers must have some knowledge about the technical aspects of e-commerce. In MBA education, speed of information is crucial to students and teachers, and will change their needs and wants.

Online distance learning MBA programme is still unpopular. The combination mode of teaching is dominating the trend in distance learning MBA education. Government regulations on e-commerce can affect information flow, and adversely affect the development of MBA programmes. Security of information is always a concern of the users.

1. Introduction

1.1 MBA education

The knowledge economy trend worldwide has increased the importance of MBA education where the practical general management education can adapt more to the real world situation through continuous e-commerce applications. About five years ago, some universities offered more specialised MBA programmes; e.g. The Curtin University of Technology in Australia. However, most leading business schools still only offer the general MBA programme. The Stanford MBA Program is a general management degree. Because of that, you will not be required to specialized in one area, such as finance or marketing, but rather you'll build a program that suits your professional and personal goals.[1]

1.2 MBA courses increased globalisation trend

Many business schools recognize the growing importance of globalisation, and pioneer into providing MBA courses that relate to it, e.g. INSEAD. The principal objective of the INSEAD MBA is to provide a solid foundation for your future in general management in a constantly changing global business environment.[2]

To achieve the globalisation objective, some MBA programmes require students to take e-commerce related courses to their core subjects. Tuck School of Business is a good example. Others will encourage students to take international or global related courses that will eventually become a certificate. In the Berkeley MBA programme, students can earn a "Certificate in Global Management". Requirements for the certificate fall into three areas: overseas experience, courses with international content, and language requirement.[3]

1.3 MBA education as a tool to build personal competitive advantage

In the past 20 years, there was a clear shift from an industrial organization economics structure conduct performance paradigm to a competence-based competition.[4] Many MBA programmes' designs have shifted to teach courses that relate to generate or improve the competitive advantages of the MBA students. Examples include e-commerce specialization courses,

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1   Stanford MBA brochure, 2002, p3.
2   INSEAD MBA brochure, 2002, p4.
3   The Berkeley MBA, Full-Time MBA Program 2002.
4   Howard Thomas and Timothy Pollock, From I-O Economics' S-C-P Paradigm Through Strategic Groups to Competence-Based Competition: Reflections on the Puzzle of competitive Strategy, *British Journal of Management*, 1999, Vol. 10, pp127-140.

global concentrations and entrepreneurial electives. In selecting an MBA programme, many potential MBA students actually place great emphasis on what kinds of competitive edge they can derive after graduation.

2. The Study Objectives of the Research Paper

2.1 Background

In the past 20 years, there were many MBA programmes in various Asian countries, e.g. in Hong Kong, China, Singapore, and Thailand. Most model the American or English MBA programmes, whether full-time, part-time, or distance learning. These MBA programmes help to train international executives with a globalised view and with good personal competitive advantages. There is a need to understand more about various MBA programmes in Asia. Researches into Asian MBA programmes are limited; and Asian regional comparisons, extremely limited.

2.2 The objectives

The objectives of the research paper are:-

(1) to analyse the effects of changing towards a knowledge economy and the development of MBA programmes in selected Asian countries, including Singapore; Malaysia; Hong Kong, China; and Taiwan, China;

(2) to study how e-commerce applications can be applied to MBA programme studies;

(3) to find out what kinds of competitiveness are derived from MBA education with e-commerce facilities; and

(4) to conclude lessons learnt from applying e-commerce technology into MBA programmes and to look ahead challenges facing MBA business schools in the immediate future.

2.3 The Approach

To ensure a complete view about the study, a stakeholder analysis will be used.
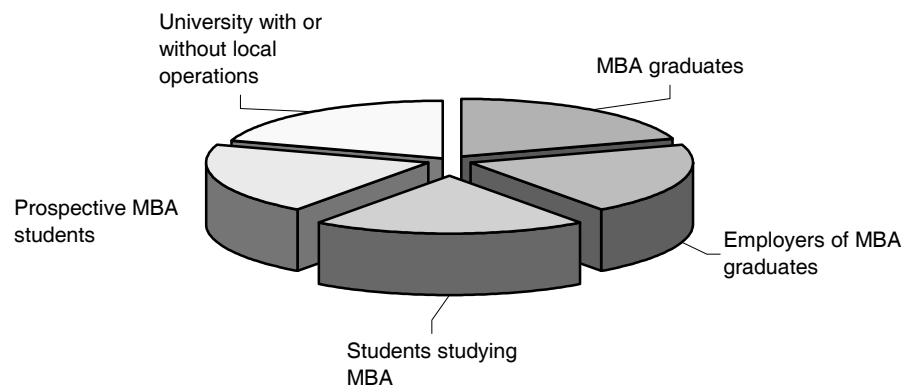Interest parties related to MBA programmes will be studied.

Figure 1:   Stakeholder analysis of MBA programmes

The study was conducted in two parts, namely primary and secondary researches during the period between April and May 2002. The data of the primary research was obtained through interviews and returned questionnaires from various MBA stakeholders including university MBA teachers/administrators, local or regional MBA operators, students studying MBA, prospective MBA students, MBA graduates and MBA employers. 107 were interviewed, and 174 questionnaires returned. The secondary research data was collated from various university's MBA brochures, catalogues, facilities, and local and international advertisements.

2.4 The limitations

MBA education research is a big research area. Due to limitation in time and personnel, only a very small part of the area is being studied. The findings might not be fully representative of the actual situation. However, it was an introduction into the subject matter. A summary of the responses was outlined below.

	Interviewed	Target	Actual	% Target
1	University offering MBA programmes			
	- Teaching staff	15	12	80%
2	Operators of distance learning MBA programmes			
	- Owners/senior staff of local/regional operators	5	4	80%
	- Administrative staff of local/regional operator	5	4	80%
3	MBA students			
	- Full-time/part-time	30	27	90%
	- Distance learning	20	18	90%
4	MBA graduates			
	- Full-time/part-time	20	14	70%
	- Distance learning	10	7	70%
5	Potential MBA students			
	- Full-time/part-time	10	7	70%
	- Distance learning	10	8	80%
6	External stakeholders			
	- Employers of MBA students	10	6	60%
	Total	135	107	79%
1	MBA students			
	- Full-time/part-time	150	68	45%
	- Distance learning	60	41	68%
2	MBA graduates			
	- Full-time/part-time	100	36	36%
	- Distance learning	50	29	58%
	Total	360	174	48%

The response rate of the primary research was satisfactory; 79% for the interviews; and 48%, for the questionnaires. There were two reasons. First, K Y Cheung had been teaching both full-time, part-time and distance learning MBA programmes for over six years in the Asia Pacific area. Many respondents knew K Y Cheung personally. Second, most of the respondents were used to researches, and welcomed the opportunities to express their views.

2.5 The Methodology

2.5.1 Interviews

Specific guidelines were given to the interviewers prior to interviewing the target population. Also, all interviewers, total three persons, including K Y Cheung had to attend a 2-hour training session about skills of interviewing, understanding the questionnaires, and how to answer questions raised by the interviewees.

An interview time was around 30 minutes, in a quiet seated environment. The major problem was the interviewees found it difficult to compare various MBA programmes, particular full-time/part-time and distance learning MBA programmes. As a result, we brought along many MBA programmes brochures to assist them in recognizing various MBA programmes. This proved extremely useful.

2.5.2 Questionnaires

We designed six types of questionnaires, with both selective and open-ended questions. These included:

(1) Questionnaire for university MBA programmes teachers/administrators;
(2) Questionnaire for local or regional operators of distance learning MBA programmes;
(3) Questionnaire for students studying an MBA programme;
(4) Questionnaire for MBA graduates;
(5) Questionnaire for potential students wishing to study an MBA programme, and
(6) Questionnaires for employers of MBA graduates.

2.5.3 Secondary data

Secondary data were mainly collected by reviewing past related literature, by desk researches on magazines and newspapers from USA, UK, Australia, Singapore, and China, including Hong Kong, Beijing and Taiwan. A list of the secondary data was given in Appendix 1. Web sites from the Internet related to the subjects were outlined in Appendix 2.

3. The Findings from the Original Research

3.1 The MBA Supply Chain Model

3.1.1 The MBA Supply Chain Model

Figure 1 illustrates what constitutes the "MBA Supply Chain Model". It starts from the supplier, the universities, with or without strategically allied with local or regional operators to reach the potential students and ended at the employers of MBA graduates.

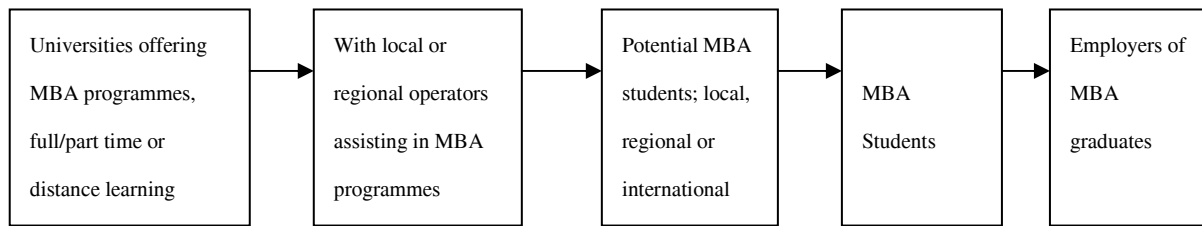| Universities offering MBA programmes, full/part time or distance learning | → | With local or regional operators assisting in MBA programmes | → | Potential MBA students; local, regional or international | → | MBA Students | → | Employers of MBA graduates |

Figure 1: The MBA Supply Chain Model, with local or regional operators

The aim of setting up an MBA Supply Chain Model is to help analyzed where problems occur whilst applying various e-commerce techniques. It pinpoints problems areas, and gives quick answers to questions, where users are generally very time conscious. Also, in case of a breakdown in the system, solutions can be assessed and prioritized.

Each individual member of the MBA Supply Chain can solely determine how various techniques of e-commerce can be applied, as each designs and operates their own e-commerce system. For example, a university can target to have its enrolment procedure 75% electronically processed. Obviously, many of the related administrative work must backup with such an objective.

As there is no control over the degree of specialization and technical advancement in the e-commerce techniques throughout the MBA Supply Chain, often delays and technical problems occur. However, it would up to the individual member within the MBA Supply Chain to solve its own problems. Good co-ordination work among various members of the MBA Supply Chain thus becomes an integral part of operation, if they want an efficient system. This is particularly true for distance learning MBA programmes, where distance is a problem, time zone changes and students' culture varies.

3.2 MBA Programmes and E-commerce Techniques

3.2.1 Common types of e-commerce techniques

All the interviewed university teachers/administrators of MBA programmes confirmed that their programmes used various e-commerce techniques. The most common types of techniques are:

(1) EDI for information processing and transmission;
(2) Own web site/page for information building and dissemination;
(3) Internet for search of information, particularly for assignments;
(4) Inter-library information sharing; and
(5) E-mail for communications.

E-commerce techniques were both important to full/part time and distance learning programmes. Over 90% of the interviewed university teachers now spent over one-third of their time on various e-commerce techniques. Sending, reading and answering e-mails topped their list. For university administrative staff and operators of distance learning programmes, the usage of e-commerce techniques were even higher, 65% of their working time. Same as university teachers, e-mail matters were the most time consuming for university administrators.

3.2.2 How e-commerce techniques help increase MBA programmes opportunities?

3.2.2.1 The Opportunities

E-commerce techniques had made it possible for universities to expand their MBA programmes. This was particularly true in UK and Australian MBA business schools interviewed. 75% of the university teachers interviewed admitted that e-commerce techniques had directed helped in creating more MBA programmes, particularly distance learning and online programmes. A university's major consideration in providing more MBA programmes was the costs in administering and developing MBA programmes, whether local or overseas. Different e-commerce techniques had helped to reduce developing and running MBA programmes costs substantially, some even by 80%.

3.2.2.2 Distance learning MBA programmes

A university could either offer a distance learning MBA programme by themselves or in collaboration with local or regional operators. The University of Western Ontario offered their MBA programme in Hong Kong by themselves. In contrast, the University of South Australia offered their MBA programme in Singapore in collaboration with the Asia Pacific Management Institute. With the aid of various e-commerce techniques, distance learning programmes were able to recruit students online,

liaise with students on a regular communication channel, and provide course materials where necessary. Warwick University in UK was one of the pioneers of distance learning MBA programmes with the aids of e-commerce techniques. As a participant on the Warwick MBA by distance learning, you will be required to have Internet access and an email address. We use these technologies extensively for both the academic and the administrative delivery of the programme.[5]

To be successful in distance learning MBA programmes, many universities and local/regional operators held regular video-conferences between students and the universities. These are particularly important before handing in of assignments and prior to examinations. Many overseas students found it necessary to talk direct to the MBA faculty, but without a formal communication channel. Face to face online video- conferences are good use of e-commerce techniques. The University of South Australia used this method for their MBA programmes in Singapore, Malaysia, Hong Kong, China and Taiwan, China.

3.2.2.3   Online MBA programmes

With good e-commerce technical backup, many universities pioneered into online MBA programmes. The City University of Hong Kong was a good example. Obviously using various e-commerce techniques were key to success. Although online MBA programmes were still not very common around the world, eventually it would gain importance.

3.2.2.4   Full/Part time MBA programmes

Many MBA programmes now introduced in their full and part time MBA curriculum, new courses related to e-commerce. The National Taiwan University MBA programmes had electives in e-commerce, multi-media and networking. Some business schools even pushed the emphasis further to form an e-commerce specialization. Nanyang Business School of the Nanyang Technological University in Singapore was a good example. The specialization focuses on developments in the Internet economy to equip both IT and non IT professionals with conceptual, applied and leadership skills needed for key positions in today's high-tech companies which position the Internet as a strategic resource. Besides learning how to build new Internet companies, participants will also acquire a multi-dimensional perspective in transforming traditional companies into modern e-commerce organizations.[6]

3.2.3 The intensity in using various e-commerce techniques

From the study, MBA students used various e-commerce techniques most. The administrative matters of the MBA programme, the assignments to search information from the Internet, the liaison with fellow students and university teachers, all are via the Internet or the university's intranet, by e-mail or through EDI. For an MBA student, this might be the cheapest, most effective, and highly efficient way of studying. MBA students interviewed and questionnaired spent over four hours with the computer every day. Even if they were not busy, they still spent two hours per day on various e-commerce techniques, from e-mail to ICQ.

MBA teachers interviewed came second in e-commerce techniques usage, followed by administrative staff. There would be increasing demands for MBA teachers to fully understand, apply and utilize various e-commerce techniques in their teaching and research work.

3.2.4 Regional comparison in e-commerce techniques usage

In the study, Hong Kong, China MBA students used various e-commerce techniques most. One of the reasons might be the MBA students interviewed all had their own personal computers. Another interesting finding was on average a Hong Kong, China MBA student had 1.35 computer to use, including their own personal computer. This also suggested that availability of computers was crucial to e-commerce techniques usage. According to the findings of the study, Taiwan, China student came second in e-commerce techniques usage followed by Singaporean and Malaysian MBA students. Another interesting finding was over 80% of the MBA students interviewed used both English and Chinese languages in their computers. We could foresee that multi-languages would become popular in future e-commerce applications.

3.3.   E-commerce Applications in MBA Programmes

3.3.1 Definition

MBA programmes having e-commerce application means during the process of providing MBA education, e-commerce techniques are applied to enhance the supply chain process, e.g. information flow of the MBA programmes. The most important e-commerce techniques encompass electronic data interchange (EDI) systems, value-added networks (VAN), the Internet, hypertext links, web-based technology and security issues.

3.3.2 Common e-commerce applications in MBA programmes

From the research findings, we understand that e-commerce applications in MBA programmes are

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[5] Learning Online, Warwick MBA by distance Learning, Warwick Business School, 2002, p 11.
[6] *2002 The Nanyang MBA*, Nanyang Business School, Nanyang Technological University, Singapore, p 20.

commonly found in three major areas, namely

(1) in administration, whether university or local /regional operators;
(2) in MBA teaching/learning between teachers and students and among students, and
(3) in the provisions of a secure web-based environment, whether the university's web site/page or the Internet..

3.3.2.1 In MBA administration

3.3.2.1.1 University MBA programme administration

To ensure that the programme administration was efficient, different e-commerce applications were introduced. Many MBA programmes constructed their own web sites and hyper-linked with their university main web site. The Melbourne Business School had their own web site, www.mbs.unimelb.edu.au. This was the easiest method potential MBA students could obtain information from an MBA programme.

All the MBA teachers interviewed admitted that having their own web site/page was the best way to attract potential students, particularly regional and international students, where distance is a problem. Many provide instant email reply services whereby potential students could ask or request for information online, e.g. request for an MBA brochure or an application form. The University of Malaya was a good example.

Other applications included the creation and maintenance of data banks about potential MBA students. Relevant MBA admission materials could be sent to potential MBA students on time and regularly. This actually helped to promote the image of the MBA programme and directly assisted in finding the best students for the business schools. From the study, it was interesting to know that 72% of the potential MBA students actually enquire about an MBA programme via the Internet. 24% actually enrolled on the Internet. Over 90% of the MBA programme admissions staff expected this trend to increase substantially in the immediate future. How to build good web sites/pages and to maintain them became concerns of many business schools, as this would be one of the most popular media for MBA students to find information about their courses.

3.3.2.1.2 Local and regional operators

Local and regional operators who act as an in between for university offering MBA programmes and MBA students used e-commerce applications most. One of the major functions of the operators was to quickly informed university MBA programmes about the feedback of their students. This was particularly important to distance learning MBA programmes. For example, the Hartford Group of Institutions claimed their "MyElearningPortal" was the only online educational platform in Asia to

effectively provide up-to-date information and services for their currently enrolled student's to access their programme information online. Originally, students were encouraged to e-mail the questions to the operators, then onward to the relevant university staff, whether administration or teaching. Now, many universities face students direct, particularly on course questions.

Over 50% of the operators interviewed admitted that their work had been more administrative, as compared with 2-3 years ago. They usually organized video-conferencing meetings on a regular basis, collected assignments before deadline, placed advertisement after approval from MBA programmes, and provided local admission services. Some operators like Global Education also maintained a chat room, whereby students could freely expressed their views. Comments from these chat rooms could be used to improve future administration efficiency.

To ensure quick response with potential and studying MBA students, operators maintained a web site with email address where they could answer queries immediately, e.g. the Informatics Group in Singapore. All operators interviewed claimed that they could handle requests, e.g. application forms, immediately. Potential MBA students could download the information instantly from their web sites.

3.3.2.2 In MBA teaching and learning

3.3.2.2.1 MBA teaching

All of the MBA teachers interviewed agreed that e-commerce applications had upgraded the quality of teaching. With a web-based environment, teachers could prepare more up-to-date information for students. The costs for collecting and collating teaching materials were reduced substantially, especially when an electronic library was available. Students could access to reading materials, journals and research work on a 24-hour time frame, thus better utilizing the student's time. MBA teachers in Hong Kong, China particularly liked to put teaching materials on web sites. The Open University of Hong Kong had an electronic library whereby MBA students could link at will.

E-commerce applications could help to enhance the contents of an MBA programme. Teachers could now collect more information via the Internet. During class lectures, demonstration of cases using online Internet technology was a very effective way of teaching. All students interviewed and questionnaired regarded the ability to demonstrate a concept online to be a great improvement in teaching. Also for students, seeing was believing. In the study, 75% of the MBA teachers interviewed who taught Marketing courses used many e-commerce applications, some even as much as 30% of the lecture time or more.

In actual MBA course designs, teachers interviewed now

had to consider various types of e-commerce applications in their course curriculum. Some would require students to do presentation work, but with Internet assistance. Others would ask students to collect and collate information from the Internet. All indicated that e-commerce applications were today's trend in MBA course designs. This would be particularly true for MBA programmes that emphasized on recruiting international students and with globalised courses. The University of Singapore MBA programme would be a good example.

Apart from course materials, some MBA teachers allowed their students to hand in their assignments using soft copies. This could be more environmentally friendly, as less paper was involved. This also encouraged the students to use coloured graphics, more appendices and web site references in their assignments. Less administrative work could also be involved. The only drawback could be the argument about whether an assignment had been handed in, if records from the computer could not be traced.

3.3.2.2.2   MBA learning

MBA students benefited most from various e-commerce applications in their study, including lessons preparations, presentations, group work and assignments. If an electronic library facility was available, students could study at will, ignoring the opening and closing hours of a traditional library. In searching for information, the Internet usually had more than enough data for students to collect. How to be selective in data collection would be a skill MBA students had to master. A point of caution was that students had to observe the international copyrights issue when downloading any information. Many universities had strict rules governing the copyrights issues.

Many MBA courses required students to do oral presentations as part of their grading system. The study found that presentation marks could go as high as 40% or more of the course grade. Many students used different computer groupware, e.g. Microsoft Office 2000, in their presentations. Microsoft's PowerPoint was the most commonly used. Together with other software by the same manufacturer, a student could compose a very attractive presentation, with immediate Internet connection, making the presentation very animated and lively. Also, with a coloured screen, the effects and quality of the presentation would automatically be upgraded. Such presentations had become a standard norm in MBA presentations.

Group work was a major characteristic of MBA studying. Students had to liaise with each other on a very regular basis. Emails played the most important role in connecting students, whether living inside or outside the campus. The enclosure of files in emails allowed students to incorporate large amount of data that was not possible years ago. This helped to prepare large amount of data easily and cheaply. The convenience and low costs encouraged students to search, analyze and use data frequently. The quality of MBA group work had been greatly upgraded. The continual upgrading of transmission speed had directly encouraged the more common usage of various e-commerce applications.

The quality of an MBA assignment had improved tremendously during the past two to three years. Many assignments were liked published works, as the use of coloured diagrams, graphics and enclosures became popular. The settings of the assignments, the quality of printing and the onerous drawing of outstanding diagrams and tables, all showed how e-commerce applications could help to upgrade the quality of an MBA assignment. Students had to master good e-commerce application skills to survive in a very competitive academic environment. This would be particularly true for subjects like Marketing, Economics and Logistics Management where pictures and diagrams helped to express the meanings of theories and concepts. Over 80% of the studying MBA students interviewed and questionnaired admitted that they had to produce high quality coloured assignments.

3.3.2.3 Providing a Secured Intranet System

3.3.2.3.1 Web-based technology

All the university teachers/administrators and local/regional operators interviewed confirmed that they all had their own web sites. The results of the study also indicated that there was an increased risk in web-based electronic commerce. Two universities administrators interviewed said their universities had been victims of information losses. As such, continuously developing and maintaining a high quality secured web-based technology was crucial to the successful development of e-commerce applications in MBA programmes. The limiting factor of most MBA programmes was that they had to be an integral part of their university web site, unless they could afford their own web sites, if approved by their university.

For local and regional operators, they could be more flexible in web sites designs and operation. Installation costs were the major initial concerns. All of the local/regional operators interviewed admitted that ensuring a 24-hour 365-day web-based environment was key to their success, as most of their students would contact them any time of the day, and more frequently after office hours and in holidays. However, this could be a serious problem, if the technological hardware and software between universities and local/regional operators were not commensurable. Also, the level of technical competence of the service providers, local or international, could make a big difference.

3.3.2.3.2 Internet and Intranet Security

Internet and intranet safety had always been a problem in e-commerce applications. Traditional security measures, e.g. firewalls, cryptography and authentication still played the most important role in network protection. Anti-virus operations played a significant role in e-commerce applications like e-mail transmission. As a precaution, some university scanned all incoming and outgoing e-mails as a requirement. As the intranet system would be used by a very huge number of users, e.g. administrators, teachers and students, maintaining a secure system became crucial and difficult.

How to maintain a highly secured intranet system was the major concern of all the people interviewed and questionnaired. Internet security was also extremely important. Protecting the privacy of a user was top priority. Also ensuring 100% of document transmission without being hacked was another priority issue.

3.3.2.3.3 Internet and Intranet usage regulations

Depending on locations, different countries had different e-commerce laws. It would be understandable that the control of the Internet would be difficult. Internally, the university's control of its own intranet could be easier. All the university teachers/administrators interviewed confirmed that their universities had guidelines about Internet and intranet usage. Offenders could be easily traced, and disciplinary actions would be taken, if necessary. As such, constant updating of Internet and intranet usage regulations would be necessary to maintain efficient and secured systems.

3.3.2.3.4 Operating and maintenance costs

Operating and maintenance costs of the Internet/intranet system were the second major concern of the university teachers/administrators interviewed. University budgets were usually very tight. Constant upgrading of an Internet/intranet system might not be possible, especially when most of the MBA programmes were but part of a university's computer system.

There would be situations where other members of the MBA Supply Chain were technically current; but the source of the MBA Supply Chain, the business schools, lagging behind. This would create many problems, especially when software was not compatible in either old or current systems, e.g. Windows 95 versus Windows 2000. One interesting findings was that all the interviewed or questionnaired remarked they used English and Chinese (either simplified or traditional) as their medium of communication. Microsoft Explorer would be their first choice of the browser, followed by Netscape Navigator.

3.4 The Benefits and Problems of Applying E-Commerce Techniques into MBA programmes

3.4.1 The benefits

From the research findings, university teachers/administrators remarked the benefits of applying e-commerce techniques into MBA programmes in order of importance are:

(1)   To maintain the image of the business school and the MBA programme,
(2)   To reduce costs substantially,
(3)   To increase the competitiveness of students,
(4)   To provide a regular channel of communication,
(5)   To create programme opportunities, and
(6)   To make their curriculum more globalised and practical.

MBA students interviewed or questionnaired admitted that the most important benefits from their MBA studies were the increase in their personal competitiveness. Globalisation was now the trend. E-commerce techniques and applications were "musts' for executive nowadays. All employers of MBA graduates interviewed considered the e-commerce competitiveness of MBA graduates one of their reasons why they were willing to pay them a higher salary package.

3.4.2 Associated costs and problems

3.4.2.1 Associated costs

The benefits from applying e-commerce techniques into MBA programmes had associated costs. First, web sites had to be created, with proper operating and maintenance costs. Second, the opportunity costs involved in ensuring a safe and efficient system were worth considering. Third, future-upgrading costs meant more investments must be allocated. The budget for these costs would become a major concern for all parties in the MBA Supply Chain, as each party would be affected. This would be particularly true for MBA programmes treated as a self-funding project.

3.4.2.2 Related Problems
From the study, the following problems with applying e-commerce techniques into MBA programmes were identified:

(1)   MBA teachers must understand the various e-commerce techniques, and capable of applying them into the curriculum,
(2)   How and who are to ensure that the MBA Supply Chain members had compatible e-commerce application capabilities,
(3)   The technical expertise to backup the hardware and software systems of the Internet/intranet systems of universities and local/regional operators,
(4)   The degree of computerization of the MBA programmes supply and demand countries, and
(5)   The budget situations of different MBA Supply Chain members.

No solutions were found, except that MBA teachers had to self learn to upgrade themselves regularly on various e-commerce techniques and applications to remain competitive. How to solve the abovementioned related problems could be a good future research area.

3.4.3 Building MBA student's personal competitiveness

All of the MBA employers interviewed were looking for different competitiveness MBA graduates had acquired. These included good international management giving trained analytical skills; globalised thinking, an ability to handle change; innovation in work process; and entrepreneurial capability. E-commerce applications in MBA programmes had helped to create such competitiveness. Constant exchanges of information and ideas internationally through the Internet made MBA graduates accustomed to the international market. With globalised thinking, the world would be closer together, and more business opportunities.

Over 92% of the students studying MBA programmes interviewed and questionnaired agreed that e-commerce applications increased their personal competitiveness by giving them the opportunity to create a more practical world and be innovative. The constant involvement in international matters through the Internet made students more accustomed to how to deal with globalised situations and matters. The globalised thinking learning curve effect could be best seen when MBA students graduated.

The study clearly reviewed that the personal competitiveness of MBA graduates would be a direct result of a carefully designed university's curriculum. From MBA graduates interviewed and questionnaired, all concluded the course emphasis was key to building their personal competitiveness. These included: (1) trained analytical skills to differentiate their abilities, (2) globalisation understanding to analyse different environmental situations, (3) ability to handle change effectively, (4) entrepreneurial in work attitude, (5) innovative to survive, and (6) networking through their alumni to add value. E-commerce applications in the curriculum played a very major role in building all these competitiveness. We could conclude that e-commerce applications into MBA programmes would be a must for any MBA programme to be highly successful.

4. The Findings from Desk Research

4.1 Analysis of different MBA brochures in Asia

Many MBA programmes were offered in Asia, including countries like Singapore, Malaysia, Australia, Thailand, Hong Kong, China and Taiwan, China. We had taken 54 MBA programme brochures offered in Asia, and made the following comparisons:-

Comparisons	Australia (Distance learning)	UK (Distance learning)	USA (Distance learning)	Hong Kong, Taiwan, China	Malaysia and Singapore
(1) Coloured brochure	16	12	8	12	6
(2) Introduction about the University and programme	16	12	8	12	6
(3) Clear mission statement	12	10	5	10	4
(4) Building competitive advantage of students	6	8	5	8	3
(5) University and operator information together	10	8	5	4	0
(6) Outline MBA programme structure	16	12	8	12	6
(7) Mention about the research capability of the University	1	1	0	6	2
(8) Entry requirements	16	12	8	12	6
(9) Duration	16	12	8	12	6
(10) Fee schedule	12	5	4	10	3
(11) Application procedure	16	12	8	12	6
(12) Selection procedure	8	7	5	10	3
(13) Rankings by third parties	7	5	0	7	2
(14) Faculty list	6	5	2	5	2
(15) Administrative support	14	10	7	10	5
(16) Academic recognition	12	5	5	12	4
(17) Introducing studying MBA students	0	0	0	6	1
(18) Past student profile	0	0	0	4	1
(19) About graduate employers	2	0	0	0	0
(20) Alumni networking	1	0	0	5	2
Total number of brochures analyzed	**16**	**12**	**8**	**12**	**6**

Table 1:   An analysis of various MBA brochure

Note: Number inside table is actual counts. The analysis suggested that many of the key selling points of full-time and part-time MBA programmes were not stressed in the brochures. These include acquiring competitive advantage, career services, and alumni networking. Also student profiles were not disclosed.

4.2 Review of related MBA literature

There have been very few researches on MBA studies as a research topic. Many business schools do have their perceptions on MBA development, but most of them are confidential and unpublished. Commercial studies on MBAs related mostly to rankings about course evaluations, teacher's background, research capabilities, etc. However, if the business schools chose not to participate in academic and/or commercial assessments, then it would be very hard to compare business schools as a whole.

5. Conclusions and Implications of the Research Findings

5.1 Conclusions

The conclusions of the research findings were:

(1) MBA programme in Asia is a rapid growth area, and will continue to grow in the coming decade, especially in countries changing towards a knowledge economy.

(2) An e-commerce education model can help to better understand how we can utilize the concepts of supply chain and e-commerce technology in MBA programmes.

(3) E-commerce technology has positively affected the growth of MBA programmes, particularly distance learning and online programmes in selected Asian countries and creates many opportunities worldwide.

(4) The supply chain of distance learning and online MBA programmes rely heavily on e-commerce technology.

(5) In full-time, part-time, and distance learning MBA programmes, teachers required students to access information from the Internet. Many MBA courses must have university technical support to be successful.

(6) Globalisation of MBA programmes cannot be successful without e-commerce technology. Many MBA teachers and students contacts are via the Internet. This globalisation knowledge will give MBA graduates a competitive advantage after graduation

(7) In the design of MBA curriculum, teachers must have some knowledge about the technical aspects of e-commerce. This can be demanding to some MBA teachers.

(8) In MBA education, speed of information is crucial to both students and teachers. Information technology will gradually change the needs and wants of both teachers and students.

(9) Online distance learning MBA programme is still unpopular. The combination mode of teaching is dominating the trend in distance learning MBA education.

(10) Government regulations on e-commerce can affect information flow, and adversely affect the development of MBA programmes. Security of information is a concern of both teachers and students.

5.2 Implications

The conclusions have a number of implications. First, e-commerce technology makes MBA education competition global. Second, understanding the supply chain and local responsiveness in selected Asian countries will affect the design of MBA curriculum. Third, MBA graduates expect their programmes can give them globalisation knowledge to improve their personal competitiveness. Emphasis on an MBA programme will be more global and strategic. Fourth, universities will have to spend more resources on e-commerce technology to remain competitive. This can be a financial burden. Fifth, with plenty of information available through the Internet, teachers need to upgrade themselves at a very quick pace. This can be very demanding to the academic staff. Sixth, development of online distance learning MBA programmes is limited by both hardware facilities and curriculum design. Seventh, different government regulations on e-commerce can affect information flow internationally, and adversely affect MBA development internationally. Finally, Internet security can be a problem in developing distance learning and online MBA programmes.

6. A Look Ahead

The MBA programmes in Asia will continue to grow rapidly, e.g. in Singapore and Hong Kong, China, especially when the trend towards a knowledge economy is a natural extension of many economies. The major challenge ahead for business schools in Asia is to design MBA programmes suitable for their local needs in a fast changing technological environment. For countries concentrating on distance learning programmes, the challenge is even more, as both local and regional/international conditions have to be satisfied. More continuous researches into the MBA topic area can help to formulate better strategies for individual Asian business schools searching for their own characteristics; and can create more co-operation among world educators.

Appendix 1:   Review of MBA Literature

(A)   English and German Books

(1)   Peter G. Forrester, *The British MBA : an assessment of postgraduate management education in UK universities,* Cranfield : Cranfield Press, 1986.

(2)   Lau Sui-yin, Eddie, Chan Wan-kam, *Computer systems recommendations for the MBA programme : research report,* Hong Kong : Chinese University of Hong Kong, 1982.

(3)   Leung Kin Hee, *The conflict between business graduates and companies : a study on MBA of Hong Kong by behavioral approach,* Hong Kong : Chinese University of Hong Kong, 1973.

(4)   Nedda Gilbert, *The best 80 business schools,* New York, NY : Random House, Inc., c1999.

(5)   Robin S. Snell and Agnes Lau, *A brave experiment in a barren environment : evaluating a self development module on an MBA in Hong Kong,* Hong Kong : Dept. of Business and Management, Faculty of Business, City University of Hong Kong, [1995].

(6)   *CUMBA evolution, 1966-1988,* [Hong Kong : MBA Alumni Association of the Chinese University of Hong Kong], [1989?]

(7)   Leonard M. Lodish, Howard Lee Morgan, Amy Kallianpur, *Entrepreneurial marketing : lessons from Wharton's pioneering MBA course,* New York : Wiley, c2001.

(8)   Birgit Giesen, Nicola de Menezes, Kirstin Rappmund-Gerwers ; [Herausgeber, Joerg E. Staufenbiel], *Europaische Studiengange und MBA-Programme in Europa,* Koln : Institut fur Berufs- und Ausbildungsplanung, 1995.

(9)   *Financial times mastering strategy : the complete MBA companion in strsategy,* Harlow : Financial Times/Prentice Hall, 2000.

(10)   Susan Cohn, Don Hudson, *Finding your way with an MBA : insights from those landing their ideal jobs,* New York : J. Wiley, c2000.

(11)   Robyn Frank-Pedersen, *M.B.A. part-time : an insider's guide,* New York : Simon & Schuster, c2000.

(12)   *Mastering global business : the complete MBA companion in global business,* London : Financial Times/Pitman Pub., 1999.

(13)   *MBA,* Chagrin Falls, Ohio : MBA Magazine, Inc., 1966-78.

(14)   E. Raymond Corey, *MBA field studies : a guide for students and faculty,* Boston, Mass. : Harvard Business School Pub. Division, c1990.

(15)   Sheila Cameron, *The MBA handbook : study skills for postgraduate management study,* Harlow, England ; New York : Financial Times/Prentice Hall, 2001.

(16)   Stuart Crainer and Des Dearlove, *MBAplanet : the insider's guide to the business school experience,* London : Financial Times Prentice Hall, 2001.

(17)   Jodi Z. Krasna, managing editor ; Sarah A. Dallam, copy editor ; James W. Schmotter, *The official guide to MBA programs,* [Los Angeles, Calif.] : Graduate Management Admission Council, c1994.

(18)   *The official MBA handbook,* Harlow : Pearson Education, Ltd., 1999-

(19)   *Peterson's guide to MBA programs,* Princeton, NJ : Peterson's, c1995-

(20)   *Peterson's ... MBA distance learning programs,* Princeton, N.J. : Peterson's, c1999-

(21)   Chan Lai-ying, Rita, *A study on MBA programmes in Hong Kong,* Hong Kong : Chinese University of Hong Kong, 1993.

(22)   George Bickerstaffe, *Which MBA? : a critical guide to the world's best MBAs,* London : Pearson Education ; New York : Economist Intelligence Unit, c2000.

B.   Chinese Books

(1)   吳世農，仝允桓 《中國 MBA 教育實踐與探索》 機械工業出版社 2001

(2)   Niting Nuoliya (Nitin Nohria) bian ; Liu Shiping yi ; Xu Shijun zong xu ; Lin Yingfeng dao du, *MBA bai ke quan shu*《尼汀{21232e}諾利亞(Nitin Nohria)編 ； 劉世平譯 ；許士軍總序 ；林英峰導讀， *MBA 百科全書 /*》, Taibei Shi : Shang zhou chu ban, 2000. 《臺北市 ： 商周出版, 2000.》

(3)   MBA yan jiu zhong xin zu bian ; zhi bi ren Ouyang Zhiming, Zhao Yonghui, Liu Lengyi., *Quan qiu shi da shang xue yuan* 《MBA 研究中心組編 ； 執筆人歐陽志明, 趙永慧, 劉冷一, *全球十大商學院*》, Beijing shi : Qi ye guan li chu ban she, 1998《北京市 ： 企業管理出版社, 1998.》

(4)   仝元桓 〈認清發展趨勢，加快MBA教育改革和發展〉《中國高等教育半月刊》2002(1)

(5)   〈中國高校工商管理碩士學位(MBA)，教學合格評估(第二批) 結果揭曉 〉 《學位與研究生教育》 2001(12)

(6)   沈遠平 〈淺談 MBA 管理溝通課程教學〉《學位與研究生教育》 2001(7-8)

(7)　　曾詠梅　〈我國 MBA 法學課程的設置與教學改革〉《學位與研究生教育》 2001(6)

(8)　　楊斌、趙純均 〈美國 MBA 校友網珞建效介紹〉《學位與研究生教育》 2001(4)

(9)　　於立 〈財經類院校如何辦存 MBA 教育–東北財經大學的探索〉《學位與研究生教育》 2000(6)

(10)　　葉明海 〈MBA 營銷管理課程教學的若干思考〉《學位與研究生教育》 2000(3)

(11)　　鄭潔 〈淺談我國 MBA 課程設置中的不足〉《學位與研究生教育》1999(6)

(12)　　王子成、陳莞菁、蔣慧 〈MBA"聯考" 與"GRK" 實行聯合的必要性和可能性〉《學位與研究生教育》1999(6)

(13)　　朱金生〈"案例教學法" 及其在我國 MBA 教育中的作用〉《學位與研究生教育》 1999(6)

(14)　　袁衛、何曉群 〈MBA 應用統計教學的實踐與體會〉《學位與研究生教育》 1998(6)

(15)　　趙錫斌 〈改進 MBA 案例教學的新思路〉《學位與研究生教育》 1998(5)

(16)　　徐松、田鶴亭、宋曉平 〈MBA 論文質量分析及其相關問題–西安交通大學 MBA 論文評審與討論會綜述〉《學位與研究生教育》 1998(2)

(17)　　李寶山 〈加強 MBA 整合能力的培養〉 《學位與研究生教育》 1998(1)

(18)　　王秀村 〈倫敦商學院的 MBA 教育及其啓示〉《學位與研究生教育》 1997(6)

(19)　　楊錫懷 〈一九九六年美國優秀商學院排名及啓示〉《學位與研究生教育》 1997(5)

(20)　　陳榮秋 〈管理者的素質和 MBA 教育質量〉 《學位與研究生教育》 1997(5)

(21)　　李延喜、遲國泰、欒慶偉 〈全過程管理，多方住控制，提高 MBA 教育質量〉《學位與研究生教育》1997(4)

(22)　　張文修 〈提高 MBA 培養質量是發展 MBA 教育的關鍵〉《學位與研究生教育》1997(3)

(23)　　楊金麗、馬秀玲 〈從哈佛看我國的 MBA 教育〉《學位與研究生教育》 1997(3)

(24)　　顾永才 〈试析我国试点 MBA 教育存在的不足〉《学位与研究生教育》 1997(2)

(25)　　周三多 〈中国 MBA 入学综合考试改革初探〉《学位与研究生教育》 1996(3)

(26)　　鲁明泓 〈美国管理研究生入学考试(GMAT)及对我国 MBA 教育借鉴意义〉 《学位与研究生教育》 1996(1)

Appendix 2:　Websites Related to MBA Programmes

(1)　　www.21ce.net
(2)　　www.sina.com.cn
(3)　　www.embark.com
(4)　　www.asiaweek.com
(5)　　http://unicorn.us.com/guide/
(6)　　http://www.gmat.org/
(7)　　http://www.foreignmba.com/
(8)　　http://www.mbainfo.com
(9)　　http://www.embanet.com
(10)　　http://www.cuhk.edu.hk/mba
(11)　　http://www.petersons.com/mba/search.html
(12)　　http://www.getMBA.com
(13)　　http://www.mba360.com/
(14)　　http://www.mba-programs-online.com
(15)　　http://www.execmba.com
(16)　　http://www.top10.org
(17)　　http://www.MBA.CollegeEdge.com/
(18)　　http://www.singaporemba.com/
(19)　　http://www.edupak.net/
(20)　　http://www.euro-mba.net/
(21)　　http://hops.wharton.upenn.edu/programs/mba_program.html
(22)　　http://www.mbaentry.com/
(23)　　http://www.buseco.monash.edu.au/
(24)　　http://www.ebs.de/
(25)　　http://www.aim.edu.ph/
(26)　　http://www.mbasystems.co.uk/
(27)　　http://www.b-school-net.de/
(28)　　http://www.em-lyon.com/
(29)　　http://business.missouri.edu/mba_assoc/
(30)　　http://www.insead.com/