



# Post Graduate Electronic Commerce Specialisations: An Australian University Case Study

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## ABSTRACT

*This paper examines the development of an E-Commerce specialisation developed at Victoria University (VU), Australia for its local and overseas MBA students. These specialisations are very popular in Australia, with half of the MBA programs with specialisation having one in an E-Commerce related field. An examination of some of these specialisations highlighted in the literature or in Australian universities shows that the two most popular topics in them are E-Marketing, the management of E-Commerce in business and E-Commerce business models. A few years ago, VU introduced an e-commerce specialisation that targeted these areas for its MBA program, as well as other popular uses of Internet technologies in business and the development of E-Commerce web sites. This specialisation is explained in the paper, along with the different modes of the specialisation delivered at VU campuses in Melbourne and Beijing. The paper also tracks the extension of the specialisation into a more comprehensive suite of elective programs.*

## INTRODUCTION

There is no doubt that Electronic Commerce (E-Commerce) is the flavour of the month. Employers are requesting that business graduates have skills in the area and students of universities around the world are clamouring to study E-Commerce subjects. Universities offering Master of Business Administration (MBA) programs are increasingly offering them with E-Commerce specialisations. This paper looks at the development of E-Commerce specialisations, particularly a recent specialisation developed at Victoria University (VU), Australia for its local and overseas MBA students, and tracks the extension of the specialisation into a comprehensive set of electives for other masters students within the university.

## ELECTRONIC COMMERCE IN MBA PROGRAMS

Many universities offer masters courses with some component of E-Commerce. Courses range from an MBA with some type of E-Commerce specialisation through to full masters of Science in E-Commerce (Melymuka, 2000; Mitchell, 2000; Dobbs, 1999; Wahl, 1999).

*Master's programs range from the heavy business focus of MBAs to the hands-on approach of master of science programs. But they all have several things in common. They've been cobbled together in record time, they're evolving by the minute, they're wildly popular with students, and they will probably disappear in five years. (Melymuka, 2000, p.48)*

The comment by Melymuka in a year 2000 publication is an interesting one. There is no doubt that many of these programs have been developed in a short period of time and that they are very popular. The argument that they will 'probably disappear in five years' is based on two premises. Firstly, that many of the concepts now being taught

specifically in E-Commerce subjects will eventually be taught as part of common business subjects (for instance, E-Marketing concepts will become part of normal Marketing). One thing to remember is that E-Commerce may not always be new and mystifying. As it becomes accepted amongst the various areas of business there may be less need for specific E-Commerce related skills (Wahl, 1999). Secondly, that E-Commerce represents the latest 'fad' and will disappear in time. The authors tend to support the first view rather than the second one! Certainly, from a course offering point of view E-Commerce courses in their various forms are still popular today.

The focus of this paper is particularly on generic MBA programs containing a specific E-Commerce specialisation.

## E-COMMERCE SPECIALISATIONS IN AUSTRALIAN MBAS

Ashendon and Milligan (2001) publish the Good Universities Guide to Business & Management Courses, a guide to Australian MBA and other management programs, on an annual basis. For 2002, the guide lists 42 generic MBA courses. Of those courses, only 6 do not have some type of specialisation. Half of the MBAs that have a specialisation have one in E-Business (8), E-Commerce (9) or E-Commerce management (1).

## CONTENT OF E-COMMERCE SPECIALISATIONS

One of the challenges of developing an E-Commerce specialisation in an MBA is to effectively match the topics covered in the specialisation with those covered in the generic business part of the degree. For instance, if there is a Marketing subject in the core of the MBA course then the E-Marketing part of the specialisation should build on the knowledge gained in the foundation subject.

The following shows some of the areas targetted by MBA E-Commerce specialisations identified in the literature:

1. Marketing, information technology and economics (Anonymous, 2000).
2. Management and technical issues in E-Commerce applications (Gurusinghe, 2000).
3. Foundations, organisational impacts and management implications of using E-Commerce technologies in business (Gurusinghe, 2000).

Specific topic areas targetted in these courses are presented in Table 1. In the table, the numbers represent the numbered references in the previous paragraph.

It is interesting (but not surprising, perhaps) that the concentration of most specialisations is on marketing, business models and business applications in the E-Commerce area. It would be safe to assume that most of the courses that have general business topics in their courses (marketing, management and so forth) would have them there because

Table 1: Topics of E-Commerce Specialisations

Topic Area	1	2	3
<b>Internet Related</b>			
Marketing on the Internet	*	*	
Managing Electronic Commerce in Business/ Models	*	*	*
Information Retrieval/ Intelligent Agents		*	
Legal, Security &/or Privacy Issues			*
E-Commerce Technologies			
<b>General Marketing</b>			
Database Marketing	*		
Marketing Research	*		
Advertising and Sales Promotion	*		
<b>General Management</b>			
Business and Strategic Management		*	
<b>Supply Chain Management</b>			
Distribution Channels and Sales Force Management	*	*	
<b>Information Technology</b>			
Business Data Communications/ Networking	*	*	*
Business Process Analysis and Design	*		
Information Systems in Management		*	
Programming		*	
<b>Accounting</b>			
Cost and/or Financial Information Systems	*		*

they are not adequately covered in the generic core. Again, one interesting point to note is that there is not much of an emphasis on the technical skills associated with E-Commerce. This reflects more the management nature of these coursework masters courses than a statement on the need for these skills. For instance, the undergraduate electronic commerce offering at Victoria University (where the authors reside) has a deal of emphasis on technical skills to support E-Commerce activities.

#### Suitability of the E-Commerce Specialisation

How suitable are these MBA specialisations in the real world? Companies are in need of people who can implement and manage the new ways of doing business (Wahl, 1999). Abraham Seidmann, professor of computers and information systems at the William E Simon graduate School of Business Administration in the US, comments:

*The Internet is changing every dimension of the way in which the world conducts business. This tremendous explosion in information intensive industries is driving a much stronger demand for MBA students who have extensive training and education in high technology to manage business.* (Siedmann, 2000, p.20)

Greg Scileppi, executive director of RHI Consulting in Canada states:

*Nationwide, firms are actively recruiting Web developers, E-Commerce specialists and systems integrators to align traditional 'brick and mortar' operations with successful E-Commerce models.* (Scileppi, 2000, p.17)

Gurusinghe (2000) suggests that companies are looking to hire professionals who can not only develop and support internet and intranet systems (the 'technical' side), but who can also understand the 'business' applications of the E-Commerce technologies. For students with a technology background, these type of courses can provide the business and management skills to progress to the next level of their careers (Dash, 1999).

There is some evidence to suggest that electronic commerce has outgrown the earlier 'hype' associated with it being 'the next best thing' and also the depths of the 'dot.com' crash. It is now starting to provide businesses with real benefits based upon sound business principles, the Internet is a far more reliable (and faster) tool and more and more consumers are connecting to it every day. As an example, Mullaney et al (2003) claim that the travel, music, computer and financial services industries have all been irretrievably transformed by e-commerce, with the retail, automobile, media and health services sectors not far behind. It is this more stable environment that e-commerce courses can provide some real value to industry.

#### THE MBA AT VICTORIA UNIVERSITY

The Victoria University MBA commenced in Melbourne in 1993 and is now offered in Singapore, various parts of China, Kuala Lumpur and Dhaka as well as Melbourne, with an enrolment of more than 500 students.

Australian universities are very attractive to international students, particularly from Asia and Victoria University has been actively growing the number of international students involved in their full fee paying courses in recent years. Until 1998 this involvement was primarily the provision of programs taught in Australia. In recent years more Asian countries have been receptive to international universities providing courses in-country and universities have become more willing to provide such services. This willingness has developed because the providers can see the increasing demand from a well educated and relatively well-paid middle class and quality control concerns are more easily met with the rapid development of communications and other facilities in potential host countries.

The MBA offered at Victoria University is a 12 subject program consisting of at least 8 core subjects and up to 4 electives. The actual subjects offered in a particular location are decided after discussions with our local partner and enrolled students. In Beijing the 12 subjects offered include the MIS core subject and one E-Commerce elective. The MBA market in China is at a different stage of development and the completion of a specialisation is not seen as important. However, from the potential list of over 100 electives available an E-Commerce subject was chosen as one of only 2 electives offered. In a country, which has struggled for years to provide adequate traditional communication infrastructure, the potential of electronic communication is seen as paramount to the continuing rapid development of commerce both within China and with the rest of the world. Many of the students on the MBA program are employed by multi nationals and rely heavily on electronic communication at work.

The curriculum and software for E-Commerce subjects is rapidly developing and there are challenges in offering these subjects both on and offshore. Some of the challenges faced offshore include, the provision of reliable and compatible hardware, the appropriateness and popularity of software varies from one location to another and the availability of suitable workshop leaders. The VU offshore teaching model involves a full semester of face-to-face teaching with 1/3 delivered intensively by the VU subject leader and 2/3 delivered by a locally employed workshop leader. The difficulties faced in delivering the subject offshore are often exaggerated once the subject lecturer has returned to Melbourne and 'on the run' solutions are often difficult to implement at a distance.

There are also a number of other Masters programs within the university. In the Faculty of Business and Law they follow a similar 12 subject model – with 6-8 core subjects and 4-6 electives. The e-commerce subjects described in this paper are very popular electives within the Masters of Business (Information Systems) and are now core units in Masters of Business (Electronic Commerce and Marketing).

#### THE SPECIALISATION AT VICTORIA UNIVERSITY

As indicated earlier in the paper, E-Commerce specialisations have covered a number of areas related to all types of business activities. These topics include by definition the use of technologies to enhance business-to-business and business-to-consumer relationships, and to improve internal business operations. In parallel with these applications, Internet technologies are increasingly being used for business research and communication.

The Electronic Commerce specialisation at VU has been designed to prepare students for the management, application and use of E-Commerce and related technologies. During their studies, students will encounter technologies relating to the Internet, intranets and extranets. The specialisation will also cover use of the Internet as a business research and communications tool.

After completing the specialisation students will be better able to make informed decisions concerning Electronic Commerce and its associated technologies. The specialisation consists of Management Information Systems (MIS), plus three subjects. In examining these

subjects, the reader should remember that other core MBA subjects cover the areas of law, management, accounting, economics, marketing and so forth. The subjects described in the following section represent the specialisation as it stood up to and including 2003.

**Management Information Systems**

This subject is the core information systems subject in the MBA. It introduces a broad range of topics relating to the field of information systems, highlighting the link between IT and the business. Theoretical issues are reinforced through laboratory work that leads to the design and implementation of small systems.

**Internet Commerce**

This subject provides an overview of how business is conducted over the Internet; the technological and infrastructure requirements, and business and management issues relating to Electronic Commerce. It is the introductory E-Commerce subject.

With an increased adoption of the Internet and the World Wide Web as a medium of doing business, the subject introduces the Internet/Electronic Commerce practices and its emerging trends and features. It provides an overview of how business is conducted over the Internet, the technological and infrastructure requirements, and business and management issues in relation Internet/Electronic Commerce.

**Internet Technologies in Business**

The aim of this subject is to examine ways that a business can use Internet technologies for communication and business research, as well as technologies such as intranets and firewalls to improve its own business processes and store business documents. It examines the use of Intranets and Extranets in business, the use of the Internet for business research, and the use of the Internet for business communication. Its aim is to examine the ways that a business can use Internet technologies to improve its own business processes, find business information and improve communication by improving the information richness of the communication and lowering communication costs. The subject endeavours to introduce those areas of use of Internet technologies that are not widely taught in other specialisations, but are widely used in the business world. Topics covered are:

- Uses of Intranets in Business. Intranets and document storage; using Intranets for internal business processes; Intranets and data storage; Extranets as an extension of Intranets for selected external partners; business benefits including efficiency improvements, cost savings, knowledge sharing and improved partner relations.
- The Internet and business research. Categories of business research; using search engines; business benefits including cost savings, improved decision making, competitive advantage.
- Internet communication. Electronic mail/ attachments; video conferencing; whiteboards; bulletin boards; newsgroups; business benefits such as efficiency improvements, cost savings, knowledge sharing, improved partner relations.

**Building Internet Commerce Systems**

The subject examines the use of HTML and other markup languages, design issues, scripting and programming for the Internet, Web databases, implementation options, and the future of Internet design. It aims to engender in the student a detailed understanding of the complexities of the design and development of Web sites for a commercial environment. Web sites are becoming more and more complex and a secondary aim of this subject is for the student to be able to utilise existing resources to create online applications.

The subject introduces students to the theory and techniques of the Internet, proceeds through the levels of Website design sophistication to the point where they will be expected to design user-friendly Web applications of relative complexity. It also examines connecting to the Internet, the use of HTML and other mark-up languages, design issues, scripting and programming for the Internet, Web databases, implementation options, and the future of Internet design.

**EXTENDING THE SPECIALISATION TO SPECIALIST PROGRAMS**

One challenge facing the course developers at Victoria University was the need to produce a specialisation that was available to students studying courses other than the MBA. Most of these students were already studying Masters in Business programs with specialisations in the information systems field. As opposed to MBA graduates, these students are typically employed in fields such as business analysis, help desk, information specialist or as some type of technical specialist. As such there is a need for such programs to provide students with a foundation in the areas of business and IT. Ehie (2002) has identified E-Commerce as part of the discipline are of Management Information Systems, it also being recommended in a study of business practitioners (MIS employers) as a niche area for business schools with MIS programs.

**Developments at Victoria University**

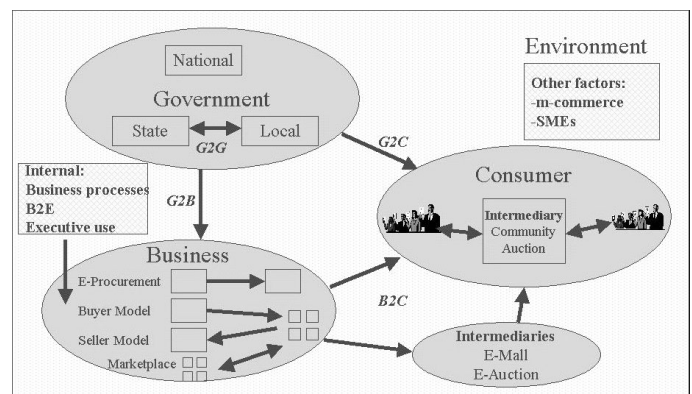
Since the introduction of the e-commerce specialisation there has been increased demand in these subjects, from existing MBA students and, more importantly, from students in other masters programs – such as the Masters of Business in Information Systems. Another course, the Master of Business in E-Commerce and Marketing has been introduced which has the specialist e-commerce units as *core* units has been introduced.

The increased demand for electronic commerce subjects has led the authors to consider the introduction of more e-commerce elective subjects. In order to do this, the authors developed a series of ‘maps’ of the recent development of e-commerce. Space does not allow us to include them all here, but the ‘overall context map’ has been included (refer Figure 1).

Figure One highlights the types of applications of e-commerce that have been popularised recently, either in the literature or the marketplace. The primary relationships occur between government, consumer and businesses. Within the business arena there are the various forms of B2B relationships. Within individual businesses there is the use of intranets for internal business processes and decision-making. In addition to this, the environment is clouded by the extensions that mobile commerce (m-commerce) will add to e-commerce functionality and the fact that now small and medium sized businesses (SMEs) are adopting Internet technologies at a rapid rate. SMEs, of course, lack the resources (time, expertise and capital) to implement e-commerce in as effective a manner as larger businesses (Burgess, 2002).

With this view of the e-commerce marketplace in mind, the authors determined that the best way in which to expand the offerings of the specialisation were, in fact, to modify two existing masters subjects – Executive Computing and Building Small Business Systems. These subjects had previously been tailored to those specific areas of computing, and had gradually incorporated aspects of Internet technologies over recent years. By incorporating newer versions of these subjects with some modifications as appropriate (in regards to Figure 1) the modified subjects were prepared and have been approved for delivery in 2004.

Figure 1: The E-Marketplace



### Executive and Mobile Computing

The purpose of this subject is to introduce students to information technologies that support managerial work and decision making, particularly for the business executive away from the office and on the move, but needing to keep in touch. On completion, Students will have an understanding of and competence in the appropriate use of executive support systems including mobile systems.

Topics covered include: executive information needs, decision making and decision support systems, group support systems, executive productivity tools, 'keeping in touch whilst on the move', mobile executive computing, executive information systems, modelling and model management, knowledge management, integration and implementation of management support systems.

Those 'mobile' technologies that can interface with existing systems of the business will particularly be emphasised.

### Small Business Information and Internet Systems

This subject introduces the student to a broad range of topics relating to the field of information technology and use of the Internet by small businesses. Students will be able to build a small business system and advise on the appropriate business use of the Internet.

Topics covered include: the role of information systems and the Internet in small business; selecting applications for small business; integrating information and Internet systems with small business processes; selecting hardware and operating systems for small business; networking for small business; building small business applications; office suite programming; integrating office and Internet applications.

### DISCUSSION

The core subject in the course, Management Information Systems, covers aspects of marketing on the Internet as well as basic data communications. The subject Internet Commerce examines basic E-Commerce business models and applications. These areas showed out in the specialisations listed in Table 1 as being the most common. The subject Internet Technologies in business examines other uses of Internet technologies that are not necessarily taught in other courses, but form a vital part of businesses today. The final subject, building Internet Commerce Systems, examines the complexities of web design, with a view to providing students with skills in these areas.

The new additions expand the offerings available in the original specialisation. The additional aspects of executive use of the Internet, mobile computing and the use of the Internet by small businesses means that the only real area that could be covered in any greater depth is the use of the Internet by governments (an area which is under consideration).

### CONCLUSION

MBA specialisations are the most popular 'extra' in modern day Australian MBA courses and many around the world. E-Commerce is a

very popular MBA specialisation. At Victoria University, the e-commerce specialisation for MBAs has expanded into a series of five subjects that can now be studied by students in other masters programs within the university. According to the E-Marketplace map designed by the authors, the only real area lacking in the specialisation is a concentration on the use of e-commerce by governments.

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