

B2C new service products in the 'e' age: eCommerce/eBusiness degree programs

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Abstract

The rate at which eCommerce/eBusiness programs are being introduced by universities worldwide has escalated dramatically over the past two years – but are these new offerings really new products, rather than new pedagogic activities? From the viewpoint of new service products, what attributes should be included in these programs to cope with the rapid changes the 'e' age brings? In this paper we suggest ways in the designers of new eCommerce/eBusiness programs could use the theory to develop 'good' service products for the B2C marketplace, using a preliminary investigation of eCommerce/eBusiness academic offerings in Australia and Hong Kong as an illustration.

INTRODUCTION

Starting in the 1970's, three quite separate trends came together to provide the infrastructure and techniques for what we know today as Electronic Commerce:

- document exchange activities provided the standards upon which information exchange was possible. Indeed, until comparatively recently, many people using the term Electronic Commerce really meant EDI (and some still do);
- computer-enabled logistics activities arose from the need to cut costs and enhance efficiency in manufacturing. Starting with the automotive industry, but rapidly spreading to other manufacturing industries, techniques such as materials requirements planning (MRP), manufacturing resources planning (MRPII) and just-in-time (JIT) inventory management techniques have revolutionised the management of the supply chain and the production process (Ellram *et al.* 1989; Knill 1990; Fiorito *et al.* 1995). At the other end of the supply chain, Quick Response techniques have had an equally dramatic impact upon the warehousing and retailing industries (Cooke 1994; Fiorito *et al.* 1995);
- the third “trend” is really a technology – the globalisation of computer networks and their fusion into the “Information Superhighway” has opened a new world to companies of all sizes, but particularly to small and medium enterprises (SMEs), which now have access to electronic commerce techniques previously reserved for their larger trading partners.

The introduction of the World Wide Web in 1992/3 had a profound impact on the then primarily business-focused Electronic Commerce market, offering a consistent and usable interface which was readily available to SMEs (Watson & Zinkhan 1997; Poon and Swatman 1999) and even individuals. Since that time, Electronic Commerce has evolved rapidly – becoming, in the process, a more universal and complex phenomenon than the pioneers of the 1970's and 1980's could ever have imagined. Towards the end of the 1990's there has been a

US-based move to rechristen the overall trend of electronic business activities eBusiness – and to reserve the term eCommerce for the actual (and more limited) exchange of value-based goods and services (see, for example, the discussion in Mesenbourg 1999). In this paper we use the terms eCommerce and eBusiness interchangeably, largely because many of the authors we cite are themselves still unsure of which term has become the de facto “standard”.

A number of existing models have been developed over the past few years to define or assist in understanding the breadth and scope of eCommerce (Clarke 1993; Wigand 1995; Kalakota 1996; Riggins & Rhee 1998; Zwass 1998; Chan & Swatman 1999 and Wilkins *et al.* 2000). Since the scope of the New Economy is so wide, a common classification of eCommerce tends to be in terms of the nature of the transaction taking place. Turban *et al.* (2000) identify these transactions as B2B, B2C, C2C, C2B, Nonbusiness EC and Intrabusiness (organisational) eCommerce. To cope with these different types of transactions denoting new product and service provided to customers, traditional business models are changing with dramatic speed. As electronic commerce grows (Adam *et al.* 1999), new business models (Timmers 1998; OECD 1999; Lawrence *et al.* 2000) will continue to emerge and ways of doing business will continue to change.

In earlier work (Chan & Swatman 1999) we developed a model of Electronic Commerce which attempted to encompass a wider view of the area than had previously been achieved, as part of an investigation of eCommerce tertiary education programs. As our investigation has progressed, however, we have realised that eCommerce education at the tertiary level has much more in common with new product development than it has with traditional pedagogic activities. We are therefore incorporating the literature on new product development as a foundation for our investigation. In this paper we provide some ideas of B2C ‘new service product design’ which underpins the empirical work we have undertaken into existing course and program offerings in eCommerce/eBusiness in Australia and Hong Kong.

We appreciate that B2C (business-to-consumer – those transactions which occur between a business organisation and its customers) activities make up only a small component of the total eCommerce marketplace – indeed, the international investment house Goldman Sachs suggests that B2C may eventually provide as little as 5% of total eCommerce. Our research focus, however, is on eBusiness/ eCommerce education which is clearly a B2C activity. It seems likely that the rapid growth of what might be termed ‘eEducation’ will increase the proportion of B2C activities well beyond the 5% mark. Industry statistics support this view. For example, International Data Corporation (IDC) estimates that the number of college students enrolled in distance learning courses will reach 2.2 million by the year 2002, up from 710,000 students in 1998; while eCollege.com reported US\$4.7 million in revenues for 1999, a 178% increase on 1998 (University of Texas 2000). In the United States, AACSB recently interviewed the deans and professors of business faculties, reporting a significant demand for eCommerce/eBusiness classes by graduate students (AACSB 2000).

The paper commences with a discussion of the issues involved in new product / new service development; and then applies this theory to an understanding of the rapid development of eCommerce programs in Australia and Hong Kong over the past few years. Finally, we suggest ways in which teams designing new eCommerce/eBusiness programs could use the theory to develop ‘good’ service products.

NEW PRODUCT AND NEW SERVICE PRODUCT ISSUES

As the literature demonstrates, a considerable amount of work has been undertaken in the area of new product and service development since the beginning of the 1990’s. In 1991, Mahajan & Wind conducted a survey of 69 firms to assess the role of 24 new product models. They found that the use of new product models was not widespread but that, despite their infrequent use, developers tended to use these models to improve the success

rate of new products, as well as to identify problems with the product and alternative marketing strategies. In the same year, Lovelock (1991) developed a framework for understanding the services market. Urban & Hauser (1993) suggested a new product design process for customers' needs. Morgan & Catsaras (1995) compared service quality among medical practitioners and motor mechanics. Wind & Mahajan (1997) addressed 18 critical issues in new product development (NPD). They believed that current approaches to NPD and marketing research and modelling for NPD were inadequate. Rao (1997) noted a need for advanced books on research methods and models for NPD which would include some of the recent methodological advances in the analysis of customer perceptions, preferences, and choices. Langford & Cosenza (1998) suggested using Service/Good analysis to develop good service strategy. Froehle *et al.* (2000) examined the strategic process of new service development.

This plethora of research into the development of new goods and services does not, however, clarify the distinction between physical products and service products. Corkindale *et al.* (1989) distinguished two basic types of services: service products and product services. Service products are marketed purely as services, e.g. banking, insurance, consultancy and education. Product services, quite frequently, are an inseparable part of a package, e.g. computer installation and maintenance, customer training for after-sales. Lovelock *et al.* (1998) distinguished between physical products and service products as follows: the performance of service products are intangible; customers have greater involvement in the production process in service products; people are a part of a service product; there are greater difficulties in maintaining quality control standards in service products; it is more difficult for customers to evaluate service products; there is an absence of inventory in service products (as service cannot be stored); the time factor is important in service products; and, finally, the structure and nature of the distribution channels are different in the case of service products.

We have, for some time, been investigating the explosive development of tertiary eCommerce programs in universities within the Asia-Pacific region. During the early days of this research project we focused on the issues of curriculum development associated with this rapid program development process – but it became apparent over time that these courses and programs were being developed in a manner which was more akin to the concept of ‘service products’ than to traditional pedagogic curriculum development.

In this paper we therefore consider the results of a survey of Hong Kong and Australian universities’ eCommerce program/course offerings in the light of new service product developments. This is the first stage in a larger research project which will investigate new course/program development of eCommerce/eBusiness in the Asia-Pacific region from the viewpoint of a marketing phenomenon.

DESIGNING A NEW SERVICE PRODUCT

A new service product is composed of the following attributes: level of innovation, distinguishable characteristics, types and scope of services, delivery channels, naming and branding, adding values to customers, accompanying goods and supplementary services, duration of ownership, business and customers relationship and finally the price of the product and payment method (McCarthy *et al.* 1997; Hart 1999).

Level of Innovation

When designing a new service product, it is important to clarify the level of innovation. Generally speaking, the higher the level, the longer the development time and the greater the risk of the new products – although more innovative products are also those which yield the highest potential returns. In terms of developing an eCommerce/eBusiness educational program, where the new program is based on a core of existing subjects, with the addition of only a few new eCommerce subjects to the program, less development time is required than for a program in which all subjects are developed *ab initio*. In terms of innovation, the first program is clearly

far less innovative, takes less time to develop, is less risky for the offering institution – but offers less market visibility and, potentially, has a lower long-term return. A university which develops an entirely new program, composed of entirely new subjects, has the potential to reap a richer reward (as an example, ‘The Australian’ (1999) notes that RMIT University has claimed a world-first in graduating students from its entirely web-delivered Master of Innovation Information (MBII) degree).

Distinguishing Characteristics

Gruenwald (1992) stated that being new is important; and being different is important. Being both new and different provides a major impetus to new product success. eCommerce/eBusiness educational programs are currently in very high demand (particularly at the graduate level). But how different are they from other, apparently similar service products, such as Information Systems (I.S.) or Information Technology (I.T.)? In some cases, there may be little difference apart from the name of the degree – yet other universities offer genuinely different programs, composed of tailored and newly developed subjects. Bebko (2000) points out that the five dimensions along which consumers evaluate service quality are tangibles, reliability, responsiveness, assurance and empathy. It is not unreasonable to assume that consumers of eCommerce/eBusiness degrees/subjects will also base their decision to enrol on these dimensions.

Type and Scope of Service

The type and scope of a service product are among the attributes which determine its development time and cost. As the Internet enables global product and service offerings, degree programs are also becoming international commodities, which can be sold cheaply and effectively to students around the world. For example, a number of prestigious European and US universities, supported by a grant from the European Commission, are jointly offering a Master of eCommerce degree – the GEM program – which will provide an executive masters degree, based on a mix of online and residential education over a 15-month period (GEM 2000). eCommerce/eBusiness programs are finding enthusiastic markets in both their original locations and offshore, both in face-to-face offerings in other countries, and as online offerings.

Delivery Channels

The traditional delivery channel for higher education is face-to-face lecturing and tutoring. On-line delivery of degree programs is, however, becoming the 'new' delivery channel for many universities. Electronic delivery support services (see, for example, von Kortzfleisch *et al.* 1998, Langenbach & Bodendorf 2000) continue to gain acceptance, although as yet their quality is still far from perfect. Reid 1999 believes that universities can move into delivery of courses through on-line. Swatman in the 2000 Bled International Electronic Commerce Conference noted that *‘electronic delivery of tertiary education has offered potential cost reductions to universities and enhanced their ability to deliver "lifelong learning" - at the expense of diluting the experience of University life’* (Clarke 2000). There are at least six ways to add values to online offering: convenience, information value, disintermediation, reintermediation, price and choice (Huff *et al.* 1999) – universities, despite their previous lack of experience in online marketing, are rapidly being forced to engage with all six of these value-adding approaches.

Naming and Branding

Naming and branding will influence the acceptance of a new service product by its customers. This criterion exists at two levels for eBusiness education – the branding of the offering institution, as well as the branding/naming of the degree itself. It is interesting to note that, whereas earlier degree and program offerings almost universally had the term eCommerce in their title, more recent offerings are tending to use the newer term eBusiness (see Appendix 3). Ries & Ries (2000) describe the ‘Eleven Laws of Internet Branding’ that cover the aspects of: business tool, interactivity, common name, proper name, singularity, adverting, globalism,

speed, vanity, divergence and transformation. Davis *et al.* 2000 state that '*the service brand online compared to traditional market environments plays an important experiential role, helping build dialogue and strengthen the motivation of consumers to the service offerings*'.

Adding Value for Customers

eCommerce/eBusiness programs 'may' add value for customers in terms of career opportunities. Poulin (1999) believed that '*students equipped with business and eCommerce education should be able to help businesses determine their priorities and find solutions within the companies' budget constraints. These graduates are entering an incredible career opportunity. They will play a valuable consulting role in the growing business-to-business and business-to-consumer eCommerce arena*'. eCommerce/ eBusiness certification programs have the capacity to teach IT and business professionals the skills they need to succeed online (Kontzer 1999).

Price of the Service Product and Payment Method(s) Available

Market research and modelling will need to be in place to arrive at the optimum price which can be charged. Universities are, understandably, anxious to maximise income from these fashionable new degrees - but a trade-off must be made between the price the market will bear and the quality of facilities and staff expected in return for a high-priced, premium product.

Finally, other relevant attributes may include (i) accompanying goods and supplementary services, (ii) the duration of ownership (the length of time over which the service is provided), (iii) the relationship between the customers and the business (Lovelock *et al.* 1998). Does this relationship continue after the service has been provided? For example, a university graduate still has a tie with his/her university, but not as strong as that of current students – and yet the effective management of alumni relationships is a major reason why US universities are so much wealthier than their antipodean equivalents.

In the next section, we present the results of a survey of new eCommerce/eBusiness programs developed in Hong Kong and Australia, which casts some light on this approach to eCommerce/ eBusiness education development.

ECOMMERCE/EBUSINESS ACADEMIC PROGRAMS IN HONG KONG AND AUSTRALIAN UNIVERSITIES

As the significance of eCommerce and eBusiness has increased within the business community, universities and professional education providers, realising the opportunities the New Economy offers to educators, have begun to introduce degrees, major streams, individual subjects and short courses in the area. Among the earliest of these offerings were single subject general introductions to eCommerce, usually offered by Business or Information Systems Schools/Departments in universities (Hampe 1998; McCubbrey 1999; Davis *et al.* 1999 or Iracht 2000). Wang & Williams (1997) divided the continuum of eCommerce subjects into eight components: Management Information Systems, Technical Fundamentals of IT, Accounting Information Systems, Business Law, Organization Theory, Marketing, Policy and General Management – a coverage which shows just how broadly-based the eCommerce phenomenon is, even within a Business faculty.

eCommerce/eBusiness academic programs have grown so quickly over such a short period of time that the lack of theory underpinning the development process in many of the examples seen on web sites such AACSB (1999) or Chan (2000) is hardly surprising. Our intention has been to identify all academic eCommerce/eBusiness offerings in these institutions – full degree programs at any level, major streams, minor streams and single subjects. We used a combination of email and web pages to obtain the data for the survey (the interested reader may refer to Smith (1997) or Comley (1996) for a more thorough discussion of the use of the Internet for survey data collection). Smith points out that '*persuasive arguments for using e-mail include*

extreme cost reduction and quick turnaround time, facilitative interaction between survey authors and respondents, collapsed geographic boundaries, user-convenience and, arguably, more candid and extensive response quality' (Smith, 1997:2). All these arguments applied to our own research design and intentions – and we used email to invite participants to fill in the actual survey form, which was available through a web site and made as user-friendly as possible.

Beginning in November, 1998, we sent out letters to the Course/Program Coordinators of Electronic Commerce and Heads of Information Systems, Management, Business Computing, Marketing, and Accounting/Finance Departments within the Business Faculty or Business School of all the universities in Australia, Hong Kong and many other countries. They were requested to fill in our questionnaire on the web at URL <http://www.businessit.bf.rmit.edu.au/elsieEC/survey1.htm>. At the same time, we surfed the universities' web pages to identify any materials that might have been omitted from the survey responses. Finally, we made use of the ISHoDs listserver, which provides access to I.S. Heads of Department/School across virtually all Australian universities to check the accuracy of our findings.

We used 'Electronic Commerce' or 'Electronic Business' as key words in our search, with the result that we have gathered only those subjects or courses/programs which are called eCommerce/eBusiness by their offering institutions. We have further restricted our search of eCommerce/eBusiness subjects/programs to those where information is available on-line. For the survey of Australian universities, we included all Australian universities that are members of the Australian Vice-Chancellor's Committee (AVCC), i.e. 39 universities. In Hong Kong, we surveyed all 8 of the universities. A list of the universities surveyed can be found in Appendix 1.

To avoid the almost inevitable confusion which cross-cultural academic curriculum discussion and the changing nomenclature of universities themselves generates, we define the terms 'subject' and 'course/program' used in this paper:

- A 'subject' in this paper is the smallest object which contributes to a course/program – it cannot be further divided. The term 'course' adopted in North American universities, and the term 'unit' or 'module' used in some Australian universities are equivalent to the term 'subject' we have used here;
- The terms 'course/program' we use in this paper refer to the gathering of several study objects (subjects) into a complete qualification, e.g. the course/program of a Bachelor's degree, a Graduate Diploma or a Master's degree etc. These terms are therefore equivalent to the term 'program' used in the US and Canada.

The following example illustrates our use of these terms: 20345 Electronic Commerce is a core *subject* for the *course/program* (degree) of Bachelor of Business.

Survey Results – eCommerce/eBusiness Curriculum Activities in Australia and Hong Kong

A market segment in this field may be composed of courses with common characteristics, catering for similar purchasing behaviour (needs), and consumption patterns. Effective segmentation means grouping all these courses into segments of high similarity in terms of their relevant characteristics. This was the approach adopted in the present survey. eCommerce/eBusiness programs ranged from, at the lower end, half day courses targeted for business professionals to, at the higher end, 3-5 year PhD research projects. The short courses are offered by TAFE (Australia's Tertiary and Further Education vocational training sector), the private sector, or universities. Since the majority of the short courses are *ad hoc* and thus fairly dynamic in terms of content, they were difficult to include in our survey. The Masters by research and PhD courses are, of course, specifically designed by supervisor and student for that particular student's needs – and we have therefore excluded them from our survey as well.

18 Australian universities out of 39 (46.1%) were offering eCommerce/eBusiness undergraduate and postgraduate programs at the time the data were collected. In Hong Kong, Kwok (2000) stated that “*the first ever degree programme in eCommerce was started less than a year ago (1999) in Hong Kong. By this September (2000), nearly all the universities in Hong Kong will offer some form of eCommerce degree or diploma programme*”. In fact, Kwok’s findings matched very closely with our own survey results, i.e., 6 out of 8 universities (75%) in Hong Kong offered eCommerce/eBusiness programs at the time we were gathering our data. Clearly, development time is an important criterion in what might be described as the more ‘fashionable’ end of the education spectrum. If it takes a long time to develop a service product, the result may already be out of date when the product is launched onto the market. Products that are designed closer to the time they are introduced are less subject to technological and market changes (Moore and Pessemier 1993). Appendix 2 summarises the results of the survey.

Segmentation of Programs

The 24 universities listed in Appendix 2 were offering 74 eCommerce/eBusiness programs (or something very similar). We have classified these into 7 segments:

Type	Description	¹
Undergraduate degree with eCommerce major concentration	Students are required to finish a certain number of core subjects and, in addition, to take a ‘stream’ of eCommerce subjects. In terms of level of innovation this is comparatively low, because it adapts some/many existing subjects. However, in terms of resources, this degree type is fully utilised – it shares resources with other degree programs.	3.A
eCommerce as a joint undergraduate degree with other disciplines	Only one university appears to provide this type of program. Monash University offers a Bachelor of Business and Electronic Commerce – both on campus and by distance education.	3.B
Bachelor of eCommerce	A number of universities have chosen not to offer this degree, which differs from one offering institution to another, on the assumption that potential employers will not understand what it means in terms of skills provided. Its distinguishing characteristics need to be made explicit if it is to succeed.	3.C
Graduate / Postgraduate Certificate / Diploma in eCommerce / eBusiness	These programs are primarily designed for those who wish to move into a new area, i.e. potential students may already have a degree in some other area(s). Undertaking a full degree will take too long, so this shorter program, which effectively offers the core of a degree without the electives, fills a market niche.	3.D
Masters degree with eCommerce / eBusiness as a specialisation	These programs aim to provide students with advanced knowledge and skills in contemporary Electronic Commerce technologies and their applications within business, as part of a lifelong learning or professional development program.	3.E
Master of eCommerce/EBusiness	Usually offered by Information Systems Departments/Schools, although increasingly being whole-of-Business-Faculty offerings, the technical foundations, strategic and management issues, development, information management issues in Electronic Commerce are studied in these programs.	3.F

¹ For details, refer to the relevant Appendix

Master of eCommerce / eBusiness and other discipline joint degrees Only Bond University provides this type of program. It offers candidates the opportunity to gain a double masters degree. 3.G

The majority of universities world-wide initially offered eCommerce/eBusiness content in the form of a single subject(s). Subject titles commonly found included “Electronic Commerce” and “Introduction to Electronic Commerce”. For details, refer to Appendix 4.

Distinguishing characteristics of the eCommerce/eBusiness programs

How do eCommerce/eBusiness academic programs distinguish themselves from other, apparently similar degrees? We drew up these lists on the basis of an analysis of 31 Bachelors’ degree programs in 14 universities and 27 Masters degree programs in 15 universities. We categorised subjects on the basis of our Electronic Commerce Component Model (Chan and Swatman, 1999) into 3 major components: infrastructure, services and legal (see Appendices 5 and 6 for the full analysis). For Bachelors degrees, students usually complete about 24 subjects over 3 years’ full time study. The subjects listed in Appendix 5 may be studied as elective or core subjects for the degree. For Masters degrees, students usually complete about 12-16 postgraduate level subjects with/without an eCommerce or eBusiness project in 3 to 4 semesters’ full-time study. The subjects listed in Appendix 6 may be studied as elective or core subjects for the Masters degree.

The subjects listed in Appendices 5 and 6 provide some idea of the scope covered by eCommerce/ eBusiness programs. It is clear that there is considerable overlap among the subjects currently on offer (for example, there are many variations on the theme of e-marketing), and a number of areas are not yet being covered (for example, areas such as mobile commerce or e-health do not yet appear to be included in the material on offer). We currently anticipate that there will be some rationalisation of these subject offerings over time – the next phase of our longitudinal study should shed considerably more light on these findings.

Discussion of Findings

It is important to reiterate that this survey represents one of the only two investigations of eCommerce/eBusiness teaching currently available (see also Davis *et al.* 1999 which reports a similar survey of the North American educational marketplace). Findings are thus indicative, rather than providing a firm, generalisable basis for extrapolation. With that in mind, however, a number of interesting facts emerge from the data.

1. The first point we noted was that our market segmentation of 7 types, while useful in categorising types of eCommerce/eBusiness programs available, did not provide mutually exclusive or orthogonal findings. Our survey results indicated a number of what appeared to be anomalies in the pattern:
 - Electronic Commerce can be offered by a number of different departments within a single university. They may not necessarily work together to provide a unified program, e.g. the University of Wollongong, Monash University and the Open University of Hong Kong, in all of which several departments offer similar (and, it would appear, competing) programs. From the organisation (university) point of view, as long as their school/department can fulfil the market demand, this may still be feasible, although companies producing physical products which appear to compete are usually targeting specified market segments very carefully.

- Electronic Commerce programs are normally offered by Information Systems Schools/ Departments, Business Schools, or Computer Science Departments. In fact, Electronic Commerce is/should be a cross-discipline area (since it combines materials from Information Technology, Information Systems, Law, Computer Science, Business, Marketing, Management, Accounting, Logistics, Finance, Economics and many other disciplines). In terms of service product offerings, it is clear that the producers/developers of these programs have not yet resolved many of the issues involved in new product development (such as identifying target markets, identifying the most appropriate providers, or identifying market requirements).
 - With the exception of Monash University, which has two separate teaching units with Electronic Commerce in their title across two faculties, the universities in the sample have not chosen to develop a teaching unit specifically for delivering Electronic Commerce subjects and programs, preferring to run both eCommerce teaching and research centres/units within existing schools/faculties. The new product implications of this very general decision would seem to be that the eCommerce/eBusiness service product is seen as an extension of existing service product offerings, rather than as an entirely new service product, by almost all developers.
2. The number of courses/programs being offered has grown significantly over the past twelve months. This phenomenon replicates the North American experience (Tabor 1999; Moran 1999), but is built on a far smaller population base – and leads to a very important issue, that of availability of staff with sufficient expertise to teach the very challenging eCommerce/eBusiness programs which business and students alike are demanding.

A combination of the “newness” of the discipline and the high salaries currently being offered to eCommerce professionals in the private sector has meant that some universities find it difficult to staff their academic programs in this area. Jackson (1999), writing in “The Australian” newspaper in October 1999, stated that Australian universities are offering innovative eCommerce and Internet courses, but their capacity to staff them is in question. This issue raises the question of just how many new eCommerce/eBusiness courses/programs can be staffed effectively in the Asia-Pacific region – and places an equivalent question mark over the introduction of eCommerce degrees in other nations.

3. The variety of the offerings which this preliminary survey has elicited also raises the question of whether there is such a thing as an “ideal” program in Electronic Commerce. The differing needs of the institutions themselves, their varying levels of staff expertise, the type(s) of students attracted to any particular tertiary institution, and the delivery modes which may be required all combine to suggest that what may form an ideal program in Institution A may not necessarily be equally “ideal” in Institution B. What should an Electronic Commerce program focus upon? We hope to be able to answer this question more effectively following the next stages of this research project but, in terms of new product development, it is clear that considerably more work is required to identify market needs and target markets for these programs.

CONCLUSION

As the popularity of Electronic Commerce/Business continues apparently unabated, universities are tending to compete in offering Electronic Commerce programs – possibly without spending as long in development as they would for a new offering in a more established discipline such as, say, Accounting or Computer Science. The combination of multiple offerings, limited staff with expert knowledge, and intense student and industry demand may well lead to serious quality issues in the creation of courses/ programs.

Our findings to date suggest that new courses are likely to appear in even greater numbers over the next 18-24 months – and that these new courses may well offer greater variety than the programs we have seen to date, possibly including a multi-disciplinary focus, multiple delivery modes, or collaborative efforts in terms of curriculum development. Further research into B2C new service product development and services marketing, particularly based around electronic delivery, is clearly needed in this area.

This paper has provided a comparatively superficial application of the theory of new product development to the creation of degrees in the areas of eCommerce/eBusiness. While this survey is only the first stage of a longitudinal program of research into eCommerce educational offerings, our results suggest that the developers of these programs are, indeed, applying a ‘new service product’ approach to their creation – although without necessarily being aware that this is what is happening. We believe that a conscious awareness of the issues involved in new service product development would add to the quality of many of the degrees currently available (or under development); and that attention to market needs and target markets might well add further value to the new programs appearing with such incredibly rapidity around the world.

Teams developing education programs which must be brought to market rapidly, and which are likely to require constant updating to retain their currency, need to consider the benefits which new product development techniques and theories can offer their endeavours. Merely getting a degree offered or, more particularly, getting an online degree onto the World Wide Web, provides no guarantee of success in an increasingly sophisticated market-space. If potential ‘customers’ can choose between eCommerce/eBusiness degrees offered around the world, they are likely to choose the best-designed – or even to choose the degree(s) offered by the most prestigious university. Only the quality of the service product offering can affect such an outcome.

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APPENDIX 1

A list of universities in the survey.

Australia	
Bond University	http://www.bond.edu.au/
Central Queensland University	http://www.cqu.edu.au/
Charles Sturt University	http://www.csu.edu.au/
Curtin University of Technology	http://www.curtin.edu.au/
Deakin University	http://www.deakin.edu.au/
Edith Cowan University	http://www.cowan.edu.au/
Griffith University	http://www.gu.edu.au/
James Cook University	http://www.jcu.edu.au/
La Trobe University	http://www.latrobe.edu.au/
Macquarie University	http://www.mq.edu.au/
Monash University	http://www.monash.edu.au/
Murdoch University	http://www.murdoch.edu.au/
Northern Territory University	http://www.ntu.edu.au/
Queensland University of Technology	http://www.qut.edu.au/
RMIT University	http://www.rmit.edu.au/
Southern Cross University	http://www.scu.edu.au/
Swinburne University of Technology	http://www.swin.edu.au/
The Australian Catholic University	http://www.acu.edu.au/
The Australian National University	http://www.anu.edu.au/
The Flinders University of South Australia	http://www.flinders.edu.au/
The University of Adelaide	http://www.adelaide.edu.au/
The University of Melbourne	http://www.unimelb.edu.au/
The University of New England	http://www.une.edu.au/
The University of New South Wales	http://www.unsw.edu.au/
The University of Newcastle	http://www.newcastle.edu.au/
The University of Queensland	http://www.uq.edu.au/
The University of Sydney	http://www.usyd.edu.au/
The University of Western Australia	http://www.uwa.edu.au/
The University of Western Sydney	http://www.uws.edu.au/
University of Ballarat	http://www.ballarat.edu.au/
University of Canberra	http://www.canberra.edu.au/
University of Notre Dame Australia	http://www.nd.edu.au/
University of South Australia	http://www.unisa.edu.au/
University of Southern Queensland	http://www.usq.edu.au/
University of Tasmania	http://www.utas.edu.au/
University of Technology, Sydney	http://www.uts.edu.au/
University of the Sunshine Coast	http://www.usc.edu.au/
University of Wollongong	http://www.uow.edu.au/
Victoria University of Technology	http://www.vut.edu.au/
Hong Kong	
City University of Hong Kong	http://www.cityu.edu.hk/
Hong Kong Baptist University	http://www.hkbu.edu.hk/
Hong Kong University of Science and Technology	http://www.ust.hk/
Lingnan University	http://www.ln.edu.hk/
The Chinese University of Hong Kong	http://www.cuhk.hk/
The Hong Kong Polytechnic University	http://www.polyu.edu.hk/
The Open University of Hong Kong	http://www.ouhk.edu.hk/
The University of Hong Kong	http://www.hku.hk/

APPENDIX 2

eCommerce Programs offered by universities in Australia and Hong Kong

Legends:

- (A) Undergraduate degree with Electronic Commerce major concentration
- (B) Electronic Commerce as a joint under-graduate degree with other disciplines
- (C) Bachelor of Electronic Commerce
- (D) Graduate Certificate / Diploma in Electronic Commerce
- (E) Master degree with Electronic Commerce/Business as a specialisation
- (F) Master of Electronic Commerce / Business
- (G) Master of Electronic Commerce / Business and other discipline joint degrees

Name of University	Dept/School/Faculty	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Bond University	School of Law							√
Bond University	School of Business			√			√	√
Charles Sturt University	Faculty of Commerce	√			√			
Curtin University of Technology	School of Information Systems	√			√	√	√	
Deakin University	School of Management Information Systems	√			√		√	
Edith Cowan University	School of Management Information Systems	√			√		√	
La Trobe University	School of Business			√	√			
Monash University	School of Business and Electronic Commerce		√		√			
Monash University	School of Electronic Commerce			√				
Murdoch University	Department of Commerce	√			√		√	
RMIT University	Faculty of Business				√		√	
Southern Cross University	School of Multimedia and Information Technology	√				√		
Swinburne University of Technology	School of Business				√			
The University of New England	Faculty of Economics Business & Law Faculty of the Sciences				√			
The University of Queensland	Department of Commerce			√		√		
The University of Western Australia	Department of Information Management and Marketing	√				√		
University of South Australia	School of Accounting and Information Systems				√	√		
University of Tasmania	School of Information Systems	√						
University of Wollongong	Faculty of Commerce	√						
University of Wollongong	School of IT and Computer Science	√						
Victoria University	School of Information Systems	√						
City University of Hong Kong	Faculty of Business Administration					√		
City University of Hong Kong	Faculty of Engineering					√		
Hong Kong University of Science and Technology	Department of Information and Systems Management					√		
The Chinese University of Hong Kong	Faculty of Business Administration					√		
The Chinese University of Hong Kong	Faculty of Engineering					√		
The Hong Kong Polytechnic University	Department of Computing						√	
The Open University of Hong Kong	School of Business and Administration			√				
The University of Hong Kong	Faculty of Engineering					√		

APPENDIX 3

Different types of courses/programs related to eCommerce /eBusiness offered by universities in Australia and Hong Kong.

Appendix 3.A Undergraduate degree with Electronic Commerce major concentration

Name of University	Faculty /School/Department	Name of Degree
Charles Sturt University http://www.csu.edu.au/	Faculty of Commerce http://www.csu.edu.au/faculty/commerce/	Bachelor of Business (Specialisation EC) http://www.db.csu.edu.au/division/marketing/courses/undergrad/ug-comm/bbcbus/bbcbuscou.htm#ecomm
Curtin University of Technology http://www.curtin.edu.au/	School of Information Systems http://www.cbs.curtin.edu.au/is/	Bachelor of Commerce (Electronic Commerce Major) http://www.curtin.edu.au/curtin/handbook2000/courses/is/230205.HTM Bachelor of Commerce (Banking and Electronic Commerce Double Major) http://www.curtin.edu.au/curtin/handbook2000/courses/ef/234804.HTM Bachelor of Commerce (Finance and Electronic Commerce Double Major) http://www.curtin.edu.au/curtin/handbook2000/courses/ef/234811.HTM Bachelor of Commerce (Information Systems and Electronic Commerce Double Degree) http://www.curtin.edu.au/curtin/handbook2000/courses/is/234809.HTM Bachelor of Commerce (Information Technology and Electronic Commerce Double Major) http://www.curtin.edu.au/curtin/handbook2000/courses/is/234810.HTM Bachelor of Commerce (International Business and Electronic Commerce Double Major) http://www.curtin.edu.au/curtin/handbook2000/courses/man/234814.HTM Bachelor of Commerce (Marketing and Electronic Commerce) http://www.curtin.edu.au/curtin/handbook2000/courses/mkt/234818.HTM
Deakin University http://www.deakin.edu.au/	School of Management Information Systems http://mis.deakin.edu.au/	Bachelor of Commerce (Electronic Commerce Major sequence) http://mis.deakin.edu.au/Course_info/Under_grad/elect_comm.htm
Edith Cowan University http://www.cowan.edu.au	School of Management Information Systems http://www-business.ecu.edu.au/mis/	Bachelor of Business (Major Electronic Commerce) http://www-business.ecu.edu.au/mis/planners/ecomm.htm
Murdoch University http://www.murdoch.edu.au/	Department of Commerce http://wwwbusiness.murdoch.edu.au/commerce/index.htm	Bachelor of Commerce (Electronic Commerce Stream) http://wwwbusiness.murdoch.edu.au/commerce/undergrad/electcom.html#primary
Southern Cross University http://scu.edu.au/	School of Multimedia and Information Technology http://www.scu.edu.au/schools/smit/	Bachelor of Information Technology (Electronic Commerce) Bachelor of Business (Electronic Commerce) (These programs will be offered in 2001).
The University of Western Australia http://www.uwa.edu.au	Department of Information Management and Marketing http://imm.uwa.edu.au	Bachelor of Commerce (Major in Electronic Commerce) http://www.imm.ecel.uwa.edu.au/imm/major_in_electronic_commerce.htm
University of Tasmania http://www.utas.edu.au/	School of Information Systems http://www.infosys.utas.edu.au/	Bachelor of Information Systems (Electronic Commerce Program)

Name of University	Faculty /School/Department	Name of Degree
		http://www.infosys.utas.edu.au/courses/BIS-EC.html
University of Western Sydney (Macarthur) http://www.macarthur.uws.edu.au/	Department of Computing and Information Systems http://fistserv.macarthur.uws.edu.au/cis/	Bachelor of Business Computing (EBusiness)
University of Western Sydney (Macarthur) http://www.macarthur.uws.edu.au/	Department of Computing and Information Systems http://fistserv.macarthur.uws.edu.au/cis/ Faculty of Business http://bus.macarthur.uws.edu.au/	Bachelor of Commerce (EBusiness)
University of Wollongong http://www.uow.edu.au/	Faculty of Commerce http://www.uow.edu.au/commerce/	Bachelor of Commerce (Combined specialisations with Electronic Commerce) Specialisations: Accounting, Business Information Systems, Economics, Finance, Marketing and Management http://www.uow.edu.au/commerce/eCommerce.html
University of Wollongong http://www.uow.edu.au/	School of IT and Computer Science http://www.itacs.uow.edu.au/	Bachelor of Information and Communication Technology (Combined Specialisations with Electronic Commerce) Specialisations: Software Development, Network Management, Telecommunications, Business Information Systems http://www.itacs.uow.edu.au/undergrad/iact/binfo/techsch.html
Victoria University http://www.vu.edu.au/	School of Information Systems http://www.business.vu.edu.au/inform_systems_about_depart.htm	Bachelor of Business in Electronic Commerce Bachelor of Business in Accounting and Electronic Commerce http://www.vu.edu.au/handbook/fob/2000Bus-38.pdf

Appendix 3.B Electronic Commerce and other disciplines as Joint Degree

Name of University	Faculty /School/Department	Name of Degree
Monash University http://www.monash.edu.au	School of Business and Electronic Commerce http://www.buseco.monash.edu.au/Schools/SOBEC/	Bachelor of Business and Electronic Commerce http://www.monash.edu.au/pubs/handooks/undergrad/ug0223.htm

Appendix 3.C Bachelor of Electronic Commerce

Name of University	Faculty /School/Department	Names of Degrees
Bond University http://www.bond.edu.au	School of Business http://www.bond.edu.au/bus/index.htm	Bachelor of Electronic Commerce http://www.bond.edu.au/bus/degrees/ugpro/Ug-becom.htm
La Trobe University http://www.latrobe.edu.au/	School of Business http://www.business.latrobe.edu.au/	Bachelor of Electronic Commerce http://www.latrobe.edu.au/handbook/wodonga/courses_aw.htm#P465_21894
Monash University http://www.monash.edu.au	School of Electronic Commerce http://www.ecom.monash.edu.au/overview.html	Bachelor of Electronic Commerce http://www.ecom.monash.edu.au/Course/
The Open University of Hong Kong	School of Business and Administration	Bachelor of Electronic Commerce Bachelor of Electronic Commerce (Honours)

Name of University	Faculty /School/Department	Names of Degrees
http://www.ouhk.edu.hk	http://balinux.ouhk.edu.hk/~school/bec/index1.htm	http://balinux.ouhk.edu.hk/~school/bec/overview.htm
The University of Queensland http://www.uq.edu.au/	Department of Commerce http://www.commerce.uq.edu.au/	Bachelor of Electronic Commerce http://www.commerce.uq.edu.au/ecom/brochure.html#brochure

Appendix 3.D Graduate Certificate / Diploma in Electronic Commerce

Name of University	Faculty /School/Department	Name of Grad Certificate / Diploma
Charles Sturt University http://www.csu.edu.au/	Faculty of Commerce http://www.csu.edu.au/faculty/commerce/	Graduate Certificate in Electronic Commerce http://www.db.csu.edu.au/division/marketing/courses/gradcert/gc-comm/egctqm/egctqm.cou.htm
Curtin University of Technology http://www.curtin.edu.au/	School of Information Systems http://www.cbs.curtin.edu.au/is/	Graduate Certificate in Electronic Commerce http://www.cbs.curtin.edu.au/UNITS/PDFliers/IS/GC-EI-Comm.pdf Postgraduate Diploma in Business (Electronic Commerce) http://www.cbs.curtin.edu.au/UNITS/PDFliers/IS/Pgd-EC.pdf
Deakin University http://www.deakin.edu.au/	School of Management Information Systems http://mis.deakin.edu.au/	Graduate Diploma of Electronic Commerce http://www.detc.deakin.edu.au/MECom/graddip.asp
Deakin University http://www.deakin.edu.au/	School of Management Information Systems http://mis.deakin.edu.au/	Graduate Certificate of Electronic Commerce http://www.detc.deakin.edu.au/MECom/gradcert.asp
Edith Cowan University http://www.cowan.edu.au/	School of Management Information Systems http://www-business.ecu.edu.au/mis/	Graduate/Executive Certificate in Electronic Commerce http://www-business.ecu.edu.au/mis/planners/ecertecom.htm Graduate/Executive Diploma in Business (Electronic Commerce)
La Trobe University http://www.latrobe.edu.au/	School of Business http://www.business.latrobe.edu.au/	Graduate Diploma in Electronic Commerce http://www.aw.latrobe.edu.au/depart/dbus/gdipec.htm
Monash University http://www.monash.edu.au	School of Business and Electronic Commerce http://www.buseco.monash.edu.au/Schools/SOBEC/	Graduate Certificate in Electronic Commerce http://www.monash.edu.au/pubs/1999handbooks/buseco/be0210.htm
Monash University http://www.monash.edu.au	School of Business and Electronic Commerce http://www.buseco.monash.edu.au/Schools/SOBEC/	Graduate Diploma in Electronic Commerce http://www.monash.edu.au/pubs/1999handbooks/distance/de0069.htm
Murdoch University http://www.murdoch.edu.au/	Department of Commerce http://www.business.murdoch.edu.au/commerce/index.htm	Postgraduate Certificate in Electronic Commerce http://www.business.murdoch.edu.au/commerce/degree/pec.htm Postgraduate Diploma in Electronic Commerce http://www.business.murdoch.edu.au/commerce/degree/pdpec.htm
The University of New England http://www.une.edu.au/	Faculty of Economics Business & Law http://www.une.edu.au/febl/ Faculty of the Sciences http://www.une.edu.au/sciences/index.html	Graduate Certificate in ECommerce http://www.une.edu.au/febl/awards/ecom.htm
Swinburne University of Technology http://www.swin.edu.au	School of Business http://www.swin.edu.au/business/	Grad Cert of Business (eBusiness and Communication) http://www.ld.swin.edu.au/eBusiness/html/subjects.htm#top
RMIT University	Faculty of Business	Grad. Certificate in E-Business

http://www.rmit.edu.au	http://www.bf.rmit.edu.au	Grad. Diploma in E-Business http://www.bf.rmit.edu.au/eCommerce/html/course_structure.html
University of South Australia http://www.unisa.edu.au/	School of Accounting and Information Systems http://business.unisa.edu.au/infosys/index.htm	Grad Cert and Grad Dip in Business (e-Business) http://business.unisa.edu.au/infosys/courses/
University of Western Sydney (Macarthur) http://www.macarthur.uws.edu.au/	Department of Computing and Information Systems http://fistserv.macarthur.uws.edu.au/cis/	Graduate Diploma in Information Technology (E-Business)

Appendix 3.E Master degree with Electronic Commerce/Business as specialisations

Name of University	Faculty /School/Department	Name of Master Degrees
City University of Hong Kong http://www.cityu.edu.hk/	Faculty of Business http://www.cityu.edu.hk/fb/homepage/index.htm	Master of Science in Electronic Commerce http://www.cityu.edu.hk/fb/homepage/CourseOfferings.htm Master of Arts in Electronic Business http://www.is.cityu.edu.hk/maeb/rationale.html
Curtin University of Technology http://www.curtin.edu.au/	School of Information Systems http://www.cbs.curtin.edu.au/is/	Master of Commerce - Electronic Commerce http://www.cbs.curtin.edu.au/UNITS/PDFliers/IS/MCom-EC.pdf
Hong Kong University of Science and Technology http://www.ust.edu.hk/	Department of Information and Systems Management http://www.ismt.ust.hk/	Master of Science in Information System Management (Electronic Commerce Concentration) http://www.bm.ust.hk/mscis/curriculum.html
Southern Cross University http://www.scu.edu.au/	School of Multimedia and Information Technology http://www.scu.edu.au/schools/smit/	Master of Information Systems (Electronic Commerce Stream) This program will be offered in 2001.
The Chinese University of Hong Kong http://www.cuhk.hk/	Faculty of Business Administration http://www.cuhk.edu.hk/baf/	Master of Science in ECommerce (Business Program) http://www.cuhk.edu.hk/msc-programs-in-eCommerce/business_ecom.htm
The Chinese University of Hong Kong http://www.cuhk.hk	Faculty of Engineering http://www.erg.cuhk.edu.hk/	Master of Science in ECommerce (Technologies Program) http://www.cuhk.edu.hk/msc-programs-in-eCommerce/engine_ecom.htm
The Hong Kong Polytechnic University http://www.polyu.edu.hk/	Department of Computing http://www.comp.polyu.edu.hk/ Faculty of Business and Information System http://www.polyu.edu.hk/fbis/	MSc in ECommerce MSc in ECommerce (Executive Stream) http://www.comp.polyu.edu.hk/mscec/content.htm
The University of Hong Kong http://www.hku.hk/	Faculty of Engineering http://engg.hku.hk/	Master of Science (Engineering)in Electronic Commerce http://aajc.hku.hk/ecomprogram.html
The University of Queensland http://www.uq.edu.au/	Department of Commerce http://www.commerce.uq.edu.au/	Master of Commerce Concentration in Electronic Commerce http://www.commerce.uq.edu.au/ecom/master_of_commerce.htm
The University of Western Australia http://www.uwa.edu.au	Department of Information Management and Marketing http://imm.uwa.edu.au/	Master of Electronic Marketing and Information Management http://www.imm.ecel.uwa.edu.au/imm/M_in_EC.htm
University of South Australia http://www.unisa.edu.au/	School of Accounting and Information Systems	Master of Business (e-Business) http://business.unisa.edu.au/infosys/courses/mbebu.html

	http://business.unisa.edu.au/infosys/index.htm	
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Appendix 3F Master of Electronic Commerce/Business

Name of University	Faculty /School/Department	Name of Master Degrees
Bond University http://www.bond.edu.au/	School of Business http://www.bond.edu.au/bus/index.htm	Master of Electronic Commerce http://www.bond.edu.au/bus/degrees/pgpro/pg-mEcomm.htm
Curtin University of Technology http://www.curtin.edu.au/	School of Information Systems http://www.cbs.curtin.edu.au/is/	Master of Electronic Commerce http://www.curtin.edu.au/curtin/handbook2000/courses/is/296515.HTM
Deakin University http://www.deakin.edu.au/	School of Management Information Systems http://mis.deakin.edu.au/	Master of Electronic Commerce http://www.detc.deakin.edu.au/MECom/mec.asp
Edith Cowan University http://www.cowan.edu.au	School of Management Information Systems http://www-business.ecu.edu.au/mis/	Master in Electronic Commerce (will change to Master of E-Business in 2001) http://www-business.ecu.edu.au/mis/planners/MEC.htm
Murdoch University http://www.murdoch.edu.au/	Department of Commerce http://wwwbusiness.murdoch.edu.au/commerce/index.htm	Master of Electronic Commerce http://wwwbusiness.murdoch.edu.au/commerce/degree/mec.htm
RMIT University http://www.rmit.edu.au/	Faculty of Business http://www.bf.rmit.edu.au/	Master of EBusiness Master of EBusiness (Research) http://www.bf.rmit.edu.au/eCommerce/html/course_structure.html

Appendix 3.G Master of Electronic Commerce and other disciplines joint degrees

Name of University	Faculty /School/Department	Name of Master Degrees (Joint)
Bond University http://www.bond.edu.au/	School of Law http://www.bond.edu.au/law/	Master of Electronic Commerce and Master of Laws Master of Electronic Commerce and Master of Jurisprudence Master of Electronic Commerce and Master of Business Law http://www.bond.edu.au/law/degrees/pg/Combined.htm
Bond University http://www.bond.edu.au/	School of Business http://www.bond.edu.au/bus/index.htm	MBA/Master of Electronic Commerce MIT/ Master of Electronic Commerce Master of Finance / Master of Electronic Commerce Master of Accounting / Master of Electronic Commerce http://www.bond.edu.au/bus/degrees/pgpro/pg-mEcomm.htm

APPENDIX 4

eCommerce/eBusiness offered as single subjects

Name of University	Faculty/School/Department	Name of Subject
Central Queensland University http://www.cqu.edu.au/	Faculty of Informatics and Communication http://www.infocom.cqu.edu.au/	95367 Electronic Commerce http://www.infocom.cqu.EDU.AU/Units/sum2000/95367/

Name of University	Faculty/School/Department	Name of Subject
The University of Melbourne http://www.unimelb.edu.au/	Department of Information Systems http://www.dis.unimelb.edu.au/	615655 Electronic Commerce http://www.dis.unimelb.edu.au/courses/subjects/pghandbook/615-655.htm
University of Canberra http://www.canberra.edu.au/	Division of Management and Technology http://www.canberra.edu.au/uc/faculties/div_man_tech.html	005456 Electronic Commerce: Technical Issues 005457 Electronic Commerce: Business Issues
University of Notre Dame Australia http://www.nd.edu.au/	College of Business http://www.nd.edu.au/colleges_departments/business/	CO225 Electronic Commerce http://www.nd.edu.au/colleges_departments/business/units/
University of Southern Queensland http://www.usq.edu.au/	Faulty of Commerce http://www.usq.edu.au/faculty/commerce/	51170 Introduction To Electronic Commerce http://www.usq.edu.au/unit/synopsis/51170.htm

APPENDIX 5

Subjects which may be studied as elective or core for an undergraduate eCommerce/eBusiness degree.

Infrastructure

Commerce and WWW Applications Systems	Data Communication	Developing Electronic Commerce
Electronic and Desktop Publishing	Electronic Commerce applications	Electronic Commerce Fundamental
Electronic Commerce Laboratory	Electronic Commerce Systems	Electronic Commerce Technologies
Electronic Document Design	Electronic Meeting System	Fundamentals of Computing and
Electronic Commerce		
Future Direction	Information Technology	Infrastructure for electronic commerce
Innovation and Electronic Commerce	Instruction to business on the Internet	Internet Function and Facilities
Introduction to Electronic Commerce	Introduction to the Internet	Java Programming and the Internet
Multimedia and Internet	Security Control	Supra-organisational Systems
Technology Infrastructure Management	Web Site Design and Management	Electronic Solutions

Services

Business Applications Commerce	Business On-line	Commercial Aspects of Electronic
Decision Support	Electronic Commerce and Marketing	Electronic Commerce and the
Economics of Information Electronic Commerce	Business Interfaces	Electronic Marketing
Electronic Trading	Global Electronic Finance	Information Systems ad Electronic
Commerce Strategy Internet Commerce	Inter-organisational systems	Management and Electronic Business
Marketing on the Commercial Internet Commerce	Marketing on the Internet	Network applications and Electronic
Supply Chain management	Trading Systems	

Legal

Commerce Law	Electronic Commerce and Law	Cyber Law
Management and Legal Implications of Electronic Commerce		
Legal Foundations of Electronic Commerce		

Appendix 6

Subjects which may be studied as elective or core for a masters degree in eCommerce/eBusiness.

Infrastructure

Advanced Electronic Business Application Development Systems	Analysis and Design of Electronic Business
Business Focused ECommerce and Managing ECommerce Systems Development	
Contemporary topics in Electronic Business ECommerce	Cryptography, Information Security and
eBusiness Software and Technology	EBusiness Strategy
ECommerce Data Mining Techniques	Electronic Business Resources
Foundations of Electronic Business Systems	Fundamentals of ECommerce Technologies
Fundamentals of Electronic Commerce	Information Systems and ECommerce Strategy
Infrastructure and security management for electronic commerce	Internet and Computer Communications
Internet and the World Wide Web	Internet Communications Campaigns
Internet for Business	Internet Programming
Issues in EBusiness	Java and information technology for executives
Network and Web Programming	Open Systems for ECommerce
Web Advertising and Web Publishing	Web-publishing: design and creation

Service

Business transformation and process re-engineering	Business-to-business Electronic Commerce
Customer Focused ECommerce Management	Cyber Marketing and Customer Relationship
EBusiness Fulfilment	EBusiness Supply Chains
EBusiness Planing and Implementation	Economics of Electronic Commerce
E-Financing	Electronic Business Strategies and Management
Electronic commerce on the Internet	Electronic Payment Systems
E-Marketing Transformation	Information Technology Based Organization
Internet and Computer Communications	Internet and Electronic Commerce Marketing
Internet Computing for Managers	Internet Marketing
Logistics Management	Online Marketing
Supply Chain Management perspective	The Electronic Business Regulatory Environment: An executive
Underlying Technologies for ECommerce - A managerial perspective	Web Design and Management

Legal

EBusiness Law	Legal Aspects of Electronic Commerce
ECommerce Law	Legal aspects of information technology and electronic commerce