“Business has only two functions — marketing and innovation.”
~ Peter F. Drucker ~

This Chapter describes three major surveys (and one follow-up survey) which provide an in-depth understanding of EC/EB education in the AP region during the years 2000 to early 2003. These surveys enabled me to answer the subsidiary research question: What is the nature of EC/EB degree programs in the period 2000 to early 2003?

For the first survey (Survey 1), I aimed at gaining a picture of EC/EB programs at universities within a pre-defined area – selected in the early stage of planning the survey as the AP region – between 1999 and 2000. Selected Heads of Schools and Departments in universities in the AP region were targeted for this survey, which was conducted during the first stage of the project and was reported in Chan and Swatman (2000a).

In the second survey (Survey 2), I aimed at gaining a broad understanding of tertiary EC/EB education, circa the year 2000, from an academic perspective. Survey 2 was targeted at EC/EB academics in the AP in 2000. The findings from this survey were reported at the PACIS 2000 EC Education Workshop (Swatman & Chan, 2001), which I personally conducted. Survey 2 helped me obtain views from a broad range of IS (i.e. not only EC/EB) academics on the research project, as well as to obtain general information about existing AP EC/EB programs, prior to identifying the in-depth issues I wished to investigate further.

In the third survey (Survey 3), I endeavoured to obtain a detailed understanding of tertiary EC/EB programs in the AP region, from the program developer’s perspective. It was targeted at EC program developers and coordinators in the AP region in 2001. A follow-up survey was sent to respondents in March 2002 to update the information obtained from the first administration of the survey.
In this Chapter, I examine each survey in turn, and then provide a discussion of tertiary EC/EB program offerings in the AP region between 2000 and early 2003, from the perspective of the model in Figure 5-14 of new educational service product offerings.

Readers should note that these three surveys, the first two of which were undertaken very early on in my research project, were not all designed on the basis of the NESPO model (shown in its final form in Figure 5-14 on p.136). As I have already explained, the thesis changed direction in the middle of 2000 and the first two surveys, undertaken prior to that date, were not designed to test this model at all, while the third survey was specifically designed to test an earlier and more primitive version of the NESPO model. Not surprisingly, therefore, the surveys reported here do not investigate all the elements of that final model (one of the major reasons for undertaking additional empirical work). With a view to obtaining the greatest possible benefit from the surveys, however, I returned to the survey results to seek support for the final NESPO model and its elements. I did indeed find such support and indicate this in the discussions which follow by referring to the model’s elements whenever they are clearly suggested.

I signal the relevance of a particular element to a discussion by placing it in parentheses and italics, immediately following the text which suggests that element. Clearly, in view of the fact that the model has so many elements many of which were identified at a later stage than the surveys, I did not have sufficient data to identify linkages between the survey results and all the model elements. Nonetheless, many elements from the model are highlighted in the survey discussions which follow.

6.1 Survey 1 to identify EC/EB programs in the AP region (1998-2000)

As mentioned in Section 1.1 the original purpose of this research project was to develop a curriculum model for an EC degree program. In the early stages of my research, around 1998, I began to investigate EC degree programs in various countries — the United States, England, Australia, Hong Kong and indeed, all over the world. This search continued for several months. During this search for survey respondents, I recognised that, to scope my project, I would need to select a region to be studied. Therefore, for this survey (Survey 1) and also the remaining surveys and empirical studies, I selected four areas in the AP region (as explained in Section 1.3).
6.1.1 Introduction and purposes of Survey 1

As the significance of EC/EB increased within the global business community, universities and professional education providers — realising the opportunities the new economy offered to educators — began to introduce degrees, major streams, individual subjects and short courses in the area, during the period 1999 - 2000. Among the earliest of these offerings were single subject general introductions to EC, usually offered by Business or Information Systems Schools/Departments in universities (Hampe 1998; McCubbrey 1999; Davis et al. 1999 or Hecht 2000). Survey 1 was conducted between the end of 1999 and early 2000, with my objective being to identify all tertiary EC/EB offerings – initially all those offered world-wide but, after recognition of the need to scope the project, solely those offered in the AP. Letters to Heads of Schools and survey questionnaires can be found in Appendices III-1 and III-2. The programs sought encompassed full degree programs at any level, major streams, minor streams and single subjects.

I have described the survey procedures fully in Section 3.5.4.1 and limit the following procedural summary to issues enabling an improved understanding of the survey findings.

The 58 universities in the AP region which I examined to find EC/EB offerings included all the Australian universities which were members of the Australian Vice-Chancellor’s Committee (AVCC) – that is, 38 universities – as well as the University of Notre Dame. I also looked at all 8 universities in New Zealand, 8 in Hong Kong, and 3 in Singapore. A full list of these universities is found in Appendix III-3. Not all these universities had EC/EB programs and I identified those which did. My next procedure involved two steps:

- I sent an email to those Heads of School who had responded to a request for assistance I had earlier placed on the ISWORLD mailing list;
- I conducted an online search using the keywords 'Electronic Commerce' or 'Electronic Business' in an effort to discover relevant EC web sites with corresponding programs or subjects.

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44 University of Notre Dame is located in Perth, Western Australia. It was founded in 1990. The University choose not to be a member of the Australian Vice-Chancellor’s Committee. I decided to include this university in this research project, nonetheless, because it is running many EC programs and because it had a School of Electronic Commerce in 2001.
I discovered that 29 out of the 58 universities I investigated had some kind of EC/EB offering, and I distributed my survey to the Heads of the relevant Schools at those 29 universities.

To avoid the almost inevitable confusion which cross-cultural academic curriculum discussion and the changing nomenclature of universities themselves generates, I define below the terms ‘subject’ and ‘program’ as used in this project.

- A ‘subject’, as commonly understood, is what Deakin University terms a unit, and is defined as: “A thematic entity which is normally one or two semesters long.” (Deakin University 2003, p.36). The term 'course' which is used in North American universities, the expression 'unit' or 'module' which is used in some Australian and Hong Kong universities, and the term 'paper' which is used in some New Zealand universities, are equivalent to the term 'subject' which I have used here;

- The term 'program' is what Deakin University terms a course, and is defined as “a set of units comprising credit points to a particular value, and approved by the Academic Board (or its equivalent) which when satisfactorily completed by the student normally entitles that student to the award of the appropriate certificate, diploma or degree” (Deakin University 2003, p. 34). This term is therefore equivalent to the term 'program' as employed in the United States and Canada.

For example, 20345 Introduction to Electronic Commerce was a core subject for the program (degree) of Bachelor of Commerce.

EC/EB programs ranged from half-day programs targeted for business professionals at the lower end, to three to five year PhD research projects at the higher end. The short courses were offered by Australia’s TAFE, the private sector, or universities. Since the majority of the short courses were ad hoc and thus fairly dynamic in terms of content, they were difficult to include in the survey and I therefore excluded them from this survey. The Masters by Research and PhD courses were, of course, specifically designed by supervisor and student to suit individual needs – and I therefore excluded these courses, too, from my survey. I now present the survey findings.
6.1.2 Discussion of EC/EB program offerings in the AP in 2000

In 2000, 19 universities out of 39 Australian universities (48.7%) and 3 out of 8 New Zealand universities (37.5%) were offering undergraduate and/or postgraduate EC/EB programs. The similarity of these proportions suggests that levels of interest in EC/EB were roughly similar in the two countries, although New Zealand appeared to be at a slightly earlier stage in new degree development. In Hong Kong, Kwok (2000) stated that “the first ever degree programme in Electronic Commerce 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 Electronic Commerce degree or diploma programme”. In fact, Kwok’s findings matched very closely with the survey results that is, 6 out of 8 universities (75%) in Hong Kong offered EC/EB programs in 2000. It is likely that one of the reasons for Hong Kong’s unusually rapid uptake of EC/EB educational programs is that all the masters programs are self-funded and government’s invention is less compared to those government-funded programs; and universities can therefore approve programs relatively quickly, compared with Australia and many other countries.

Singapore, by contrast with the other three countries surveyed, showed a very different pattern. Although the Singaporean government was one of the most enthusiastic sponsors and promoters of EC, there was very little interest in offering EB/EC educational programs on the part of Singaporean universities and institutes of technology, due to a focus on business and other more traditional areas, such as science. Singapore has a number of government-run EC programmes, including (inter alia):

- the general EC web site (www.ec.gov.sg/general/intro.html);
- the eCitizen programme (www.ecitizen.gov.sg/);
- the eGovernment web sites (www.egov.gov.sg/)

and yet only a few technical institutions offered EC/EB short courses or diplomas/ certificates in EC/EB (Electronic Commerce Singapore 1999) in 2000. One university offered an EC specialisation within its MBA degree in 1998; and a number of overseas universities offered bachelors and masters degrees to local students (Management Development Institute of Singapore 2000, 2000a) at that time. This apparently contradictory result was difficult to explain on the basis of the survey results alone. The enthusiasm with which offshore EC/EB degrees were being taken
up in Singapore suggested that demand there was similar to the rest of Asia. Clearly, a more detailed investigation was required to clarify the issues in Singapore; I discuss this further in Section 8.5.

The 29 universities listed in Appendix III-4 were, in total, offering 81 EC/EB programs (or similar types of programs) in 2000. I classified these 81 programs into 7 program types, shown in Table 6-1, where I have also highlight selected elements of the NESPO model (Figure 5-14 on p.136) in italics, to suggest the points at which NESPO elements relate to particular concerns specific to the program type’s offering. I have highlighted, in particular, those elements I believe would be most useful for developers to consider when developing an offering in a specific program type. I discuss this viewpoint further in Chapter 8. For readers’ better understanding, the description of each model element may be found in Table 5-3.

Table 6-1 Types of EC/EB programs in 2000

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate degree with EC major concentration</td>
<td>Students were required to complete a certain number of core subjects and, in addition, to take a ‘stream’ of EC subjects. The level of newness (refer to Section 5.2.2) was comparatively low, because the program type simply adapted some/many existing subjects, while adding only a few new subjects. However, this degree type shared resources with other degree programs. For details, refer to Appendix III-5A.</td>
</tr>
<tr>
<td>EC as a joint under-graduate degree with other disciplines</td>
<td>Only one university appeared to provide this type of program. Monash University offered a Bachelor of Business and Electronic Commerce – both on campus and by distance education. For details, refer to Appendix III-5B.</td>
</tr>
<tr>
<td>Bachelor of EC</td>
<td>A number of universities had chosen not to offer this degree, which differed from one offering institution to another, on the assumption that potential employers would not understand what it meant in terms of skills provided at the time in the year 2000. Product distinctiveness (refer to Section 5.2.2) needed to be made explicit to the market if such a degree was to succeed. For details, refer to Appendix III-5C.</td>
</tr>
<tr>
<td>Graduate / Postgraduate Certificate / Diploma in EC/EB</td>
<td>These programs were primarily designed for those who wished to move into a new area, i.e. potential students might already have a degree in some other area(s). Many would not have a degree at all, but would have significant industry experience in a related area such as information systems. Undertaking a full degree would take too long for some potential students, so this shorter program, which effectively offered the core of a degree without the electives, filled a market niche. Product adaptability, in finding an abbreviated version of a Masters degree in order to suit this purpose, needed to be considered in developing this program option. For details, refer to Appendix III-5D.</td>
</tr>
<tr>
<td>Masters degree with EC/EB as a specialisation</td>
<td>These programs aimed at providing students with advanced knowledge and skills in contemporary EC technologies and their applications within business, as part of a lifelong learning or professional development program. As students undertaking</td>
</tr>
</tbody>
</table>
postgraduate degrees are usually interested in improving their employment prospects, *service evidence* (what evidence is there that there are employment prospects after graduating?) becomes relevant. Once people are in the workforce as Masters students often already are, they are more concerned with promotion prospects and position changes than undergraduates, and postgraduate opportunities to facilitate this. Changed employment prospects of graduates may affect students’ purchase decision. For details, refer to Appendix III-5E.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of EC/EB</td>
<td>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 EC were studied in these programs. Clearly <em>product distinctiveness</em> and <em>service evidence</em> (see above category for benefits of <em>service evidence</em>) would both be relevant elements. For details, refer to Appendix III-5F.</td>
</tr>
<tr>
<td>EC as a joint masters degree with other disciplines</td>
<td>Bond University provided this type of program. It offered candidates the opportunity to gain a double masters degree. The ability of such degrees to be coupled with other degrees can be important (<em>product adaptability</em>). For details, refer to Appendix III-5G.</td>
</tr>
</tbody>
</table>

Early in my investigations, I discovered many universities with single subject EC/EB offerings, not included in the above list. Later, some of these universities developed entire programs. The implications of the single subject offerings for my research are not of great significance, and therefore I do not analyse them here. For further details, the reader may refer to Appendix III-6.

In the analysis of programs identified by the survey, I have identified a number of *elements* which eventually became part of my NESPO model, Figure 5-14, on p.136. These elements were: level of *newness*, *product distinctiveness*, *product adaptability* and *service evidence*. I discuss these in more depth, in the following sections.

### 6.1.2.1 Newness

As discussed in Section 5.2.1, the term ‘innovation’ implies something new, or represents a new idea which challenges existing activities and approaches for individuals and organisations (Rogers 1995; Malhotra *et al.* 1996; Gopalakrishnan & Damanpour 1997; Menor 2000). I found that the less ‘distinctive’ programs (for example, pre-existing undergraduate degrees with an EC major concentration) employed less innovation than the distinctive programs, such as the new bachelors degrees. I suggest that this is because the non-distinctive programs must share resources with other existing, non-specialised programs (e.g., a Bachelor of Information Systems often shares resources with a Bachelor of Commerce). Clearly, this provides efficiencies and economy, although at the expense of innovation. In
other words, the decision by a university or department to innovate in the extreme with a distinctive course is one which must be carefully thought-through and related to the institution’s mission.

Developments must therefore take the level of *newness* into account not only to realise to a highly specific level the efficiencies and economies already mentioned, but also because the *development time* will be shorter when the level of newness is less. In addition, those programs which are *distinctive* - for example a Bachelor of EC program - clearly require a higher level of *newness* to attract a special, unique market segment only interested in studying this specific area.

6.1.2.2 Product distinctiveness

*Product distinctiveness* measures the uniqueness of the product and the relative advantages a product offers over its competition. This is particularly important to those program types where the entire qualification is related to a specific discipline, because potential students will wish to see clearly that the degree does have a distinctive body of knowledge. In planning for *product distinctiveness*, it would be important to develop subjects, sequences or groupings of subjects which provided a distinctive body of knowledge or skills. With a view to eventual job outcomes, some programs could develop their programs based around knowledge and skill requirements for the EC job market - which I will discuss in Section 7.1.

As shown in Chapter 4, the body of knowledge for EC was indeed highly distinctive, and this fact was exploited in program content by many of the universities investigated in my survey. When I categorised subjects on the basis of the Electronic Business Component Model (Section 4.4) into 3 major components: infrastructure, services and legal (see Appendices III-7 and III-8 for the full analysis), I observed that the individual subjects were not unique to the EC/EB program. For example, “Introduction to EC” is a subject which could be taught, and indeed is taught, in an IS degree. The subjects listed in Appendices III-7 and III-8 provide some idea of the scope covered by the EC/EB programs I surveyed. It was clear that there was considerable overlap among the subjects on offer (for example, there were many variations on the theme of e-marketing), while a number of areas were not yet being covered (for example, areas such as mobile commerce or e-health did not appear to be included in the material on offer in 2000).
Clearly, there needs to be a balance between developing a program for *product distinctiveness*, and developing a program according to available *resources*. This topic alone would require considerable investigation, and is not the subject of this thesis; therefore, I will not pursue it further at this time – although I return to it once again in Chapter 9. The distinctiveness of offerings in a dynamic area such as EC clearly caused confusion in developing suitable course structures. Perhaps there is more to be learned about considerations in planning for such distinctiveness.

### 6.1.2.3 Product adaptability

Rapid completion of an educational program is increasingly desired by many students, largely for job-related reasons. Short programs, such as graduate certificates, are increasingly popular offerings, for this very reason. The duration of a program is a critical factor in student choice, and a course should be designed with its *adaptability* to shorter versions in mind. Masters degrees take about three to four semesters of full-time study for the average student. This may be too long a time for busy employees, who are a large target market for EC programs. As a result, some universities provided solutions to this problem in the form of multiple exit points from a masters program. When students have completed four subjects, they may choose to graduate with a Graduate Certificate, when they have completed 8 subjects, they may choose to graduate with a graduate diploma; and when they have completed all 12-16 subjects, they obtain the masters degree. The multiple exit point arrangements for the EC programs surveyed suggest that *product adaptability* is an important consideration when designing a program for students with different needs. Another advantage of this system of exit points is in minimising program resources needed, as the same resources (teachers, subjects) can cater for different types of market demand.

### 6.1.2.4 Service evidence

EC/EB programs at the masters level aim at providing students with advanced knowledge and skills in contemporary EC technologies and their applications within business. Many students treat these programs as part of their lifelong learning or professional development programs. Most such students are working full-time and are mature-age, so that the additional workload of study is likely to constitute a significant additional commitment for them. They will make a careful and clear choice of their study program. *Service evidence* in this case, such as the availability
of improved job opportunities, may well affect their decisions regarding selecting an EC program of study. Service evidence may include, for example, market demand for the graduates, whether graduates would get better jobs than before they had studied; and the reported level of satisfaction of program graduates. Program developers must therefore consider early on the availability or future provision of service evidence.

I have discussed how the different types of offerings of EC/EB programs relate to several key concepts of educational new service product development. The service product characteristics found in the degree programs surveyed is shown in Figure 6-1. In the next section, I discuss some implications of this survey.

![Figure 6-1 Service Product Characteristics Found in Degree Programs Surveyed](image)

### 6.1.3 Findings from Survey 1

I observed that the market characteristics of the seven types of programs, while useful in categorising types of EC/EB programs available, did not provide mutually exclusive or orthogonal categories, which leads to interesting observations for my research.

Firstly, EC/EB could be offered by a number of different departments within a single university, through different programs. For example, the University of Wollongong, Monash University, the Open University of Hong Kong, and the Chinese University of Hong Kong all had several departments offering similar (and, it would appear,
competing) programs in this area. It is difficult to know whether these universities had deliberately set out to compete internally (with the consequent risk of product cannibalisation such an approach would bring), or whether these programs simply evolved (in which case, it would appear that the universities’ administrative bodies were willing to allow the creation of internally competing programs).

The universities must have considered, when developing all their EC/EB offerings, whether they were going to adapt existing products (product adaptability), and therefore gain efficiencies (a good reason for creation of a program even when it would compete with another offering from the same stable). On the other hand, there is a departmental strategic advantage to be gained by a department having a distinctive product offering within the university, and universities would surely have considered this (an equally good argument against internal competition – and the likely explanation for why only four of the 29 universities engaged in such activity). This suggests that product adaptability and distinctive product offerings are considered when developing any new educational service product offering — but fails to explain the reasoning behind the four internal competitors’ actions. This, again, is a topic for further research.

Secondly, EC/EB programs were normally offered by IS Schools/Departments, Business Schools, or Computer Science Departments. In fact, EC was/should be a cross-disciplinary area (since it combines materials from IS, IT, Law, Computer Science, Business, Marketing, Management, Accounting, Logistics, Finance, Economics and many other disciplines). Of course, universities do not have cross-disciplinary departments capable of offering EC/EB programs, and therefore from a resource perspective, the most logical decision would be to offer the program within the School possessing the resources needed by such a program. IS schools have long argued that they have the greatest expertise in EC/EB, although other Schools have argued that they had a better context for presenting EC/EB materials – for example, a Business School provides a business context. Clearly, resources are an important — but not the only — consideration in deciding on the location for a program offering.

Thirdly, with the exception of Monash University which had two separate teaching units (Schools) with EC in their title across two different faculties, the universities surveyed had not chosen to develop a teaching unit specifically for delivering EC/EB subjects and programs, preferring to offer both EC teaching and research centres/units within existing schools/faculties. The research implications of this
almost universal decision would seem to be that the new EC/EB service product was seen as an extension of existing service product offerings, rather than as an entirely new service product, by almost all developers. Clearly, development time and resources to establish a new, dedicated School of EC would be substantial. Universities traditionally maintain Schools in disciplines with a long life span — where the School’s academic domain is regarded as a discipline in its own right. This aspect of new service product development is currently not catered for in the model.

Fourthly, the number of AP EC/EB programs being offered grew significantly over the period 1998-2000. This phenomenon replicated the North American experience (Tabor 1999; Moran 1999), but was built on a far smaller population base — and indicates a very important new program development issue: that of availability of staff with sufficient expertise (this relates to the service distribution part of the educational new service offering model, Figure 5-14 on p.136) to teach the very challenging EC/EB programs which business and students alike were demanding, in all locations in the AP where demand existed. Putting it another way, just because there may be sufficient resources to offer a given program does not mean these resources will be available to students as required. In particular, the teaching resources for the program may be unavailable at the location of need; in other words, the service distribution must be considered when developing a new program offering.

A combination of the newness of the discipline and the high salaries being offered to EC professionals in the private sector had meant that some universities found it difficult to staff their academic programs in this area during 1999. Jackson (1999), writing in ‘The Australian’ newspaper in October 1999, stated that Australian universities were offering innovative EC and Internet courses, but their capacity to staff them was in question at that time. Therefore, the newness of a program needed to be considered with respect to resourcing the program.

Fifthly, the variety of the offerings which this preliminary survey identified also raised the question of whether there was such a thing as an ‘ideal’ program in EC/EB, in the year of 2000. 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 might 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 EC/EB program focus upon? In other
words, the *core service* of a new program needs to be tightly specified as part of developing a new *service product* offering. In terms of new service product development, it was clear that considerably more work was required to identify core market needs and core target markets, for new educational programs.

Finally, one aspect of the EC/EB program development process which I did not investigate in detail was the offering of such degrees in locations other than their geographic ‘home’ — this applied both to online offerings and to offshore presentation of the programs by the developing institution. Both these approaches were gaining considerable popularity as the demand for EC education in the Asian market grew to ever higher levels. Developers might therefore consider *distribution strength* and *strategy* when a new program is in the planning stages. A number of considerations in respect of offering a program offshore should be borne in mind when creating new programs, for example:

- Subjects offered online needed to be designed in formats which permit ready redevelopment for the requirements of Internet-based presentation and study. The *expectation* and *learning style* of students in offshore locations must be considered as part of the development of the educational program.

- Subjects offered offshore might need to be taught many times each year (depending on the number of locations at which they were offered and the frequency with which they were offered in each location). If the principal lecturer (lecturer-in-charge) of that subject could not teach at all locations, adequate substitutes had to be available and prepared to travel as required.

- Multiple assessment methods might need to be developed for each subject, to cater for varying needs in different locations.

- Additional subjects might need to be developed to cater for the lack of availability of pre-requisite subjects which are taken for granted in the ‘home’ country’s institution.

Clearly, all these considerations could be considered under the umbrella of considering the *distribution strength/strategy* for the new program offerings.

In the above discussions, I have presented selected key findings from my research regarding EC/EB programs in the AP region around 1998-2000 from the perspective of new service development. In order to provide appropriate background with which to better understand the EC programs pedagogically — rather than purely from a
marketing perspective such as new service product development - I next report EC academics’ opinions on EC programs in 2000 as determined by the discussion of the second survey in Section 6.2, which follows. Although I was not at the time of this survey investigating educational programs as new service product offering, later in my research project I realise that I had indeed collected valuable data for my research from which I could draw themes, patterns and indeed elements for the model of new educational service product development. I share these insights through my discussions in the following section.

6.2 Survey of EC Teaching Staff in 2000

I conducted a ‘Teaching Electronic Commerce’ Workshop during the Fourth Pacific Asia Conference on Information Systems (PACIS’2000) 1-3 June 2000 in Hong Kong. Before the workshop, I sent a survey form to academics in the AP who taught EC/EB, while an email message was posted on the ISWorld list server requesting academics who were teaching Electronic Commerce, particularly in the AP region, to complete a survey form (the survey form is found in Appendix III-9). This section provides an integrated discussion of the workshop and survey findings, which provide a pedagogical view of EC/EB program offerings from the period studied. I also discuss selected elements from the model, where suggested by discussions.

6.2.1 Introduction and purposes of Survey 2

The Workshop panel comprised Professor Paula Swatman (chair, and at the time, Professor of eBusiness at RMIT University, Professor Brian Corbitt (at the time, Jade Professor of eCommerce at Victoria University Wellington) and myself. The workshop enabled experience sharing and networking amongst EC academics, to provide insight into the issues of EC/EB programs in the AP. There were 26 respondents to the survey, although these were not necessarily the same people as the workshop participants, who were independent IS academics attending the PACIS conference. My findings are compiled on the basis of the survey responses integrated with the discussion during the workshop.

6.2.2 Findings from Survey 2

The workshop discussions mainly concerned the methods of delivery of EC/EB education, teaching resources and difficulties encountered. I summarise the results, below.
6.2.2.1 Methods of delivery

Methods of delivery of EC/EB subjects were primarily of four types:

- Traditional lectures (stand-up lectures)
- Case studies / Case discussions
- Invited guest speakers
- Group projects

6.2.2.1.1 Traditional lectures (and similar classes)

The survey did not specifically poll data about tutorials, and I therefore mainly discuss lectures (which were polled) in this section. Most responses stated that lectures, in PowerPoint slide format, were delivered to students for one or two hours per week for each EC subject. Instead of delivering lectures weekly, some lectures were organised as an intensive residential, where lectures (and other types of classes) took place over weekend days scattered throughout the semester. In ‘block mode’, classes were offered over a 1-2 week period, early in the semester. Most EC subjects were offered on-line, with subject materials available on the university web sites. Besides traditional lectures, some of the EC programs were also (or instead) offered in distance-education mode. Clearly, the distribution strategy of having students attending on-campus (as well as off-campus) and consequent needs, affected the decision to have lectures as a method of delivery. Another consideration for lectures was (and is) effective communication, as face-to-face teaching has obvious benefits for student learning. Many students also have expectations of face-to-face delivery, and their learning style may favour lectures. Clearly, resources needed to be available to develop the lecture material (for example, staff, technology). Staff training and skills would need to be considered, as staff must be capable of delivering lectures effectively.

6.2.2.1.2 Case studies / case discussions

Most respondents mentioned that they adopted a case study method in teaching their Electronic Commerce subjects. Prof. Sid Huff of Victoria University Wellington, in his response to the survey, suggested that:

"teaching much of EC with cases, regularly updated, is the best solution. At least a case can be updated - either changed or updated without too much difficulty. Also using cases allows the opportunity to bring someone from the case company / organization into the class to
augment and enhance the discussion. The downside is that most universities do not "reward" faculty for writing cases, so naturally, few want to spend the time doing it.”

Clearly, considering delivery strategy allows the developer to take advantage of activities such as casework.

6.2.2.1.3 Guest speakers

Guest speakers from industry were invited by many lecturers to give a short lecture on particular topics, in order to strengthen students' knowledge of electronic commerce. Specific real-life practical experiences were presented to students. The product quality can be enhanced in this way, and students’ experienced benefits from real-life exposure to the theory in practice as communicated by the guest speakers.

6.2.2.1.4 Group projects

Group projects were also commonly used, to increase students’ involvement in learning. There were two major benefits for students from group projects. The first benefit was to provide students with a chance to work together co-operatively. This reflected the real situation when they graduated and were looking for jobs. Business stressed the importance of teamwork, as one of the selection criteria for employing a new staff member was ability to work in a team (Computerworld 2000). Secondly, students could apply what they had learned (knowledge) to real life situations. Mr. David Banks, according to his survey response, noted that he:

“allocated each student one session of the overall topic, while the group produces a composite document which is then placed on the web pages for other students to work on. The idea is to provide both breadth and depth, and encourage collaborative working.”

Considering future service evidence, in the form of the importance to employers of teamwork, was clearly a consideration when developing EC/EB programs.

Besides the above teaching methods: team teaching, web-based demonstrations, debate on selected topics, computer practical and email sharing across campus of projects and resources were all mentioned in the replies to the survey. Dr. Craig Parker of Deakin University used business simulations to demonstrate Electronic Commerce concepts. Dr. Robert Johnson of the University of Melbourne demonstrated B2B interactions by means of MYOB (accounting) software. Dr. Simpson Poon of Murdoch University established virtual teams with international universities for EC teaching. There are many benefits to students in these various
approaches as well as a sharing of available resources, and it would behoove developers to consider these when developing courses.

Some suggestions were also made for assessing students’ work:

- a literature review on the chosen EC topic followed by an argumentative essay for that topic;
- analyse the prospects of EC in an industry or a specific firm;
- analyse Australian EC sites;
- analyse EC academic papers/research issues;
- develop a web-based business site;
- write a business plan of EC solutions for a local company;
- student presentations in the class - could be real or hypothetical organizations

Again, there are clear benefits to students from these various approaches, especially in terms of the needs of future employers (service evidence).

6.2.2.2 Teaching resources

Clearly, teaching resources must be considered, in depth, as the discussion below highlights. From the survey, teaching resources were mostly from textbooks, web sites or journals.

6.2.2.2.1 EC textbooks

Only a few respondents mentioned that they did not refer to particular textbooks. The following three were the most popularly used textbooks for survey respondents in 2000:


The two books Turban *et al.* E-Commerce: A Managerial Perspective, and Lawrence *et al.* Internet Commerce: Digital Models for Business, both provided real world case
studies for each chapter. These case studies might be useful for group discussion during tutorials or for lecturing.

Although it was not part of my survey *per se*, I searched the Amazon.com bookstore using the search term "Electronic Commerce" in February, 2001. There were 818 books relating to Electronic Commerce available at that time. Within the months of January and February 2001 alone, 57 books about EC were published. 334 EC related books were published in 2000, 132 in 1999 and 73 in 1998. These figures suggested that the 'tide' of electronic commerce grew enormously during that period. In using the model, the availability of the textbooks (a key *resource*) would be an important consideration, because without textbooks there would be considerably more material required to develop in order to offer the new programs. Of course, not all of these 818 books were suitable for use as textbooks. Starting around 1999-2000, ‘Electronic Business’ emerged as the title of choice, rather than ‘Electronic Commerce’. This highlights a problem with a new discipline — even the discipline title can change very rapidly. It is noteworthy that much argument still rages over whether to name tertiary programs EC or EB – an aspect of new service product development currently not yet considered by the model in Figure 5-14, but worth investigating for future research aimed at refining the model.

6.2.2.2 EC resource web sites and journals

The survey and discussions in the meeting suggested that a number of EC *resource* web sites and journals were useful to academics as references for conducting EC lectures and tutorials at that time. Some of these resources are naturally now outdated but were used as evidence regarding EC resources at that time. Hence, I still include this information in this Chapter and list them in Appendix III-10. EC resource web sites are listed in Appendix III-11 and EC journals are listed in Appendix III-12. This suggests that a wide search of available *resources* of diverse kinds must be part of developing a program offering.

6.2.2.3 Difficulties encountered in EC/EB course development

Respondents suggested that, in teaching electronic commerce, two major difficulties were encountered, in 2000:

6.2.2.3.1 Teaching resources

This first concern relates to *resources*. Teaching EC was very challenging because of the extremely rapid rate of change in both the underlying technology and the
business practices. Much teaching appeared and disappeared in rapid succession, and was thus lacking robust and well-accepted frameworks, not to mention theories. Who wants to put the effort into developing a decent textbook when it could be out-dated before it is even published? So even though many EC books were published, it did not mean that all of them were suitable for adoption as textbooks.

It was beneficial to install new facilities for coping with the requirements of innovative technology, such as computer laboratories for students to use email, access the Internet, work with electronic commerce applications/solutions, engage in video-conferencing and simulation. Respondents noted, however, that this might come under increasing pressure from the cutting of universities' funding.

A concern was whether there were sufficient resources in terms of staff time to update materials, once a program was developed. The consideration of product quality was paramount in updating of program materials. In addition, the capability of the staff (staff training and skills) was considered important in terms of ability to improve the program materials.

6.2.2.3.2 Time

In terms of the resource of time spent during the course itself, there were several aspects worthy of comment:

- As EC is a field which changes quickly, academics must find the time to update their knowledge constantly. Dr. Lichtenstein of Monash University stated that:
  
  “teaching e-commerce subjects requires keeping right up to date through daily online research. Hence, I have several key sites I visit daily to keep me well-informed.”

- Some EC subjects involved the time-consuming invitation of guest speakers.

- Academics spent considerable time on liaison and administrative work.

- There were many students taking individual EC subjects (around 2000). Consequently, tutors had to spend more time on student consultations and administrative work. As the number of students increased, more tutorial groups were formed and even more tutors needed to be involved. The administrative time for tutors was predicted to increase.
In this Section, I have highlighted the need to consider a number of the elements for the model in Figure 5-14, when developing EC/EB programs. Although I was only able to highlight selected elements due to limitations of the thesis size, the list is worthy of later consideration in greater detail:

- product quality;
- service evidence; distribution strength/strategy;
- effective communication;
- staff training and skills;
- educational providers’ resources; and
- (students’) benefits.

I would expect many more elements will be relevant, and I will discuss all elements in the report of my case studies in Chapter 8.

6.3 Survey of EC/EB Program Co-coordinators and Developers

In order to explore the issues arising from Survey 2 in more depth with the EC/EB program co-ordinators and developers, and as part of the process of developing a model of educational new service product creation (which ultimately became the NESPO model) I conducted Survey 3, which I now discuss.

I sent out an electronic survey to EC/EB program co-ordinators and course developers during the period December 2000 to December 2001. In this survey, I distributed two forms: firstly, I posted the survey form on the Internet and emailed the targeted EC academics to request them to complete the form. For those who did not respond, I distributed the survey as a file attachment to an email message.

6.3.1 Introduction to Survey 3

The purpose of this survey was to understand the structures of the EC programs being offered at that time, the resources available for these programs and the skills required by EC students. As the target audience for the survey, I selected all EC/EB program co-ordinators and developers in the AP region, in every university I was able to identify.

This survey is divided into five major parts. Part A is the background information of the institutions being surveyed. Part B is the structure of the EC/EB program of the institution being surveyed. Part C is the resources of the program. Part D is the
relationship between the program and students’ achievement of skills. Part E, finally, is other issues related to EC/EB programs. The questionnaire is included in Appendix III-13.

6.3.2 Findings from Survey 3

35 universities were offering EC/EB programs, or would offer these programs shortly, in Australia, New Zealand, Hong Kong and Singapore between December 2000 and December 2001. I sent 60 questionnaires to these 35 universities. I received 34 questionnaires from 27 universities with 32 different EC/EB programs (as one university may offer more than one program) in Australia, New Zealand, Hong Kong and Singapore. The reply rate was 56.7%, which according Diem (2002) is an acceptable rate.

The target audience for the survey was EC program developers, program directors and academic staff members in Australia, New Zealand, Hong Kong and Singapore. Table 6-2 shows the number of surveys sent and received.

Table 6-2 Number of Replies to the Questionnaires in Survey 3

<table>
<thead>
<tr>
<th>Region</th>
<th>Australia</th>
<th>New Zealand</th>
<th>Hong Kong</th>
<th>Singapore</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of universities that questionnaires were sent to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of universities that questionnaires were received from</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of questionnaires sent</td>
<td>42</td>
<td>4</td>
<td>12</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Number of questionnaires received</td>
<td>23</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td>% of questionnaires received</td>
<td>54.8</td>
<td>75</td>
<td>58.3</td>
<td>50</td>
<td>56.7</td>
</tr>
</tbody>
</table>

Other procedures in issuing and receiving questionnaires were described in Section 3.5.4.1. In the interests of limiting the size of this thesis, and due to the need to highlight findings rather than to simply present detailed data, I now summarise findings from the survey, which are described in complete detail in Appendix III-14. Tables supporting these findings are also to be found in different sections of Appendix III-14. I highlight in particular the elements from the model (Figure 5-14), and how they were represented by the data and results obtained.

The distribution strategy was clearly important, as most programs were graduate programs. As previously suggested, this is likely to have been due to a consideration

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45 As in 2000 and 2001, number of universities which offered EC/EB programs in each region.
of the various market needs for the program, such as the need for business experience in graduates as well as the theoretical foundations obtained via the program itself.

Programs were offered by many different types of units, suggesting the importance of a tradeoff between obtaining product distinctiveness by mounting unique programs within School, or achieving the economies of product adaptiveness by modifying the programs of other Schools. Decisions regarding location of the program also appeared to have been made with availability of resources strongly in mind.

The delivery mode of programs — which ran the full gamut from face-to-face, distance education, online and multimode — indicated that attention to distribution strategy would be important, as remote students would need special kinds of delivery, whereas on campus students typically prefer the benefits of face-to-face learning (consideration of learning style).

The survey showed that most programs arose between 1999 and 2000, reflecting an awareness of changes in educational policy and newfound social acceptance of EC, as well as the healthy state of the economy (social economy) in the wider AP community. Unfortunately, they did not anticipate the changes in the online economy which were soon to come.

My survey found a variable number of students in each program as well as variable teaching methods. The survey revealed an interesting need for consideration of resources in the form of texts, which had to be hastily written over the years 1998 – 2000, as well as expertise (staffing) to resource the new programs being developed.

Staffing was named by all but one respondents as a critical scarce resource — something that should have been considered (or, at least, taken more seriously) when developing the program offer. Other resources in short supply included EC software applications, and industries able to visit for guest lectures or able to provide case study material.

Most respondents indicated they were satisfied with the skills provided in the programs to students, although there were two which came out negatively: ‘ability to apply knowledge in the workforce’ and ‘writing skills for communication purposes’. I suggest both these should have been considered as part of the core service provided, more carefully, as part of the program offer.

46 As in 2000 and 2001, the questionnaires received from the number of universities in each region.
Most academics were aware of what was happening in other subjects in the program, an important consideration for product quality. Many other indicators of having considered program quality were obtained through the survey, such as some programs which had industry advisory committees.

My survey revealed that the major driving forces for the programs first being offered were external competitive pressure from other universities, and industry pressure. Other forces are listed in Appendix III-14O.

Programs and content were updated frequently, reflecting the dynamic nature of the discipline and rapid changes in the workplace, which needed to be incorporated to keep the programs current. This again was a clear consideration of product quality. It would have assisted all programs to anticipate this need at the time of first product offer, in order to better allocate resources for the program.

It was an interesting finding that approximately 35% of respondents did not strongly feel that the programs matched the university’s mission, although they agreed it did match the mission to some extent. This finding would be worth investigating further. Note that most respondents, however, did observe strong organisational alignment.

6.3.3 Implications of Survey 3

This survey studied the EC/EB programs in Australia, New Zealand, Hong Kong and Singapore in the period of 2000 to 2001. The results revealed that undoubtedly EC/EB programs involved multidisciplinary topics, which led to EC/EB programs being offered by different teaching units such as management and IS. The Internet wave swept into this region around 1998-1999; by 2000, therefore, many universities had started to offer EC/EB programs. Figure 6-2 shows the graphical representation of the introduction of new EC/EB programs.
The introduction of new EC/EB programs in the AP region

![Graph showing the introduction of new EC/EB programs in the AP region.](image)

**Figure 6-2** The Introduction of New EC/EB Programs in the AP Region

The graph indicates that most universities first offered EC/EB programs in 2000 and that the offering process follows the normal curve which is typical of all new innovations. It also indicates that there was a sudden jump from 1999. In 1999, there were only five new EC/EB programs offered, compared to 19 in 2000, more than three times the number. This tide of new programs reflected the demand that was sweeping through the areas in these years, particularly in 2000. By 2002, the explosion of new programs was over, and most universities in AP were offering EC/EB programs.

Even though there was a dot.com crash in the United States, with a great impact on the IT industry, particularly in Silicon Valley, in 2001 and 2002 universities were still joining in this market and starting to offer EC/EB programs (which is not so surprising, when one considers that the initial dot.com crash of 2000 was followed by a resurgence in the NASDAQ until the final crash in 2002). The main reasons for offering these programs came from the pressure created by industry; and the external competitive pressure from other universities (Appendix III-14O).

In discussions regarding resources and expertise of EC programs in 1999 and early 2000 respondents to the first two surveys indicated that they were still difficult issues which needed to be considered when offering new EC/EB programs (refer to Sections 6.1.3 and 6.2.2.3.2 for discussion). However, one year later, results of this third survey showed that resources and expertise were quite ready. This implies that the academics were reacting quickly to market needs. They rushed to equip themselves to get involve in this area and also they rushed to publish textbooks (and
other books) in order to satisfy the demand of the markets. New journals titled with EC/EB emerged around 2000, for example, Electronic Commerce Research and e-Service Journal, which were first published in February 2001. Suitable textbooks for degree programs were not available in the first half year of 2000. After 2001, a plethora of new EC/EB books was published. Of course, not all of these books were suitable for teaching resources, and the quality of some of them was questionable.

My most important finding from this survey is that:

**EC/EB programs are market-oriented — when there is a perceived demand in the market, people rush to offer programs for that market.**

The survey results also showed that the delivery of programs was still predominantly undertaken in face-to-face mode. However, most of the programs had already begun to rely on Internet technology and additional IT technology, for example eLearning solutions such as WebCT47 or FirstClass48 to deliver programs. Whether this was due to a desire on the part of EC/EB program developers to show that they were part of the leading edge of educational service delivery, or whether this was merely part of a more general trend emerging in business schools at that time is not clear.

EC/EB programs still emphasise theory, while hands-on experience and industrial visits were not commonly utilised by any of the programs. This suggests that **product distinctiveness** could have been more widely considered when developing the programs, had a model of new educational service product development such as the one I have proposed in this thesis (Figure 5-14) for guidance, existed at the time.

In the next section, I discuss results from the follow-up survey undertaken in 2002.

### 6.3.4 Follow-up survey in 2002

A follow-up survey was sent to 32 respondents49, who had replied to the 2001 survey described in Section 6.2, in March 2002 by email. Only 12 out of 32 (or 37.5%) of these original respondents replied to the follow-up survey. Between 2001 and 2002, there had occurred a highly volatile time for EC generally. Some of the changes in

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47 WebCT is provider of e-Learning solutions for higher education. <http://www.webct.com>
48 FirstClass is a communications platform and was developed by Open Text Corporation. <http://www.firstclass.com>
49 The survey was sent to 32 but not all (34) respondents because 2 respondents had left their universities.
the EC/EB market had an impact on EC/EB education. As Professor Saloner of Stanford University remarked,

"E-Commerce is not a distinct subject, not a discipline, ... , in the short term we will run specialised elective courses but our goal is to make them obsolete in three to five years." ((American) Financial Times, 15 January 2001).

The Wall Street Journal noted, “E-commerce courses are waning like the dot-coms that inspired them, but many universities are simply switching to a more measured approach to the subject” (Wall Street Journal, 10 December 2001).

And it is not only EC/EB programs which have been hard-hit by the dot.com crash. The New York Times of 22 May 2003 notes that:

“the dot-com bust has affected computer science programs. One MIT administrator explains the falling enrolment in computer-related academic programs this way: ‘They overreacted to the boom, so why shouldn’t they overreact to the bust?’ Computer science enrollments are down just about everywhere since 2001. Some examples: Carnegie Mellon (CS enrollment down 36%), Virginia Tech (CS applications down 40%), MIT (number of freshmen declaring computer-related programs as their major down 20%). At the University of Texas, J. Strother Moore, the chairman of the computer sciences program, says: ‘Our department will be hurt. But more importantly, when the economy recovers, we’re going to need computer programmers, and many more of them than we’ll be producing at the current rate of input. It’s a serious problem for the national economy’.”

Consequently, the purpose of this survey was to find out whether EC/EB academics believed that the time was approaching when their EC/EB programs would change in nature (i.e. disappear entirely, or be a specialised elective course within another program, or some other alternative) and/or in some other way (for example, mode of delivery, etc). There were three questions in this survey. For details, refer to Appendix III-15.

6.3.4.1 Changes in the EB market over the past few years

Most responses referred to the changes of EB market in general, and only some referred to the changes of EB market in education.

Interesting responses included:

“Human nature! Like all children we have tired of their newest toys” and

“The hangover was setting in.”
In addition, several respondents believed that the dot.com crash was the main contributor to the changes in EB markets. The invested money had disappeared, and many had been devastated by the NASDAQ bear market.

Some believed that the dot.com crash was, in fact, beneficial for EC. They suggested that since the end of all the hype, EC development had improved. It had returned to business basics, with the emphasis on business models and profitability, rather than investment and market share. There was focus on the weeding out of “fly by night” operators, and a refocus within organisations on profiting from EB operations.

Two respondents mentioned the changes in the EC/EB education market. One believed that interest in studying EC was waning due to widespread public sentiment that much of the ‘value-added’ hype about EC was fraudulent. He suggested that the interesting things happening in EC were occurring under different names — for example, supply-chain management and ERP. This was where his university was migrating its EC programs.

The other respondent referred to EB programs as a market commodity. He believed that changes were driven by demand for a product. The main changes in EC programs in his university were driven by demand from students, professional bodies and corporations. If it was advantageous in the job market, then students would want to enrol in the program.

In the next section, I discuss the impact of survey results on the life span of EC/EB programs.

6.3.4.2 Lifespan of EC/EB programs

There were two different types of opinions about the lifespan of EC/EB programs. Four respondents believed that EC/EB would continue in their universities over the next few years. 7 respondents thought that EC/EB would ‘dissolve’ into other disciplines, such as IS or Business. One respondent’s opinion was effectively undecided.

The respondents who believed that EC/EB would continue as it was for several years provided several reasons:

- Firstly, doing business in the e-world was simply a trend, comparable to office automation which had been absorbed into the business domain over the previous one to two decades. In the new generation now growing up with the
Internet (and other electronic media), people would accept EC/EB much more readily than had the present generation.

- Secondly, EC/EB programs would have unlimited lifespan because most organisations must use the Internet and would wish to use it effectively.
- Thirdly, EC/EB programs would continue since the skills needed were sufficiently different from general MBAs.
- Finally, universities would not opt to integrate EC into traditional subjects such as business, but perhaps might include it as a topic in one or two classes - EC should not be regarded as an add-on, or a flavour of the month, to be added to all subjects.

EC programs, as long as they had a hybrid structure incorporating many disciplines (eg marketing, information systems, business), were quite successful in attracting students. All programs surveyed had such a structure. Enrolment numbers were increasing and interest was growing, and suggestions were made therefore that they could offer subjects specially designed to introduce students to EC and related issues. Other suggestions were that EC subjects would be incorporated into accounting / business /management / IT /law degrees. Alternatively, future EC programs could incorporate traditional courses of study, such as business.

Those respondents who believed EC/EB programs had limited lifespan provided the following reasons:

- Firstly, EC/EB was simply one of the clever ways in which analysts had been able to use IS and IS methodologies to solve business problems — although this strategy had been awarded the title EC (and more recently, EB). The EC/EB field and its programs would simply return to the IS domain of the previous ten. Some suggested that other areas analogous to EC/EB in this way were knowledge management, decision support systems and expert systems. EB would become a sub-branch of IS and EB itself, and would eventually omit the ’e’, because it would devolve into the integral part of what people had always done — business. It was important for universities to initially respond with special programs, given the slow rate of change in more traditional academic programs, but these traditional programs were beginning to catch up, to some extent.
Another reason for anticipated change was the changing market demand. All programs were intake-driven. If there was not a big intake, there was little chance for the program to survive. However, intake was determined by what opportunities were possible after graduation. In EC, that was perceived at that time to be dwindling too.

The only respondent holding a neutral opinion — both yes and no — stated: “There is no such thing as EC law; but there will always be room for new subjects in similar areas.”

Survey results showed that most academics agreed with the comments of Professor Saloner of Stanford University — “E-Commerce is not a distinct subject, not a discipline . . .” and in the ‘near future’ (with this being undefined but likely to mean a period several years away), because of the nature of EC/EB programs and the changes of society, would be integrated into the business discipline, with its course content being similarly absorbed.

6.3.4.3 EC/EB programs in the coming two years (2002 – 2003)

All the responses indicated that there would be changes in EC/EB programs in their universities, in the near future. However, the levels of changes were different. I divided these opinions relating to changes to programs into three categories: regularly updated, minor changes and major changes.

Regularly updated: Basically the structures of the programs would not change; they would remain relatively static for the next year or two, with only the contents of the subjects being regularly updated and improving over the coming two to three years. Hence, there were no major changes planned, merely some minor alterations. Some replied that there would definitely be changes in the curriculum although the details had not yet been specified.

Minor changes: EC program leaders would be revising programs, principally to update subject content and revise program structure. Some suggested introducing a unit on mobile commerce to address to the growing use of cell phones and other appliances connected to the net. One suggested improving the existing structure and implementing EC honours specialisations, encouraging doctoral EC candidates, developing a center for EC research and greater involvement with other professional activities.
**Major changes**: Four responses signalled major changes were in the offing. The first response suggested that the EC programs offered in his university would evolve to focus more upon systems integration. The second response suggested that his university might change the name of the program to supply chain management. The third replied that his university would change the name from EC to EB, even though it did not sound like much of a change, but it fitted in more with what was going on in the business world. In this respondent’s opinion, the end result would probably be that within two to three years his university would have changed its Master of Electronic Commerce to a Master of Information Systems. The fourth respondent’s university did not offer an MSc (EB) program any more due to an internal political decision (the details of this will be discussed in Section 8.5). That university offered EB as elective subjects in the MBA but not as a specialisation. Figure 6-3 shows the percentage of responses falling in each category.

![Figure 6-3](image-url)  
**Figure 6-3** Anticipated Changes to EC/EB Programs in the AP in 2002/03

### 6.4 Nature and characteristics of EC/EB education 1999-2003

In the AP region, tertiary EC/EB programs initially developed very slowly. However, from 2000 there was a sudden rush to develop EC offerings due to the previous several years of enthusiastic uptake of the Internet of EC. By 2003, almost every university in the AP offered EC programs or subjects.

EC was offered as a subject in a program in the AP first by the University of Science and Technology in Hong Kong, in 1995. At that time, there were fewer than ten students enrolled in this subject. A few years later, in 1999, the University of Hong
Kong was the first AP university which offered an EC related masters program, perceiving the trends of market potential. In Australia, at Deakin University, the academics had anticipated trends in industry demands, and first offered EC as a specialisation in the Bachelor of Commerce in 1997, with a view to capturing the local market. Monash followed suit, offering an EC degree in 1998, for similar reasons.

In other countries, the University of Waikato was the first university in New Zealand to offer a Bachelor of Electronic Commerce in 2000. In Singapore, Nanyang Technological University offered EC as a specialisation within its Master of Business Administration in 1998.

In 2000, universities suddenly rushed to the education market and offered EC/EB programs. By March 2003, all Australian universities offered EC/EB programs or elective subjects within other programs. Figure 6-4 illustrates the number of EC programs in the region studied in the period 1999 to early 2003 and shows that nearly all universities in the region offered EC/EB programs in 2003. Appendixes III-16 and III-17 listed those universities which offered EC/EB programs at the time of March 2003.

<table>
<thead>
<tr>
<th>No. of universities surveyed</th>
<th>Dec 1999</th>
<th>Dec 2000</th>
<th>March 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>39</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>New Zealand</td>
<td>8</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>8</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Singapore</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

No. of universities which offer EC/EB programs.

Figure 6-4 Number of Universities offer EC/EB Programs and Subjects in 1999, 2000 and 2003

6.4.1 EC/EB programs as new educational service products

In this Chapter, I have presented and analysed three surveys of EC/EB program development within the AP region, presenting each survey separately, and
highlighting selected new service product considerations (elements from Figure 5-14) as they arose in the discussions. Figure 6-4 and the findings in the previous sections suggest that the nature and characteristics of EC/EB programs are very similar to new service products, as I will demonstrate through recapitulating linkages identified in the three surveys. However, before I do so, I restate the definition of service products, from Section 5.1:

**Rust et al.** (1996, p.16) define the term *service product* as:

> The service product is the core performance purchased by the customer, the flow of events designed to provide a desired outcome. It refers to that part of the experience apart from the transfer of physical goods and typically includes interactions with the firm's personnel.

EC/EB degree programs with predominately intangible core attributes can be regarded as educational service products. University intentions in this respect can be viewed as trying to develop new educational EC service products which could meet important criteria (and market expectations) for the service product itself - such as *product adaptability* and *product distinctiveness*.

Subjects were regularly updated, most of them every 6 months, as EC academics were attempting to maintain the highest *product quality*. EC/EB programs are offered via seven different types of programs, as mentioned in Section 6.1. This segmentation addresses students with diverse needs. Degrees have multiple exit points, so that students can choose to graduate in certificate, diploma or masters level — this suggests that EC/EB program developers understand the need for *product adaptability*.

In terms of *product distinctiveness*, Bachelors and Masters programs in EC/EB have special distinguishing features that identify them clearly to the market.

Most EC/EB programs partially rely on the Internet or IT facilities to deliver their programs. The *distribution strategy* was moving from traditional face-to-face to online. IT facilities are surely needed to take into consideration when develop these new programs.

The surveys provided ample evidence to suggest that the offering of EC/EB programs in the AP region had many of the characteristics of the offering of a new educational service product as suggested by Figure 5-14, including *product quality*, *product adaptability*, *product distinctiveness* and *distribution strategy*. Survey responses appear to indicate that not all the universities (perhaps not for many) were
thinking in these terms initially, but as programs developed and evolved, the level of
market awareness and sophistication of the program developers increased, and more
of the elements from the model were addressed, accordingly.

In Chapter 8, I will discuss the more in-depth findings derived from multiple case-
studies which I conducted in 2001 and 2002 to extend the surveys’ finding.

6.5 Summary and Conclusion

This Chapter provided an understanding of EC/EB programs in the AP region
between 1999 – 2003, revealed through the data, results and findings from three
major surveys and one follow-up survey. The characteristics of the offering of these
programs suggested correspondences with offerings of a new service product — in
particular, a relationship with the new educational service product development
model which I proposed in Figure 5-14. Corresponding elements from the model
which were identified in the surveys included: newness, product quality, product
adaptability, product distinctiveness, resources, benefit, expectation and learning
style, distribution strategy, staff training and skills, local image and financial terms.

In the next chapter, I will investigate the service evidence and advertisement
/promotion elements of EC/EB degree programs, so that the reader can understand
more about the market nature of these programs.