

# Report from the Panel on Teaching Electronic Commerce Fourth Pacific Asia Conference on Information Systems, 1-3 June 2000, Hong Kong, SAR

**Paula M.C. Swatman**

Faculty of Informatics  
University of Koblenz-Landau, Germany  
paula.swatman@uni-koblenz.de

&

Adjunct Professor  
School of Management Information Systems  
Faculty of Business and Law  
Deakin University, Australia

**Elsie S.K. Chan**

School of Management Information Systems  
Deakin University  
Melbourne, Australia  
elsie.chan@deakin.edu.au

## Abstract

The fastest growing, and one of the most rapidly changing, instructional areas in Information Systems is Electronic Commerce. A cursory examination of requests for assistance posted on ISWorld - textbooks used in courses, case studies to recommend, project guidelines to use - shows that academics from around the world are struggling with the demands inherent in teaching this complex area. A Teaching Electronic Commerce workshop was held during the Fourth Pacific Asia Conference on Information Systems (PACIS'2000) 1-3 June 2000 in Hong Kong, SAR. This report provides a summary of the workshop and the information gathered by the authors, focusing particularly on the Asia Pacific region. We hope that the information provided in this report will be beneficial to academics who are involved in Electronic Commerce teaching.

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**Mr. David Banks** University of South Australia, david.banks@unisa.edu.au

**Prof. Tanya Castleman** Deakin University, tanyac@deakin.edu.au

**Prof. Brian Corbitt** Victoria University of Wellington, brian.corbitt@vuw.ac.nz

**Prof. Kevin Crowston** Auckland University, crowston@syr.edu  
**Miss Pascale DeBerranger** Manchester Metropolitan University, p.deberranger@mmu.ac.uk  
**Dr. Bill Doolin** University of Waikato, wrd@mngt.waikato.ac.nz  
**Dr. Ira Hecht** Northland Polytechnic, ihecht@northland.ac.nz  
**Prof. Sid Huff** Victoria University of Wellington, sid.huff@vuw.ac.nz  
**Dr. Robert Johnston** The University of Melbourne, r.johnston@dis.unimelb.edu.au  
**Prof. Lori Leonard** University of Tulsa, lori-leonard@utulsa.edu  
**Dr. Sharman Lichtenstein** Monash University, sharmanl@yahoo.com  
**Dr. Divakaran Liginlal** University of Wisconsin-Madison, dliginlal@bus.wisc.edu  
**Assoc. Prof. San Murugesan** University of Western Sydney, s.murugesan@uws.edu.au  
**Dr. Craig Parker** Deakin University, cparker@deakin.edu.au  
**Mr. Don Peters** University of Auckland, d.peters@auckland.ac.nz  
**Assoc. Prof. Simpson Poon** Murdoch University, spoon@murdoch.edu.au  
**Mr. Patrick Quirk** Bond University, patrick\_quirk@bond.edu.au  
**Assoc. Prof. Angela Scollary** Victoria University, angela.scollary@vu.edu.au  
**Dr. Mohini Singh** RMIT University, Mohini.Singh@rmit.edu.au  
**Assoc. Prof. Craig Standing** Edith Cowan University, c.standing@ecu.edu.au  
**Ms. Fay Sudweeks** Murdoch University, sudweeks@murdoch.edu.au  
**Ms. Judith Symonds** The Open Polytechnic of New Zealand, symjud@topnz.ac.nz  
**Assoc. Prof. Dennis Viehland** Massey University, d.viehland@massey.ac.nz  
**Prof. Doug Vogel** City University of Hong Kong, isdoug@is.cityu.edu.hk  
**Dr. Hakman Wan** University of Hong Kong, hmwan@ouhk.edu.hk  
**Assoc. Prof. Mary-Anne Williams** The University of Newcastle, maryanne@eBusiness.newcastle.edu.au

## Background

A teaching Electronic Commerce workshop was held during the Fourth Pacific Asia Conference on Information Systems (PACIS 2000), Hong Kong SAR 1-3 June. The panel comprised Professor Paula Swatman (chair), Professor Brian Corbitt and Elsie Chan. The purposes of the workshop were experience sharing and networking amongst Electronic Commerce academics. Before the workshop, a survey form was sent to targeted academics in Asia Pacific who teach Electronic Commerce and an email message was posted on the ISWorld list server (the premier source of information for the international IS academic community) requesting those who were teaching Electronic Commerce, particularly in the Asia Pacific region, to fill in a survey form (for a copy of the survey form, refer to Appendix 1). There were 26 respondents. This report was compiled based on the summary of these survey forms, the discussion during the workshop and the data gathered by the authors regarding Electronic Commerce teaching.

## Delivery of Teaching

The authors gathered a number of references on Electronic Commerce teaching and curricula as a foundation for the panel session:

- Parker and Swatman developed a series of web-based business simulations, Teaching Realistic EDI and Telecommunications (TREAT) to teach EDI (Parker and Swatman 1997) and then further developed the systems into Teaching Realistic Electronic Commerce (TRECS) to teach eCommerce (Parker 1998; Parker et al. 1998; Parker and Swatman 1999).

- Wang and Williams (1997) categorised the curriculum of Electronic Commerce into 8 major components: Management Information Systems, Technical fundamentals of IT, Accounting Information Systems, Business Law, Organisation Theory, Marketing, Policy and General Management.
- Dutt (1997) examined the degree to which Information Systems programs are teaching course on Electronic Commerce, described the types of Electronic Commerce course being taught, and described and presented an outline for an upper division Electronic Commerce course designed for undergraduate IS majors.
- Deakin University started its Electronic Commerce major in the Bachelor of Commerce in 1997. The curriculum of this program was discussed and a number of useful recommendations made (Braithwaite et al. 1997; Fountain 1998).
- Davis et al. (1999) reported on the varieties of programs and the contents of the core Electronic Commerce syllabus in faculties of business, particularly in the United States and Canada.
- A virtual electronic teaching environment, the Deakin Electronic Trading Community (DETC), was developed to increase students' knowledge in the area of Electronic Commerce. A motor vehicle industry manufacturing community was created as the centre of the trading community, and linked with other communities, such as a bank, a glass making company, several car retailers, and a parts component company. By developing each organisation's electronic commerce system, the DETC is able to highlight the value chain often found in industry (Joyce 1998; 1999; 2000).
- McCubbrey (1999) traced the development and content of an electronic commerce course (subject) curriculum which is an elective of a Master of Business Administration program at the Daniels College of Business at the University of Denver.
- Dhamija et al. (1999) ran an electronic commerce course (subject) for 14 weeks for multidiscipline students, i.e. students from schools of business and public management, engineering, arts and sciences and international affairs. The class size was 22. Students were the virtual vendors, consumers and corporate executives, paying and receiving e-payments and negotiating with the bank and government. Professors functioned as the "government", setting rules only when they felt intervention in the market was absolutely. They found that professors, guest speakers and students all generally enjoyed and learned from the course, finding it quite rewarding.
- Hecht (2000) suggested and highlighted the areas that need to be examined within the New Zealand Diploma in Business in order to properly train students in e-commerce.
- Williams et al. (2000) sent a survey to 500 business leaders and 500 economists in April, 1998 to determine if there were discrepancies between the expectations of economists and business leaders regarding the future impact that e-commerce is likely to have on price stability, distribution of wealth, and expected growth in e-commerce itself. 104 economists and 82 business leaders replied. Business students were asked to debate global price stability as an integral part of their preparation.
- Ge and Sun (2000) examined the standard computer science curriculum and concluded that some of the materials that are crucial in developing an electronic commerce system are still not required and some of the computer science courses still lack hands-on and up-to-date components. To meet the challenge of the e-commerce era, their computer science curriculum needs to evolve and to change its content and delivery methods.
- Swatman and Loebbecke (2000) ran a workshop on graduate programs in Electronic Commerce at the Thirteenth Bled Electronic Commerce Conference. The issues, the content, the organisations and marketing of E-Commerce /E-Business graduate programs were discussed.

- Wetsch (2000) posted on a marketing list (ELMAR) and an MIS list (ISWorld) requesting information on which area e-commerce courses were being conducted. The results suggested that Electronic Commerce courses are from Marketing, MIS, Computer Science, Electronic Commerce and several other areas.
- Chan and Swatman (2001) examined the similarities and differences between Electronic Commerce and Information Systems academic programs in the e-age.

From the responses to the survey, methods of delivery of Electronic Commerce subjects were primarily of four types:

- Traditional lectures (stand-up lectures)
- Case Studies / Case discussions
- Invite guest speakers
- Group projects

#### Traditional lectures

Most responses stated that lectures, in powerpoint slide formats, were delivered to students one or two hours per week for each electronic commerce subject. Instead of delivering lectures weekly, some were organised as an intensive residential, where classes take place over weekend days scattered throughout the semester. In 'block mode', classes are offered over a 1-2 week period, early in the semester. Most electronic commerce subjects are offered on-line, with subject materials available on the university web sites. Besides traditional lectures, some of the electronic commerce programs are offered in distance-education mode.

#### Case Studies / Case Discussions

Most respondents mentioned that they adopt a case studies method in teaching the Electronic Commerce subjects. Prof. Sid Huff in his response to the survey suggests that *teaching much of eCommerce 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.*

O'Leary (1999) described some resources for case studies in Electronic Commerce. Several books also include case studies. They may be used for lecturing or tutorial discussion.

- *Cases in Electronic Commerce* by Sidney Laurence Huff, Michael Wade, Michael Parent, sc Schneberger, McGraw-Hill Higher Education, 1999. About one-third of the selected cases are Canadian firms, one-third on United States firms, and the remaining one-third on international firms. Large company cases are included, e.g. AOL, Dell, Metropolitan Life. There are also a few cases on the use of EDI and the development of AOL.
- *Global Electronic Commerce: Theory and Cases* by Chris Westland and Ted Clark, MIT Press, 2000. About one half of the cases are on United States firms and the remaining on the international successfully using E-Commerce solutions.
- *E-Commerce and V-Business: Business Models for Global Success* by Stuart Barnes and Brian Hunt, Butterworth-Heinemann, 2000. One of the first texts to explicitly recognize the converging aspects of electronic commerce and virtual organisation. It is an up-to-date, leading academic text involving an international team of experts, packed with recent case studies illustrating how electronic commerce and virtual business have created

significant strategic benefits. It examines both large and small organisations from around the globe.

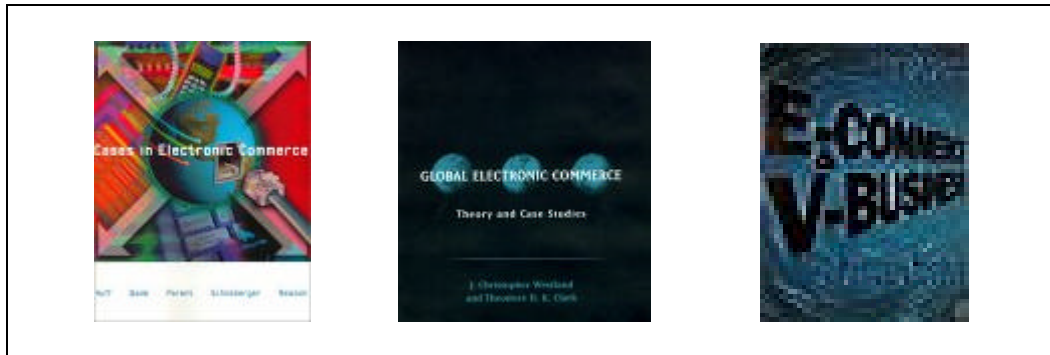


Figure 1. Textbooks with Case Studies.

#### Invitation of Guest Speakers

Guest speakers from industry are invited to give a short lecture on particular topics in order to strengthen students' knowledge on electronic commerce. Specific real and practical experiences are provided to students.

#### Group Projects

Group projects are also commonly used to increase students' involvement. There are two major benefits for group projects. The first benefit is to provide students with a chance to work co-operatively. This reflects the real situation when they graduate and are looking for jobs. Nowadays business stresses the importance of team-work. In fact one of the selection criteria for employing staff member is ability to work in a team (Computerworld Inc. 1999). Secondly, students can apply what they have learned (knowledge) to real life situations. Mr. David Banks, in the survey, *allocates 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.*

Besides the above teaching methods: team teaching, web-based demonstrations, debate on selected topics, computer practicals and email sharing across campus of projects and resources have been mentioned in the replies to the survey. Dr. Craig Parker uses business simulations to demonstrate Electronic Commerce concepts. Dr. Robert Johnson demonstrates B2B interactions by MYOB software. Assoc. Professor Simpson Poon establishes virtual teams with international universities for Electronic Commerce teaching.

Some suggestions were also made for assessing students' work:

- a literature review on the chosen E-Commerce topic followed by an argumentative essay for that topic;
- analyse the prospects of E-Commerce in an industry or a specific firm;
- analyse Australian E-Commerce sites;
- analyse E-Commerce academic papers/research issues;
- develop a web-based business site;
- write a business plan of Electronic Commerce solutions for a local company;

- student presentations in the class - can be real or hypothetical organizations;

### Teaching Resources

Teaching resources can be from textbooks, web sites or journals.

#### Electronic Commerce textbooks

From our survey, only a few respondents mentioned that they did not refer to particular textbooks. The following three were the most popularly used textbook for survey respondents:

- **E-Commerce: A Managerial Perspective** 1999, Turban E., Lee J., King D. and Chung H.M., Prentice-Hall.
- **e-Business: Roadmap for Success** 1999, Kalakota R. and Robinson M., Addison-Wesley.
- **Internet Commerce: Digital Models for Business** 2000, Lawrence E., Corbitt B., Lawrence J. and Tidwell A., John Wiley and Sons, 2nd edition.

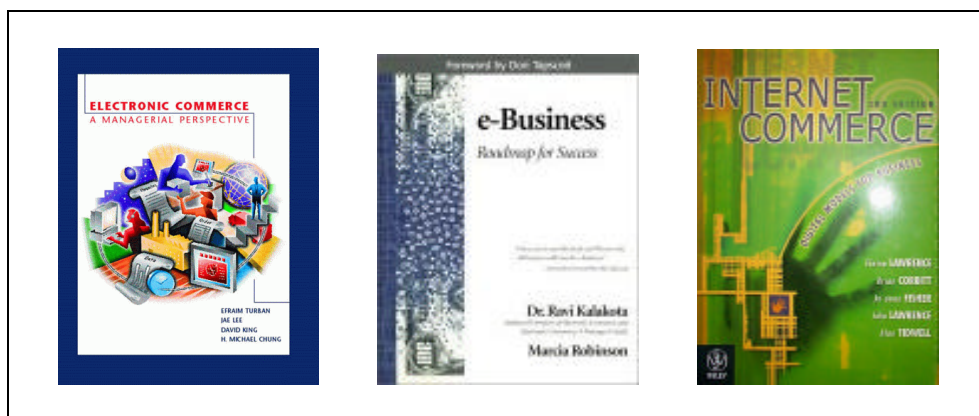


Figure 2. The most 3 popular textbooks used – based on the replies of the survey.

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

The authors surfed the Amazon.com book store using the keyword "Electronic Commerce" as a search term in February 2001. There were 818 books relating to Electronic Commerce. Among these 818, 60 books will be published very soon, i.e. in the coming few months starting from March 2001. Within the months of January and February 2001 alone, 57 books related to Electronic Commerce were published. 334 electronic commerce related books were published in 2000, 132 in 1999 and 73 in 1998. These figures suggest that the 'tide' of electronic commerce remains as popular (if not more popular) than ever. In the Amazon.com bookstore, the most expensive book costs US\$1200, i.e., *Electronic Commerce Developments in Hong Kong: A Strategic Entry Report, 1999 (Strategic Planning Series)* by the Computer Research Group. The lowest price was US\$7.99. Of course, not all of these 818 books are suitable for use as textbooks.

Therefore we have compiled, on the basis of the survey replies and our surfing on the Amazon.com bookstore web site, a list of Electronic Commerce textbooks (or books which can be used as references for the lectures and tutorials) in Table 1.

<b>Titles</b>	<b>Authors/Publishers</b>
<b>2001</b>	
<i>Electronic Commerce</i>	Perry J. T., Schneider G.P., Course Technology, 2nd ed.
<i>e-Business and e-Commerce How to Program</i>	Nieto T. R., Deitel H. M. and Deitel P. J., Prentice Hall.
<b>2000</b>	
<i>e-Business 2.0: Roadmap for Success</i>	Ravi K., Robinson M., Addison-Wesley.
<i>Developing E-Business Systems and Architectures: A Manager's Guide</i>	Harmon P., Rosen M., Guttman M., Morgan Kaufmann Publishers.
<i>E-Commerce and V-Business: Business Models for Global Success</i>	Barnes S. and Hunt B., Butterworth-Heinemann.
<i>Doing eBusiness: Thriving in an Electronic Marketplace</i>	Taylor D. and Terhune A.D., John Wiley & Sons.
<i>e-Business Essentials</i>	Derfler F. J., PC Magazine.
<i>e-Commerce: Strategy, Technologies and Applications</i>	Whitely, D., McGraw-Hill, London.
<i>Global Electronic Commerce: Theory and Cases Studies</i>	Westland C. and Clark T.H.K., MIT Press
<i>Internet Commerce Development</i>	Standing C., Artech House Publishers.
<i>Internet Commerce: Digital Models for Business</i>	Lawrence E., Corbitt B., Lawrence J. and Tidwell A., John Wiley and Sons, 2nd edition.
<i>Electronic Commerce: The Strategic Perspective</i>	Watson R. T. (Editor), Berthon P., Pitt L. F., Zinkhan G. M., Harcourt College Publishers.
<i>Success@e-business: Profitable Internet Business and Commerce</i>	Morath, P., McGraw-Hill, London.
<b>1999</b>	
<i>Core Java 2</i>	Horstmann C. S. and Cornell G., Prentice Hall.
<i>Cases in Electronic Commerce</i>	Sidney Laurence Huff, Michael Wade, Michael Parent, sc Schneberger, McGraw-Hill Higher Education
<i>Electronic Commerce</i>	Schneider G. and Perry J.T, Course Technology.
<i>E-Commerce: A Managerial Perspective</i>	Turban E., Lee J., King D. and Chung H.M., Prentice-Hall.
<i>Doing Business on the Internet: Opportunities and Pitfalls</i>	Sudweeks F. and Romm C., Springer Verlag, London.
<i>Electronic Commerce: Security, Risk Management and Control</i>	Greenstein M. and Feinman T.M. McGraw-Hill Higher Ed.
<i>e-Business: Roadmap for Success</i>	Kalakota R. and Robinson M., Addison-Wesley, Information Technology Series.
<i>e-shock The Electronic Shopping Revolution: Strategies for Retailers and Manufacturers</i>	De Kare-Silver M., AMACOM.
<i>Creating Web Pages with HTML</i>	Carey P., Course Technology: Cambridge, MA.
<b>1998</b>	
<i>Doing Business Electronically: A Global Perspective of Electronic Commerce</i>	Edited by Romm C. T. and Sudweeks F., Springer Verlag, London.
<i>Web Commerce: Building a Digital Business</i>	Maddox K. with Blankenhorn D., John Wiley and Sons, New York.
<i>Electronic Commerce: Technical, Business, and Legal Issues</i>	Adam N.R., Dogramaci O., Gangopadhyay A., Yesha Y. Prentice-Hall, New Jersey.
<i>Leveraging the New Infrastructure How Market Leaders Capitalize on Information Technology</i>	Weil P. and Broadbent M., Harvard Business School Press.
<i>Unleashing the Killer App: Digital Strategies for Market Dominance</i>	Downes L., Mui C., Negrofonte N., Boston, Mass.: Harvard Business School Press.
<i>Planning and Designing Effective Web Sites</i>	Conger S. A. and Mason R. O. , Course Technology, Boston.
<i>E-Commerce Security: Weak Links, Best Defenses</i>	Ghosh A.K., John Wiley & Sons.
<i>Designing Systems for Internet Commerce</i>	Treese G. W., Stewart L.C., Addison-Wesley.
<i>Trading Systems and Electronic Commerce</i>	Johnston R. B., Eruditions Publishing, Melbourne.
<i>Internet Commerce: Digital Models for Business</i>	Lawrence E., Corbett B., Tidwell A., Fisher J., Lawrence J., John Wiley & Sons, Brisbane, 1st edition.
<i>The Search for Digital Excellence</i>	Ware J. P., Gebauer J., Hartman A. and Roldan M., McGraw-Hill/ Commerce net Press.
<b>1997</b>	
<i>Opening Digital Markets: Battle Plans and Business Strategies for Internet Commerce</i>	Mougayar W., McGraw-Hill.
<i>Electronic Commerce: On-line ordering and digital money</i>	Loshin P. and Murphy P, Charles River Media Inc, Massachusetts, 2nd Edition.
<i>Web Commerce Technology Handbook</i>	Minoli D. and Minoli E., McGraw-Hill.

<b>Titles</b>	<b>Authors/Publishers</b>
<i>The Economics of Electronic Commerce</i>	Whinston A., Stahl D. O. and Choi S. Y., MacMillan Technical Publishing, Indianapolis.
Understanding Electronic Commerce (Strategic Technology Series)	Kosiur D., Microsoft Press.
<i>Metamorphosis: A Guide to the World Wide Web and Electronic Commerce: Version 2.0</i>	McKeown P.G. and Watson R.T., John Wiley & Sons, New York.
<b>1996</b>	
<i>Electronic Commerce, A Manager's Guide</i>	Kalakota R. and Whinston A.B., Addison-Wesley, USA.
<i>Readings in Electronic Commerce</i>	Ed. by Kolakota, R. and Whinston, A.B., Addison-Wesley, USA.
<i>Frontier of Electronic Commerce</i>	Kolakota, R. and Whinston, A.B., Addison-Wesley, USA.
<b>1995</b>	
<i>The Whole Internet: User's Guide and Catalog</i>	Krol E., Klopfenstein B. C. and O'Reilly, Wadsworth Pub. Co.
<b>1994</b>	
<i>The Internet Navigator 1994</i>	Glister P., John Wiley & Sons Inc, New York, 2nd edition.
<b>1993</b>	
<i>Electronic Data Interchange: A Management View</i>	Leyland V., Prentice Hall, New York.
<b>1992</b>	
<i>Zen and the Art of the Internet</i>	Kehoe B.P., Prentice Hall.
<b>1991</b>	
<i>Electronic Data Interchange</i>	Kimberly P., McGraw Hill, New York.
<i>The law of electronic commerce: EDI, FAX, and E-mail: technology, proof, and liability</i>	Wright B., Little, Brown, Boston.

**Table 1. Textbooks / references for teaching Electronic Commerce**

The following references also provide lists of Electronic Commerce / Business textbooks:

- Sid Huff 's posting on ISWorld Net (Huff 1998),
- Kevin Zhu's Electronic Commerce Book - Survey of ISWorld list (Zhu 1999),
- Merrill Warkentin's Partial List of Electronic Commerce Books (Warkentin 2000)
- Staehler Patrick's text Books on business and economic aspects of E-Business (Patrick 2000)
- Dale Bent's books on Electronic Commerce (Bent 2001)

From the above book list, *Law of Electronic Commerce: Edi, Fax, and E-Mail: Technology, Proof and Liability* by Benjamin Wright, was published in July 1991 and now is out of print. This may be one of the earliest books relating to Electronic Commerce. We may find that in the early 90's books focused on the topics of EDI, then around mid-90's, 'Electronic Commerce' became popular. Textbooks by Kolakota and Whinston were published in 1996 and were 'hot' at that time. Gray (1999) reviewed various E-Commerce books and recommended that Kolakota and Whinston's Frontiers of Electronic Commerce is a desk reference of technical and business issues. Since then many books related to Electronic Commerce have been published. In 1997-99, many books related to the Internet, digital world, web site development and web page programming appeared. Starting from 1999-2000, 'e-business' has emerged as the title of choice.

Ives (1999) stated that the potential threats of Electronic Commerce textbooks were from free Internet resources (e.g. Roger Clarke's archive). Electronic Commerce textbooks will be replaced by on-line textbooks, on-line learning environments that take on some of the characteristics of a book, a library, a teacher, a test, a case study, self-study exercises, simulations, a videogame, on-line chat and so on. We shall wait and see whether this will materialize.

#### Electronic Commerce Resource Web Sites

The following electronic commerce resource web sites may be useful for academics:

- ISWorld Net's Electronic Commerce Course Page - ISWorld Net is a network to provide information to all Information Systems researchers.  
<http://www.magal.com/iswn/ecourse/>
- Collaborative Electronic Commerce Technology and Research, (COLLECTeR), which is a federation of over 20 universities research centres around the world and driven from Australia.  
<http://www.collector.org/>
- Roger Clarke's Electronic Commerce Web Page  
<http://www.anu.edu.au/people/Roger.Clarke/EC/>
- Western Australian Electronic Commerce Centre  
<http://www.ecommercecentre.online.wa.gov.au/main/index.htm>
- Attorney-General's Department, Security Law and Justice Branch, Australia Government, e-Commerce home page - Australia's legal framework for Electronic Commerce  
<http://www.law.gov.au/publications/ecommerce/>
- AACSB resource site on e-business and e-commerce programs in management education in the United States.  
<http://www.aacsb.edu/e-business/index.html>
- The Society for Electronic Commerce and Rights Management  
<http://www.ecarm.org/links/ecommerce.html>
- The E-Commerce Times is a free online publication, with daily news and feature articles for entrepreneurs and companies doing business on the Internet.  
<http://www.ecommercetimes.com/>
- Network Electronic Commerce and Electronic Markets by @brint.com: The BizTech  
<http://www.brint.com/Elecomm.htm>
- Northern Light Electronic Commerce Special Edition  
<http://special.northernlight.com/ecommerce/>
- Yahoo! Electronic Commerce  
[http://dir.yahoo.com/Business\\_and\\_Economy/Electronic\\_Commerce/](http://dir.yahoo.com/Business_and_Economy/Electronic_Commerce/)
- Elsie Chan's Electronic Commerce Web Site  
<http://www.mis.deakin.edu.au/elsieEC/>

#### Electronic Commerce Journals

- International Journal of Electronic Commerce  
- a refereed quarterly devoted to advancing the understanding and practice of electronic commerce. It serves the needs of researchers as well as practitioners and executives involved in electronic commerce. The Journal aims to offer an integrated view of the field by presenting approaches of multiple disciplines.  
<http://www.gvsu.edu/ssb/ijec/>

- Journal of Electronic Commerce Research  
- an interdisciplinary, refereed management journal dedicated to advance theory, research, and practice in Electronic Commerce.  
<http://www.csulb.edu/web/journals/jecr/>
- Quarterly Electronic Commerce Journal  
- published quarterly, aimed at scholars, scientists and information laypersons.  
<http://www.qjec.org/>
- Electronic Markets  
- a quarterly journal edited at the University of St. Gallen, Switzerland.  
<http://www.electronicmarkets.org/>
- e-Service Journal  
- combines both private sector and public sector perspectives regarding electronic services and thus bridges e-Business and e-Government.  
<http://www.e-sj.org/>
- Journal of Organizational Computing and Electronic Commerce  
- the focus is on electronic commerce, both in the global economy and with and across organizational divisions. Topics include coordination technology, digital libraries, distributed computing, EDI, electronic payment systems, information economics, organizational communications, and software agents.  
<http://www.erlbaum.com/Journals/journals/JOCE/joce.htm>
- Internet Research  
- examines the social, ethical, economic and political implications which arises from mass public access to a wealth of information.  
<http://www.mcb.co.uk/intr.htm>
- Journal of Interactive Marketing  
- seeks original research in interactive marketing.  
<http://www.interscience.wiley.com/jpages/1094-9968/>
- E\*Journal  
- articles on all areas of web based commerce.  
<http://www.ecarm.org/journal/>
- Journal of Internet Banking and Commerce  
- this free online Journal is a way to keep in touch, to share information, and to establish business contacts in the area of electronic commerce and banking on the Internet.  
<http://www.arraydev.com/commerce/jibc/>
- Journal of Internet Purchasing  
- this free online interactive journal is a way to keep in touch, to share information, and to establish business contacts (networking) for worldwide purchasing professionals who specialize in electronic commerce solutions.  
<http://www.arraydev.com/commerce/jip/>

### Special issues on Electronic Commerce

- Journal of Computer-Mediated Communication: Special Issue on Electronic Commerce  
December 1995 Vol. 1, No. 3,  
<http://www.ascusc.org/jcmc/vol1/issue3/vol1no3.html>
- Global Issues Electronic Journal: Electronic Commerce  
October 1997 Vol. 2, No. 4  
<http://www.usinfo.state.gov/journals/itgic/1097/ijge/ijge1097.htm>
- The Australian Journal of Information Systems  
Special Edition 1998 - Electronic Commerce  
<http://www.uow.edu.au/ajis/spec1p1.html>

### **Difficulties Encountered**

Survey respondents suggested in teaching electronic commerce, two major difficulties are encountered:

#### Teaching resources

Teaching Electronic Commerce is very challenging because of the extremely rapid rate of change in both the underlying technology and the business practices. Much teaching is ad hoc, 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 electronic commerce books are published, it does not mean that all of them are suitable for adoption as textbooks.

It is 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, electronic commerce applications / solutions, video-conferencing and simulation. This may be under increasing pressure due to the cutting of universities' funding.

#### Time

In terms of time, there are 3 aspects:

As electronic commerce changes with dramatic speed, academics need to find time to keep up their knowledge. Dr. Lichtenstein, in her response to the survey, replied 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.* Academics need to spend a lot of time maintaining their knowledge.

Some Electronic Commerce subjects involving invitation of guest speakers. Academics spent much time on liaison and administrative work.

The trend is that there are many students taking individual Electronic Commerce subjects. Consequently, tutors have to spend more time on student consultations and administrative work. As the number of students increases, more tutorial groups are formed and even more tutors need to be involved. The administrative time for tutors will thus further increase.

## Future Trends and Conclusion

Since the scope of Electronic Commerce is large, academics have been establishing frameworks for it. Zwass (1996) classified E-Commerce into 3 meta-levels: infrastructure, services and products and structures. Kalakota and Whinston (1996) stated that Electronic Commerce is supported by four infrastructures: network, multimedia content, messaging and common business services. Chan and Swatman (1999) identified three components of Electronic Commerce: legal, services and infrastructure. Recently, according to ISWorld (2001), Electronic Commerce is categorized into 8 areas: general, technology, strategy, marketing, finance, supply chain, security and legal. The trend appears to move E-Commerce into E-business. What is the difference between E-Commerce and E-Business?

Shahla Aly, Vice-President and General Manager of E-business and ERP services and solutions at IBM Canada Ltd., had an explanation:

*E-business is more than e-commerce. E-business includes using online technology not just for selling - e-commerce, in other words - but to change all aspects of the way the business operates. It's using internet technology to enable your basic business processes (Buckler 1999).*

Mesenbourg (1999) defines the terms eCommerce/eBusiness as follows:

*Electronic commerce is any transaction completed over a computer-mediated network that involves the transfer of ownership or rights to use goods or services.*

*Electronic business is any process that a business organization (for-profit, governmental, or non-profit entity) conducts over a computer-mediated network.*

EDI, Electronic Commerce, Digital Market (Economy), Internet (Web) Commerce, E-Business, Mobile Commerce, ... What will be the next trend?

How does Electronic Commerce affect universities? The Bled Electronic Commerce Conference held discussions on this topic over the past few years. Electronic Commerce has a direct impact on education (Jenkins 1996). Scudder et al. (1998) Electronic Commerce affects the life of universities in terms of (i) delivery of teaching and (ii) administrative systems. Hampe (1998) ran a project on web-based procurements in a German university, where a university and a supply office established a B2B Electronic Commerce system. Panel discussions on the impact of Electronic Commerce on universities were held in at the 1999 Bled Electronic Commerce Conference and some web-based training tools were also introduced (Scudder et al. 1999: 130). More than this, electronic Commerce as a form of information technology makes the conventional business model of distance learning industry more efficient (Lang and Zhao 2000). But is this apparent impact long-lasting and what will be like in the future?

The Internet is impacting the globe in 4 waves. Australia, New Zealand, Hong Kong and Singapore are in the second wave (Commonwealth of Australia 1999). In Australia, E-Commerce programs started in 1997. At that time only a few universities, Curtin, Deakin and Monash, offered such programs. By 2000 about 50% of Australian and 37.5% New Zealand universities offer E-Commerce/ E-Business. In Hong Kong, E-Commerce/E-Business programs appeared rapidly over a period of 1-2 years, with 6 out of 8 universities offering such programs in 2000. In Singapore, one out of three universities offer such a program (Swatman and Chan 2001). The e-commerce 'wave' has grown very quickly from an effective starting date of 1996. However, will

this tidal wave be long lasting? In the United States, a question which aroused public debate is whether e-business should form a separate branch of business education or whether it should be part of everything that is taught. Prof. Saloner of Stanford University said, "*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.*" Prof. Katz believes an e-business degree would be irrelevant. "*Why have a degree in e-business? We have never had a degree in the printing press* (Financial Times 2001).

We know that E-Commerce has had a major impact on universities. However, we are interested to know whether there will be any E-Commerce or E-business programs in the future. If not, what will be next in the new millennium?

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## Appendix 1 Survey Form

### PACIS 2000

#### Teaching Electronic Commerce Workshop



The fastest growing, and one of the most rapidly changing, instructional areas in Information Systems is Electronic Commerce. A cursory examination of requests for assistance posted on ISWorld - textbooks used in courses, case studies to recommend, project guidelines to use - shows that academics from around the world are struggling with the demands inherent in teaching this complex area. The purpose of this survey is to share experience on teaching E-Commerce and supervising E-Commerce project in **Asia Pacific Region**. Should you spend a few minutes in filling in this survey form, your inputs will offer invaluable guidance to current or prospective lecturers teaching E-Commerce subjects, and will also create an opportunity for lecturers who are teaching E-Commerce courses to network together. Should you require any further information, please do not hesitate to contact Prof. Paula Swatman, Panel Chair of Teaching E-Commerce Workshop, PACIS2000 or Elsie Chan.

Title:  First Name:  Surname:

E-mail address:

Name of your University:

Name of Department/School/Faculty offering E-Commerce:   
E-Commerce subjects that you teach:

Subject Code 1	Subject Name 1
Subject Code 2 (if any)	Subject Name 2 (if any)
Subject Code 3 (if any)	Subject Name 3 (if any)

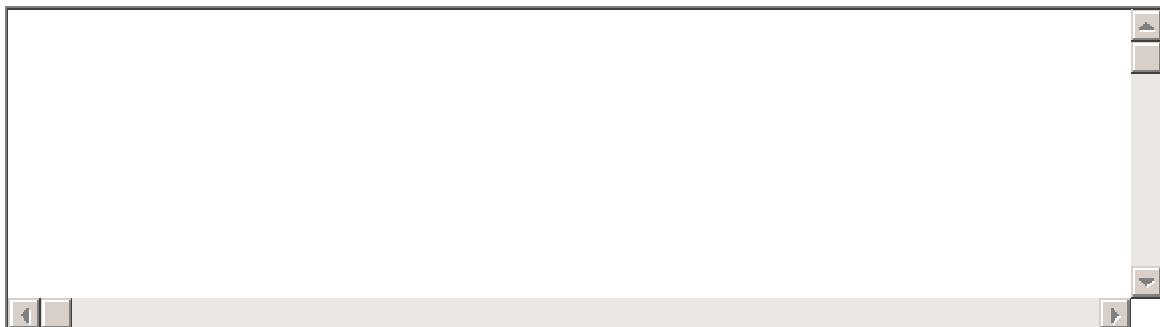
Ways and techniques of delivering lectures and workshop (e.g. case study, inviting guest speaker, group projects)



Reference books used in your teaching:



Experience on teaching E-Commerce or supervising E-Commerce graduates / projects that you want to share with other academics:



Is your university undertaking any E-Commerce research project or running any E-Commerce research centers / groups/ units? If yes, please provide the detail and the URL.

An empty text input field with a light gray border and a vertical scrollbar on the right side. The field is currently empty.

Your inputs will be summarized and reported in the Teaching Electronic Commerce Workshop.

Do you agree to acknowledgement of your name in the workshop?  Yes  No.

Do you agree to our posting your above inputs on the web page after the PACIS2000 conference?

Yes  No.

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**Thank you for your time in completing the questionnaire.  
Your support to the workshop is very much appreciated.**

created on: 5 March 2000