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Master of Electronic Commerce Program: Balancing the Three-legged Stool

by Carolyn Watters, Faculty of Computer Science

*Dalhousie University is home to a number of exciting, innovative programs of study. One such is the **Master of Electronic Commerce**, a collaborative effort of the Faculties of Law, Management, and Computer Science. This is a fine example of a program which incorporates many of the best practices in higher education: students engaging in active learning on authentic tasks, working cooperatively with other students, utilizing a variety of learning methods in situations which call for the higher order thinking skills of synthesis, analysis and evaluation. Carol O'Neil of OIDT's Instructional Media Services edited this issue of FOCUS, in which Carolyn Watters enthusiastically describes the roots and objectives of this new academic discipline and program.*

Andrew Carnegie commented at the turn of the last century that business was like balancing a three-legged stool with management, capital, and labour as the legs. Today we find that success in electronic commerce also requires balancing the three legs of management, technology, and policy. Dalhousie University's Master of Electronic Commerce program aims to educate people with the necessary balancing skills, marrying the educational potential of three founding disciplines.

Electronic commerce is a rapidly expanding field, impacting all areas of business, government, and education. It is a new discipline engaging expertise in technology, security, and information systems at one level; business, marketing, and global economics at another level; and policy, culture, and law at yet another level. Teams of professionals are needed to address the dynamic and multidisciplinary issues of electronic commerce. These developing labour market requirements demand a new orientation; the organization of expertise and existing programs within existing academic disciplines no longer adequately addresses these educational needs.

The impetus for the Master of Electronic Commerce program at Dalhousie University came from membership in an international consortium endorsed by the G-7 and created to develop a framework for education in E-commerce at the global level. Working with consortium members from the USA and Europe, Dalhousie was the first university to produce a program and the only one that has integrated all three components (law, business, and technology) into the core of the new program.

A Multidisciplinary Approach

The Master of Electronic Commerce is a multidisciplinary graduate degree offered by a partnership of the

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Dalhousie Faculties of Law, Management, and Computer Science. It is a unique academic degree that blends coursework, industrial experience, and research to provide a comprehensive overview of the field as a new discipline. Although E-commerce is a discipline with roots in technology, business, and social and economic policy, it is distinct from each of these contributing disciplines. Consequently, participating faculty members are committed to providing a new degree that is different from those offered by their home faculties. In this the Dalhousie program is unique: all other E-commerce programs both in North America and in Europe, including our partners in the consortium, are developed and run from within Business Schools.

Goals of the Project

The primary goal of the project is to develop a new discipline of study, built on, but independent of, the contributing disciplines of business, computer science, and law. Our second goal is to develop instructional expertise in the new discipline. That is, our student population is different, our course material is different, and our delivery is different. The type of learning that is required for success in E-commerce is self-motivated, ongoing, collaborative, and, by necessity, incorporates models and paradigms from a variety of disciplines. The intent is to produce graduates who have the basics to learn rapidly from a variety of sources continually. There is no well-defined domain of knowledge in E-commerce. Students need to be prepared to take responsibility for continuing shifts in paradigms and required areas of expertise.

Graduates of this program should have the skills necessary to evaluate ideas for E-commerce projects based on several criteria, including the value and size of the opportunity, the technical requirements and feasibility, and the associated legal and policy context and ramifications. Drawing on their ability to communicate and work effectively with specialists (software designers, software developers, financial specialists, marketing people, deal makers, and policy makers), graduates provide the glue necessary to manage and drive innovative E-commerce projects.

They are equipped to tackle a range of career opportunities including: evaluation and design of E-commerce systems,

Elements of the E-commerce Program

The E-commerce program focuses on all types of commercial and government activities in the age of computer and electronic networks: business-to-business, business-to-consumer, government-to-citizen, government-to-business, and consumer-to-consumer transactions. Solutions for these require analysis from multiple perspectives by people trained in understanding and integrating a range of methods and approaches. Entrance to the program requires a four-year undergraduate degree from a technical, business, or policy discipline (*e.g.*, computer science, engineering, management, economics, law, public administration, political science).

The two-year program includes:

- First term classes providing an overview of E-Commerce, Business, Law and Policy, and Technology
- Second term classes in which students concentrate on one of three streams: Policy, Business, or Technology
- Independent research project and paper
- Four to six month public or private sector internship

"We want students to see electronic commerce as an emerging discipline in its own right and within the context of collaboration from the supporting disciplines."

evaluation of payment and security systems, business case development for E-commerce ventures, data mining within marketing strategies, structuring E-commerce deals, contributing to E-commerce legislation and reports, and advising business and governments on E-commerce issues.

Instructional Goals

The instructional goals of the faculty involved in this program are to provide a view of E-commerce that emphasizes the role of collaboration across disciplines both by example and experience. Members of the committee collaborate on all aspects of the program, including the development and refinement of the curriculum, evaluation of applications, management of student issues, sharing of cases, and projects that cross between courses. We want students to see electronic commerce as an emerging discipline in its own right and within the context of collaboration from the supporting disciplines.

Student learning is supported at an integral level with technology. All course material is available on line, students make and maintain their own web sites, discussions and email are the norm for communication, all presentations are electronic, and virtually all cases include the development of a web site or related technology in their preparation.

Impact on Student Learning

While they come from a variety of backgrounds, students are readily integrated into the E-Commerce community. The merging of expertise and the fostering of a new culture is one of the benefits most noted by the students.

Working on joint projects with students from the various hosting disciplines raises E-Commerce students' awareness of the value of other points of view and other skill sets. In addition, students quickly develop the appropriate vocabularies to enable direct communication across disciplines.

> *"Having worked this past summer at eResolution, an online dispute resolution provider based in Montreal, I realized how invaluable the knowledge I gained from the program proved to be. Interacting with the technology, business, and legal issues were common on a day-to-day basis."*
> Christian Sebastian (BCom, MBA, MEC 2000)

The program provides students the opportunity to round out their specialized knowledge. Computer Science students are exposed to policy discussions and business models. Political science and business students become familiar with the underlying technology.

> *"I entered the MEC program with a limited set of computer skills. However, the faculty, students, and facility provide an opportunity to acquire the technical skills needed in today's e-business environment."*
> Darryl Braunmiller (BA, BPR, MEC 2000)

Students work in teams and gain from the strengths of others in the group, a positive feature of the e-commerce culture.

> *"For me, other masters programs are very cut-throat. For example, students ripping case studies out of texts. In this program the students help each other and are a lot more collaborative. Students with business skills help those without and so on…"*
> Sulemaan Ahmed (BCom, MEC 2001)

Students benefit from experiencing faculty members collaborating in much the way they themselves will have to collaborate with others in the work force to deploy E-Commerce solutions. For example, several projects have been assigned for credit in two courses at the same time. The faculty members share in defining the project and in reviewing and evaluating the final presentation. Faculty members have also had to learn new vocabularies and share models and teaching methods.

Students engage in learning experiences that muddy class boundaries: case studies, hands-on technology exercises, team-based Business-to-Business cases, Business-to-Community case develop-

ment, and topic exploration with presentations. In all courses, no matter what "stream" it is in, students are expected to consider issues related to the technology, policy, and business related to that topic.

Impact on the Faculty

The faculty members have come to recognize the importance of listening to those in other disciplines. Learning from others' experiences has reduced duplication of effort. Faculty members have grown to appreciate the values that come from the significant differences in discipline cultures and to learn how to take advantage of these differences in a collaborative context. While this was not initially an easy transition, we all agree that it has been exciting and enlightening. Faculty members are increasingly interested in participating in the E-commerce program: we've grown from 5 to 13 faculty since the inception of the project.

Lesson Learned: Keep Talking

As one of the team members involved from the conception of the program, I cannot stress enough the value of keeping the communication channels open. Many gallons of coffee were consumed while we worked our way through the quagmire of three views of academic requirements and expectations. At each impasse we all stepped back and tried another way around. This required a trust that we shared a common goal without hidden agendas and a belief that we could move beyond our own particular discipline orientations.

The commitment to open communication with the students has also contributed to our success. We have a student representative from each year as a member of the executive committee. We have regular coffee hours at the beginning of every term and one administrative assistant to help solve MEC student problems as they come up. All of the faculty involved have learned and grown from our interaction with this super-charged and challenging group of students.

Future Developments

The collaboration of equal partners across faculty boundaries has been fruitful at many levels for students, faculty members, employers, and the university. We now offer an Executive MEC program for senior federal government bureaucrats and a non-credit certificate program in E-Commerce. We plan to expand our offerings as new opportunities and demands arise. For example, this level of formal collaboration could be extended to other areas of interdisciplinary study such as emerging technologies, oil and gas, or environmental impact. We are currently examining modularization of many of the topics for use in daylong seminars or workshops or within a wide range of courses offered on campus.

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