2000

Three Design Principles for eCommerce Curricular Initiatives

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Abstract

University educators, particularly those in schools of business, face a dilemma in adapting their curriculum to e-commerce. Some schools have created new degree programs while others have opted to infuse existing courses with e-Commerce topics. Given the strong demand for e-Commerce education among students and industry, balancing speed with a strong end state plan is necessary for effective curricular change. This essay overviews the main issues in steering these changes.

Introduction

If you were to tour one of Ford's manufacturing facilities, it is unlikely that any executive would boast that she has an "electric" factory complete with lights, electric motors, and electric production machines. It is assumed and self-evident that Ford makes use of electricity and would pass without mention.

Thus is the dilemma for developing an e-Commerce (or e-Business) curriculum in schools of business. Reasonable minds can agree that the pervasiveness of digital networks and the favorable economics of using them for commerce are unstoppable. As early as 2003 or as late as 2010 they will be metaphorically the "electricity" described in the prior example. The absence of modern degree programs in "Electric Manufacturing" gives us a signal regarding the likely end state of e-business evolution.

The objective of this essay is to overview some of the main issues in designing and executing an e-business curricular revision within schools of business. I argue that three principles should guide the infusion of "e" into the business curriculum:

1. Design for the end state

2. Design for speed

3. Design for an evergreen evolution over time

While these principles seem rather simple, executing them in the political systems that comprise curricular revision is not. In the sections that follow, I will examine the operationalization of each principle and some of the challenges that it may evoke.

Design for the End State

If we can agree that e-Business becomes just "business as usual" with the "e" going away in the not-to-distant future, then any present day curricular change should focus on an end state for the initiative. Degree programs, majors, and even courses take time and attention to establish. Thus, it would be short-sighted to create these for present-day situations without looking to how they should be positioned 3-5 years later.

Designing for an end state also requires us to examine if e-Business is an area of study, such as the academic discipline of Marketing, or is it more of a process such as Business Process Reengineering? A school's answer to this question may reveal much regarding its assumptions for the future. If e-Business is viewed as an area of study or as an extension of one or more disciplines, then it may evoke unproductive issues of ownership among existing disciplines and turf battles that will not serve students.

The evidence from practice is clear that e-Business -- more or less-- involves all areas of a business school with Marketing, Operations, Management, and Information Systems being among the most visibly affected areas. Thus, I contend that the *end state for any e-Business initiative must be interdisciplinary and process-oriented.* Schools err when they allow or condone the colonization by one discipline or the balkanization of e-Business by many disciplines.

An interdisciplinary approach can be operationalized in many ways, but stringing together individual, disciplinary courses or lectures is unlikely to be effective. Integration must be intentionally designed to happen *within* a course at the class event level (e.g., lecture, topic, project, assignment) or in a designed set of courses. It can also be reasonably argued that an interdisciplinary e-Business curriculum should branch beyond schools of business to incorporate Computer Science and Social Informatics, but that is beyond the scope of this essay.

End State Challenges

The obvious question, then, is why create an e-Business initiative at all? If the end state is interdisciplinary, then why not just infuse e-Business concepts into existing courses (*New York Times*, 2000)?

I believe that such an approach is entirely consistent with the first design principle for a strong end state, but it poses serious operational challenges to the second and third principles (see below).

A second challenge to a process-oriented, integrative end state is differing priorities and preparedness among faculty in various disciplines. For example, if Marketing or IS takes the lead in developing early e-Business courses, then faculty in other disciplines may not be ready to engage in a process-oriented approach in a timely manner.

A third challenge is intransigence in the functional designs of majors and curriculum at many schools of business. *Effective* interdisciplinary curricular integration is still more the exception than the norm as reward systems provide little incentive for the difficult work of coordinating and integrating. This is, however, more of an excuse than a real limitation as faculty have the ability to bring changes to these structures.

Design for Speed

The landscape of e-Business is changing rapidly, and a curriculum's relevancy is dependent upon engaging the speed imperative. A parade of emerging technologies are creating new economic opportunities that lead to many evolving business practices. Curriculum that discusses last year's e-business technologies or practice will not succeed with savvy students who are acutely aware of many new developments – often before faculty. A breadth of perspective is required to integrate and create enduring meaning through e-Business courses or curriculum.

Therefore, it is essential that e-Business initiatives be designed for speed in evolution and integration. One approach is to make extensive use of cameo experts in course designs. These may be faculty from within or outside of the school or industry speakers. Requiring student subscriptions to periodicals such as *Business 2.0, Wired, or Red Herring* can help bring timely topics to compliment more traditional readings. On-line sources and daily e-mail summaries such as http://www.internetwk.com can also enhance the speed of topic recognition and currency of the course.

Challenges to Designing for Speed

Those who choose not to create specific e-Business initiatives face several daunting challenges. First, they must find ways to engage the speed imperative among many disparate courses. This task may prove difficult when faculty are primarily rewarded for other behaviors.

Second, there can be little coordination and cohesive governance among how e-Business topics are covered in multiple courses. Many faculty teach in ignorance of the topics covered by faculty in other disciplines. This approach leaves the topical integration work to the students who may be ill-equipped to turn the scattered topics into a cohesive whole.

Design for Evergreen Evolution Over Time

The third design principle advocates an *evergreen* approach to curricular evolution. Similar to the trees that adapt to a range of climates and stay green all year, the governance of e-Business curriculum must enable adaptation towards the end of "e".

The evergreen principle involves two issues. First, it must provide for on-going changes to the topics, courses, and requirements for an e-Business major. Creation of new courses, dropping of old ones, and rearranging of topics among courses are essential for adaptation. A small faculty group (or champion) along with industry guidance may provide this role in evolving the curriculum.

The second issue is careful repositioning of the major itself as the "e" becomes pervasive and invisible. Already, we can see new issues emerging regarding mobile commerce to handheld devices and the rise of broadband services. Given the certainty of more new technologies, new business practices – especially in supply chain, and evolving consumer/business behavior in using them, a process-oriented major should be able to morph to maintain focus on these cutting edge business trends.

Challenges to an Evergreen Design

e-Business initiatives will become rather dated if they are not kept current. I have strong confidence in market pressures to help constructively steer these design evolutions. Faculty time is the single largest constraint to proactive evolution. Institutions will have to recognize that the time required to keep e-Business initiatives current and market relevant must be recognized in annual review processes or it will not happen at the levels required. The undesirable alternative scenario is one of reactive change when an industry advisory board or students make clear that changes are required.

Principles in Action: An e-Business Major

Since 1995, I have introduced four variations of e-Business courses at three universities (University of Maryland, Indiana University, Helsinki School of Economics) along with two new e-Business MBA majors. Through these experiences I can attest that the three principles present significant challenges to developing sustainable e-Business curriculum.

During the 1999-2000 academic year, an interdisciplinary group of faculty at the IU Kelley School

observed that it was time to bring more coherence to the scattered e-Business MBA course offerings. Marketing, Operations, and IS were developing new courses that were needed and appropriate to their respective majors and disciplines. MBA students were starting to create their own e-Business majors by using a Design Major option that gives them flexibility in selecting courses for a major. There were growing inquiries from prospective MBA student applicants.

IS had been teaching a 2nd year, 1.5 credit, eight-week e-Business course that was a broad survey of the area (the first year curriculum is taught as 2, 15 credit integrated courses). There were very real constraints such that many new courses could not be created nor staffed to serve a new major. Thus, we would need to make use of some existing courses that were being infused with e-Business topics.

We discussed the various approaches to bringing e-Business topics into the curriculum and considered all three design principles while making our choices. The final design for the 12 credit hour MBA e-Business major balances coherence and speed in a new three credit "e-Business Core" course with specialty tracks managed by the disciplines. It is the first interdisciplinary new major for the school.

The *e-Business Core* course is the place for integrating material and relieving other courses of teaching e-Business basics. It is being taught and coordinated by the IS faculty with cameo topical lectures by other faculty experts in the school. The single faculty member point of coordination helps to facilitate speed in adapting the course as e-Business evolves.

Five, six hour specialty tracks include Consulting, e-Marketing, IT Infrastructure, New Business Development, and Supply chain. These six hours are designated by the disciplines. This gives each discipline flexibility to quickly innovate and to develop new courses as relevant topics emerge. Other disciplines can add six hour tracks as they choose to do so, and the track model makes possible the creation of process-oriented tracks that draw on courses across disciplines (e.g., valuing e-Business initiatives using courses from Accounting and Finance).

Finally, students choose three credits of elective courses from an approved course list. The list will evolve each year as new courses become more infused with e-Business topics.

During the planning process, the Career Services Director said that while most recruiters would indeed value e-Business skills, few were recruiting specifically for e-Business majors at this time. The design of the MBA's second year facilitates many students choosing to double major. Thus, we expect there will be a large number of Marketing and e-Business or Finance and e-Business majors. We did impose a constraint that a Marketing major cannot take the e-Marketing track in the e-Business major. This was imposed to help ensure some degree of breadth in the MBA education.

Conclusions

No school of business can ignore the impacts of pervasive digital networks on the conduct of commerce and on organizations themselves. It is tempting to quickly devise e-Business initiatives in response to student, industry, or faculty demands, but such hasty designs have little chance of turning the sweat equity and other real financial investments into sustainable courses, majors, and degrees.

This essay has offered three design principles for succeeding in these endeavors along with one example of their use. Only time will tell which curricular revision approaches will prove the most enduring, but it is clear even now that the infusion of "e" into the curriculum is an imperative for success.

References

New York Times