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Abstract:

It is well known that student enrollment, and quite likely interest, has fallen in many IS/IT related courses in recent years, by our count as much as 75 percent. This downward trend has become a frequent topic of conversation among IS academics at conferences and on discussion lists such as ISWorld. However, there is a small but growing number of IS educators who are reexamining what it means to study information systems. The purpose of this panel, presented at the 2007 International Conference on Information Systems (ICIS), was to present and discuss diverse and innovative approaches to IS/IT teaching and course development.

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I. BACKGROUND¹

This paper summarizes and expands upon the panel presentation at the 2007 International Conference on Information Systems (ICIS) entitled "Reversing the Downward Trend: Innovative Approaches to IS/IT Course Development and Delivery." The panel was co-chaired by Chris Street of the University of Manitoba and Mike Wade of York University. The panelists were Niels Bjørn-Andersen of the Copenhagen Business School, Blake Ives of the University of Houston, John Venable of Curtin University of Technology, and Mike Zack of Northeastern University.

Student enrollment in MIS programs and individual courses could be considered a fundamental statistic in assessing the relevance and interest of the MIS discipline as judged by one of our important stakeholders. By our count, this statistic suggests troubled times; enrollment has fallen in recent years by as much as 75 percent. This downward trend has become a frequent topic of conversation among IS academics at conferences and on discussion lists such as ISWorld. However, there is a small but growing number of IS educators who are reexamining what it means to study information systems. The purpose of this panel was to present and discuss diverse and innovative approaches to IS/IT teaching and course development. In this paper, we outline the case made during the panel for more innovative approaches to IS/IT teaching and curriculum development, present a framework to categorize different areas where innovation is required, and offer some inventive approaches and ideas that have proven to be effective in different institutional contexts.

II. THE CASE FOR MORE INNOVATION

It is a common assumption that student enrollment, and quite likely interest, has fallen in many IS/IT related courses in recent years [George, Valacich, and Valor 2005; Looney and Akbulut 2007; Ives, Valacich, Watson, and Zmud 2002; Vegso 2005]. However, the evidence provided to date to support this assumption has largely been anecdotal. We could find no instances in the literature where a sample of enrollment counts had been collected, analyzed, and presented. Thus, in preparation for the panel, we embarked on a process to collect IS/IT course enrollment data from multiple universities.

Data was collected from two sources: responses to ISWorld postings asking for enrollment data, and the 2006 AIS Annual IS/IT Program Survey. Due to the voluntary and unsystematic nature of the sampling procedure, this data cannot be considered representative of the full population of IS/IT programs, and thus any inferences from the data presented in this paper should be regarded with caution. However, to the best of our knowledge, this is the most comprehensive dataset of IS/IT enrollment changes to date. The final dataset included enrollment data from 36 universities. Enrollment figures were collected from 2000 to 2006, although data for all years were not collected from all schools. Table 1 presents the combined data from the ISWorld queries and from the 2006 AIS Program Survey².

The dataset shows a precipitous drop in IS/IT course enrollment between 2000 and 2006. After a relatively modest increase of 7.8 percent from 2000 to 2001, the data show average year-over-year percentage declines ranging from 25.2 percent to 37.2 percent between 2001 and 2006. The cumulative decline in enrollment between 2001 and 2006 totaled 151 percent when measured by year-over-year differences. Since this result is heavily influenced by the ISWorld data, we conducted a similar analysis using the AIS Program Survey data only, and the corresponding figure was 148.9 percent. Figure 1 illustrates this decline. Overall, the data suggest that for every five students enrolling in the average IS/IT program in 2000-2001, only two students were enrolling by 2006.

These data show a clear and dramatic decline in IS/IT course enrollment over the six years between 2000 and 2006. Part of this trend can be attributed to changing market conditions and other exogenous events, such as the dot.com crash. However, in our view, at least part of the problem is internal. Students (and by extension university administrators) are questioning the value of what is delivered in our classrooms.

¹ The authors would like to thank the audience members from the ICIS 2007 conference panel who participated in the debate and described their own experiences with curriculum innovations. We would also like to thank Mary Brabston, University of Manitoba, for her assistance in reviewing earlier drafts of this manuscript.

² Data were not available from this source for the years 2002 to 2005

Table 1. IS/IT Course Enrollment Data from ISWorld Queries (2006) and from AIS Annual IS/IT Program Survey (2000, 2001, 2006)

School	2000	2001	2002	2003	2004	2005	2006	2001-2005	2000-2006
IS-W-1				200	166 (-0.205)	133 (-0.248)	100 (-0.330)		
IS-W-2				113	92 (-0.228)	71 (-0.296)	50 (-0.420)		
IS-W-3	350	300 (-0.167)	240 (-0.250)	180 (-0.333)	125 (-0.440)	70 (-0.786)		-3.286	
IS-W-4			771	547 (-0.410)	415 (-0.318)	390 (-0.064)			
IS-W-5	490	480 (-0.021)	390 (-0.231)	250 (-0.560)	190 (-0.316)				
IS-W-6			255	261 (0.023)	149 (-0.752)	105 (-0.419)			
IS-W-7				300	250 (-0.200)	200 (-0.250)	150 (-0.333)		
IS-W-8				90	77 (-0.169)	63 (-0.222)	50 (-0.260)		
IS-W-9	560	450 (-0.244)	300 (-0.500)	220 (-0.364)	185 (-0.189)	175 (-0.057)		-1.571	
IS-W-10			600	400 (-0.500)	300 (-0.333)	250 (-0.200)			
IS-W-11			812	584 (-0.390)	377 (-0.549)	260 (-0.450)			
IS-W-12	120	110 (-0.091)	75 (-0.467)	50 (-0.500)	50 (0.000)	40 (-0.250)		-1.750	
IS-W-13	415	377 (-0.101)	355 (-0.062)	300 (-0.183)	237 (-0.266)	167 (-0.419)		-1.257	
IS-W-14				74	54 (-0.370)	28 (-0.929)	27 (-0.037)		
IS-W-15			107	79 (-0.354)	69 (-0.145)	47 (-0.468)			
IS-W-16	810	1130 (0.283)	1128 (-0.002)	853 (-0.322)	831 (-0.026)	570 (-0.458)		-0.982	
IS-W-17				440	355 (-0.239)	270 (-0.315)	180 (-0.500)		
IS-W-18			158	98 (-0.612)	62 (-0.581)	70 (0.114)			
IS-W-19				210	175 (-0.200)	140 (-0.250)	105 (-0.333)		
IS-W-20		75	60 (-0.250)	45 (-0.333)	25 (-0.800)				
AIS-1	200	200 (0.000)					150		-0.333
AIS-2	630	630 (0.000)					350		-0.800
AIS-3	500	500 (0.000)					127		-2.937
AIS-4	180	588 (0.694)					181		0.006
AIS-5	100	110 (0.091)					45		-1.222
AIS-6	154	160 (0.038)					41		-2.756
AIS-7	495	490 (-0.010)					113		-3.381
AIS-8	220	220 (0.000)							
AIS-9	600	600 (0.000)					630		0.048
AIS-10	24	72 (0.667)					14		-0.714
AIS-11	120	157 (0.236)					93		-0.290
AIS-12	490	405 (-0.210)					265		-0.849
AIS-13	500	425 (-0.176)					160		-2.125
AIS-14	150	160 (0.063)					100		-0.500
AIS-15	350	420 (0.167)					85		-3.118
AIS-16	50	100 (0.500)					350		0.857
Average % Δ (y-y)	--	0.078	-0.252	-0.372	-0.316	-0.331	-0.316	-1.769	-1.208
n	22	22	7	13	20	18	7	5	15

IS-W-x = school enrollment data originating from IS World
 AIS -x = school enrollment data originating from AIS Program Survey

xx(yy) – xx represents reported IS/IT course enrollment; (yy) represents % change, year over year



Undergraduate MIS enrollment

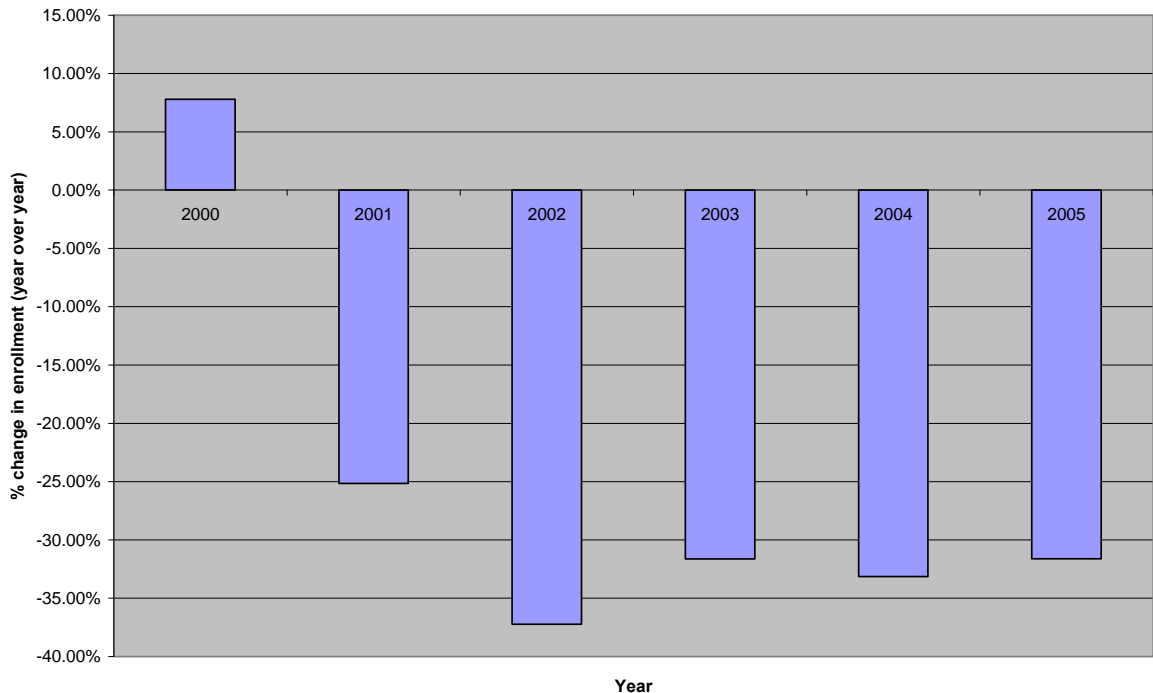


Figure 1. Percentage Changes in Undergraduate MIS Enrollment 2000-2006

We argue in this paper that innovation is required to reverse the downward trend. A small but growing number of IS educators are reexamining what it means to study information systems. Instead of falling enrollment, they have witnessed increased interest in their courses from students, administrators, and employers. The purpose of this paper is to present and discuss diverse and innovative approaches to IS/IT teaching and course development.

III. FRAMEWORK TO CATEGORIZE IS/IT COURSE DEVELOPMENT AND DELIVERY

A good deal of attention in the literature has been paid to the development of appropriate content to cover in IS/IT courses [e.g., Gorgone, et al. 2002]. However, this is just one area where innovation is necessary. We developed a framework that categorizes several different areas of potential innovation in IS/IT course development and delivery (see Figure 2). The framework depicts a cyclical process that passes through four stages: content, structure, delivery, and marketing. Each stage is linked to a critical question that must be answered effectively in order for innovation to occur.

The first stage, content, is associated with the question: What do you cover? The nature of the material that is covered in IS/IT courses has changed a great deal over the years. Panelist Michael Zack of Northeastern University was invited to address innovation in this area by describing an approach that emphasizes course content about information management (e.g., how can organizations capitalize on, or benefit from, technology?) rather than information technology (e.g., how is the Internet structured, and how does it work?) in the core undergraduate IS course at Northeastern University in Boston.

Innovation can also occur in the way that the topics are arranged and organized, thus leading to the second question: How do you structure or organize the content? Clearly, it is important to structure IS/IT content in a way that promotes learning and at the same time appeals to a wide variety of students in potentially different programs. Panelist John Venable of Curtin University of Technology was invited to speak about different approaches to developing a problem-solving orientation, where the focus was on how information systems could be applied to organizational problems or business opportunities.

The third stage is delivery. This stage is concerned with the question: How do you deliver the content? There has been a huge amount of innovation around how course material can be delivered. Panelist Blake Ives of the University of Houston was invited to outline his pioneering efforts to incorporate new technologies into the classroom, such as social networking communities, blogs, wikis, and virtual worlds.

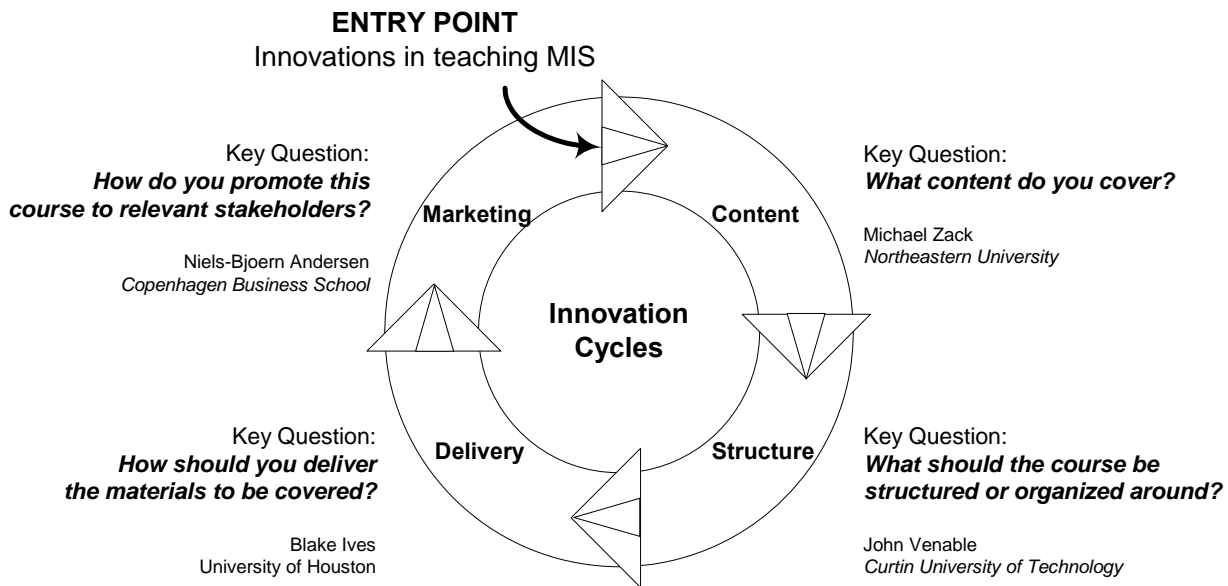


Figure 2. Areas of Innovations in IS/IT Course Development and Delivery

Finally, there is innovation in the way that IS/IT courses are marketed to students, employers, and administrators. Marketing is related to the question: How do you promote the course to relevant stakeholders? Panelist Niels Bjørn-Andersen of the Copenhagen Business School was invited to describe his experience with hands-on collaborative approaches to working with students and industry partners in order to demonstrate the value of IS/IT undergraduate courses.

The marketing phase leads to insights about the preferences of different stakeholder groups, which in turn influences course content decisions. Thus, a feedback loop is formed in the innovation cycle.

IV. PANEL PRESENTATIONS

Chris Street began the panel by presenting the enrollment data and explaining the importance and practical significance of falling IS/IT course enrollments. The trends of consistent year-over-year declines and overall changes between 2000 and 2006 were identified. The panelists were introduced, and Street explained that each panelist would follow the structure of the organizing framework in Figure 1.

Street then introduced the panel co-chair, Mike Wade from York University. Wade distributed question and answer sheets to the audience prior to the panel and, during the panelists' presentations, reviewed and prepared audience queries for the discussion session to follow. The first panelist, Mike Zack, began his presentation after Wade briefly explained how the question and answer session would operate.

Mike Zack, Northeastern University. Zack discussed a comprehensive program redesign that reoriented the IT course towards information management rather than information technology. This program also disseminated information about IS career opportunities via several methods and actively marketed IS through various channels.

First, Zack explained that the pedagogical approach taken by the MIS faculty at Northeastern when teaching the core undergraduate IT management course was to focus on the "information" rather than the "technology." This approach started with the question "what information do I need to have in order to manage and make good business decisions?" To a marketing student, this might translate into asking "what information do I need to sell 'stuff'?" To a finance student, this might translate into asking "what information do I need to better understand our firm's financial strength?" The follow-on question was always the same: "Where do I get that information and what do I do with it?" The most important characteristic of this approach was that the technology faded to the background — still a key element of the course but not its central focus.

Zack then provided some background information on how this shift in content was taught at Northeastern. An active learning approach was seen as critical when the new course was being developed about six years ago. Lectures were minimized and mini-case analysis, role playing, and discussions were emphasized. Most importantly, the best/most senior faculty were recruited to teach the introductory courses in order to drive demand for electives.

Zack concluded by explaining how he and his colleagues actively and vigorously recruited new IS majors through the introductory course. Familiar practices such as getting faculty involved in extra-curricular activities (e.g., open houses, clubs) occurred, but at the same time the most interested students were identified and actively pursued. Every faculty member aimed to sign up at least two majors from each of the 20 sections of the introductory class offered per year.

John Venable, Curtin University of Technology. Venable described a complete redesign of Curtin's undergraduate IS program. This redesign included a pedagogical focus on "problem analysis." A key driver of the redesign was the understanding that seeing positive results from curriculum changes would take several years to become apparent. In the shorter term, these changes needed to be matched with actions that would show faster results. Curtin also looked at promoting the introductory IT course and making it more flexible as a way of improving enrollment and making the program more attractive to potential students.

Venable described two main approaches to how they structured their IS program. First, they enthusiastically organized their courses around practical problem-solving in a real world context and focused on teaching problem analysis. Techniques such as cognitive maps, business cases, and observation/interview skills were taught. The content deemphasized theory and instead provided coverage of practical approaches with "tons of practice."

Second, Venable explained how the IS courses were organized differently depending on whether a student was pursuing an IS major or was taking IS within a double major. All students took the same core introductory Business Information Systems (BIS) course, but from there the programs split into the "BIS Major" for double majors and the "BIT (Business Information Technology) Major" for pure IS majors. BIS majors took courses that had a managerial and IS strategy emphasis (which was consistent with the "information management" focus at Northeastern). These students took no actual programming courses and instead developed spreadsheet and database capabilities only. BIT Majors took a more technical series of courses that covered programming, implementation and project management, and system modeling. In addition, the BIT majors had the option to pursue internships outside of the school where they had opportunities to engage in "live" IS projects. BIS majors had no live project option.

Venable closed his presentation by noting that Curtin actively marketed the revised IS/IT program structure outside the university. Curtin faculty went to high schools to push their programs and directly addressed the key issue of potential IT careers to clear away potential misconceptions. Perhaps most innovative, Curtin backed this recruiting drive by allowing final year high school students to enroll in a special version of their core undergraduate course (BIS100) — for free. Students who completed the course were then exempt from taking BIS100 if they went on to register at Curtin. Currently, they have more than 80 high school students from more than 10 schools hoping to enroll in the first cycle of this program for 2008.

Blake Ives, University of Houston. Ives is a pioneer in the use of information technologies to enhance learning. He focused his presentation on describing the use of Internet-related technologies (Web 2.0 tools) to support classroom activities, such as blogs, wikis, and delivering a class on Second Life.

Ives opened his presentation by providing an overview of the advanced technologies — blogs, wiki's, crowd-sourcing, YouTube, virtual worlds, and social networking sites — that can be used in the classroom and described how they worked. Ives emphasized technologies that had been introduced in the last two to three years. Ives' provocative message was that "traditional" approaches to the delivery of classroom material, such as computer labs, online classes, online self-paced learning, and various hybrid approaches, were outdated and not consistent with the mindset of the average undergraduate student. Instead, Ives offered suggestions on how to introduce Web 2.0 into the classroom.

Ives described various resources in Second Life, showing the teaching infrastructure he used for conducting classes in the virtual world. An IT World theatre classroom was shown, as was a classroom developed for Baylor University. The digital analogues for many of the familiar physical settings for delivering a class, such as classrooms, breakout rooms for team work or group projects, and the inclusion of special guests, were also briefly reviewed.

Ives began summarizing his presentation of new ways to deliver course content by discussing the Web 2.0 communication and content tools of wikis, content sharing sites such as YouTube, and blogs. He described how these tools could be used to put students out into the real world even while they were still within the confines of the classroom and campus. Having students develop and contribute to a publicly available class or topic wiki or blog provides an interactive mode of participation and sharing ideas that extended far beyond the traditional classroom or online course system. Ives closed his presentation by reiterating the critical point that the content delivered in IS/IT courses needs to be accessible to the way that undergraduate-age students think about IT; namely it should be interactive, connected, combined, and current.

Niels Bjørn-Andersen, Copenhagen Business School. Bjørn-Andersen presented the view that the problem with falling enrollments could largely be explained by the failure to “sell” the content to students. He described an approach taken by the CBS to market IS courses to students, as well as IS students to employers, resulting in higher enrollments and reduced student drop out.

Bjørn-Andersen initiated his discussion by explaining how the meaning of the “MIS” term has changed considerably in style and substance since its beginnings several decades ago. Early on, MIS was typically associated with accounting systems and the provision of managerial and financial accounting information for organizational managers to base decisions on. Many business schools logically placed MIS programs within Accounting or Finance departments. Courses and programs reflected this placement. In 2007, however, the meaning of MIS has broadened significantly. While it is still valid to say that MIS could be associated with accounting and finance information, it is also valid to say that MIS could be associated with all the other organizational functions and that, in some cases such as banking or Internet companies, MIS *is* the business. From the viewpoint of marketing the discipline, one of the first difficulties is that there is no longer a common understanding of what MIS means, and with that, perhaps, the value has become unclear as well.

Bjørn-Andersen described several of the initiatives that Copenhagen Business School has developed to update and clarify the meaning of MIS in order to better market the value of the program to students. New brochure material has been developed, termed “Go cards” at CBS. Easily accessible digital information kits are available on CD-ROM for high-school graduates. Bjørn-Andersen also explained how CBS works to build strong ties to the business community in order to understand more about what is expected from their students. Undergraduate bachelor’s students are involved in real-world projects in industry, and the school engages in their own CIO-survey. Effectively marketing the MIS program requires an understanding of not only how the term MIS has changed and how these changes (or lack of changes) in perception can make the discipline look unattractive, but it also requires understanding what the current business community requires for MIS graduates.

V. SUMMARY

The ICIS 2007 panel on innovative approaches to IS/IT course development and delivery provided a rich and interactive forum to discuss the troubling issue of falling IS student enrollment. A nonscientific sampling of 36 universities showed a rapid and precipitous decline in course enrollments between 2000 and 2006. We have argued that this decline can be reduced or even reversed if we are willing to innovate in the ways we prepare for and teach our courses. Four panelists discussed different innovations that have resulted in increased student enrollment in universities on three continents.

The panelists each focused primarily on a particular area of innovation. These areas were content innovation (Mike Zack), structural innovation (John Venable), delivery innovation (Blake Ives), and marketing innovation (Niels Bjørn-Andersen). However, the panelists also spoke of approaches across the innovation cycle described in Figure 1. They maintained, in fact, that it was necessary to innovate on many fronts simultaneously in order to successfully attract and retain students. Table 2 provides a summary of examples of innovation from all the panelists, as well as from members of the audience, organized by the categorization scheme proposed in Figure 1.

Examples of Course Content Innovation

The panelists were consistent in calling for a focus on information rather than technology. The trend from technology-intensive pedagogy to information-intensive pedagogy is not a new one. Indeed, most IS textbooks now separate technology material from organization material, and many courses are becoming less technical and more organizational in focus. However, the panelists called for a more meaningful consideration of the needs of a broader set of organizational stakeholders. They argued that we must directly address the problems and issues likely to be faced by the majority of students in their future careers, such as marketers, accountants, financial analysts, general managers, and the like. Our focus is still too firmly rooted in exploring the issues faced by IS managers.

Members of the audience emphasized the importance of the connection between course content and practitioner needs. They argued that courses were more likely to be favorably received by students if the content was relevant to current industry needs. We all try to keep up to date with the changing face of organizational information systems, but this is not always easy. The panelists had some suggestions on how to manage this omnipresent issue. They suggested that professors maintain close ties to industry and draw on those ties as necessary to enhance the classroom experience. This can be accomplished in various ways. One panelist suggested that the use of recent graduates as guest speakers was very effective with undergraduate students as they could directly relate to the speakers’ point of reference. All four of the panelists maintained that contact with industry partners through real-world assignments was an effective way to enliven the content in the minds of students.

Table 2. Summary of Teaching Innovations

Stage of Innovation	Examples of innovation
Content	<ul style="list-style-type: none">• Take a pedagogical approach that focuses on 'information' rather than 'technology'• Extend content coverage beyond traditional IT concepts to include the needs of broader organizational stakeholders, like marketing, finance, accounting, etc.
Structure	<ul style="list-style-type: none">• Use recent graduates as guest speakers• Maximize contact with industry partners• Use assignments that create living resources, i.e. wikis, blogs, Google Earth enhancements, etc.• Pursue a problem analysis / problem solving orientation.• Make use of live projects in organization• Use minimum theory and maximum practice• Minimize lectures and maximize cases, discussions, and debates.• Use the best/most senior faculty for the intro course in order to drive demand for electives and entice majors
Delivery	<ul style="list-style-type: none">• Use technologies that resonate with the target audience• Use technologies that maximize interaction, collaboration and communication• Draw on social networking tools for post class continual learning• Go to high schools to push programs, directly address IT career issue and clear away misconceptions
Marketing	<ul style="list-style-type: none">• Try to sign up 2 majors from each intro class• Find out from potential employers exactly what they need from MIS graduates• Prepare brochures for potential employers

Examples of Course Structure Innovation

A common theme among the panelists was the development of a problem-solving orientation within the classroom. It was argued that students do not react well to being spoon-fed information, even if it is relevant and interesting. Rather, if it is presented in the form of a solution to a widely recognized problem, then students can more easily appreciate the content's value. The panelists provided a number of examples of organizational problems that information systems could be used to solve, if applied correctly. Thus, identification of relevant problems and the correct and appropriate application of information systems to solve those problems is a useful approach to enhance and motivate student learning.

The panelists were also consistent in suggesting that courses should be structured as a mix of different pedagogical modes. Theory could be mixed with practice, and lectures could be mixed with cases and discussions. They largely praised the effectiveness of practical approaches to learning at the expense of more theoretical and abstract concepts. All four panelists proposed course structures that mixed different modes of teaching and placed a heavy emphasis on participation, communication, interaction, and practical application.

Examples of Course Delivery Innovation

The panelists were consistent in calling for innovative ways to deliver course content. However, they cautioned against using new and innovative technologies without considering their overall effectiveness. A useful yardstick upon which to measure whether a technology is likely to be an effective medium for course delivery is familiarity. The panelists made the point that we should understand how students view and use technology and employ this understanding to design course delivery mechanisms. As one panelist put it, we need to use technologies that resonate with the target audience. Thus, while some technologies may seem "cool," they are not likely to become useful teaching tools unless the students are able to use them effectively. Web 2.0 tools such as Second Life, blogs, wikis, and the like can be effective for certain applications and less effective for others. We need to take the time to understand the capabilities of our audience before we embark on new methods for course delivery. As a general rule, technologies that foster communication and collaboration tend to be popular and effective.

One panelist and a number of audience members noted that the most senior and/or "best" faculty members should be used to teach the introductory IS/IT course. This perspective runs counter to the thinking at many schools, where junior faculty, adjuncts, or doctoral students are used to teach introductory courses while the better and/or more senior faculty are saved for advanced electives. The panelists made the point that there is no use in having senior

faculty teach elective courses if there are no students to take them. It was their view that the best faculty should be put in front of the most students possible (i.e., in the introductory course) in order to drive student traffic toward IS majors, minors, and electives streams.

Finally, it was suggested that content could be regarded as a living resource that need not end with the course. Discussion lists, blogs, wikis, and other tools can exist well beyond the last day of class. The maintenance of contact with prior students may be time consuming, but it can also provide a great deal of continued learning on both sides. It can also come in useful when a professor needs a guest speaker, case study resource, or a project site.

Examples of Course Marketing Innovation

The panelists, as well as a number of the audience members, agreed that misconceptions about the nature of IS/IT were rampant. These misconceptions exist at a number of levels but are particularly acute among high school students and early year undergraduate students. Proactive and innovative approaches to address these misconceptions are clearly required. The panelists made note of a few strategies that had proven to be effective at their institutions. A common theme of these strategies was to communicate and/or interact with potential students while they were still in high school. Information packages and visits to high schools were mentioned, as were special "pre-university" courses offered to high school students.

Misconceptions also exist in the employer community as to what our graduates can provide them. If the jobs are not there (a common misconception), then students are less likely to take our courses. While we disagree that there are few jobs for IS majors, there could perhaps be more if the employer community were more aware of the skills and knowledge that our graduates are bring to them. One panelist created a brochure that was used as marketing material to advertise the capabilities of IS students to locally based employers.

Finally, it was suggested that if there is a mandatory introductory course, then a quota system could be set up in which a target number of potential majors could be identified. Professors can actively recruit these students to become majors. While this may sound somewhat mercenary, it was pointed out that other areas actively follow this strategy, often very effectively. Extracurricular activities with students can help greatly in this regard.

VI. CONCLUSION

This panel addressed a serious issue being faced by many IS departments: falling student enrollment. It is quite likely that this decline will continue without reinvigoration of new ideas and new approaches. While student enrollments are falling in most places, some institutions are managing to buck the trend. This panel brought together experts from across the world who have drawn on innovative approaches to the development and delivery of IS/IT course material. The panel generated discussion and debate among the panelists, as well as audience members, to create a lively and interactive forum.

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