

Partnering with the Majors: A Process Approach to Increasing IS Enrollment

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ABSTRACT

Information systems (IS) programs have been struggling with declining enrollment since 2001. The IS community has addressed the enrollment crisis by sharing best practices in journals and at conferences. Typically, such practices focus on improving enrollment through either (1) recruitment events or (2) program/curriculum development initiatives. While such efforts have been helpful, additional work is needed to examine this issue in a more systematic fashion within the interdependent process of recruitment, retention and placement. Furthermore, current research has been largely silent on the potential role that current IS majors may have in recruiting new students into the major – students recruiting students. This paper shares the enrollment initiatives that Baylor University has implemented over the past 2.5 years that have addressed both of these issues. First, we report on how we embedded enrollment initiatives within the overall student development process starting with recruiting students into the major, retaining them and then culminating in placement upon graduation. Secondly, we present a novel student-driven approach to enrollment; where current IS majors are at the heart of the effort. Our IS majors work in close collaboration with IS faculty and corporate recruiters to draw students into the major and help them find jobs. The paper shares these initiatives along with best practices and results.

Keywords: Enrollment, Retention, Job Placement, Education, Action Research

1. INTRODUCTION

Since 2001, enrollment in information systems (IS) programs across the nation has plummeted (George, Valacich and Valor, 2005; Granger et al., 2007; Scott et al., 2009; Choudhury, Lopes and Arthur, Forthcoming) and remains low despite positive job market predictions (United_States, 2008-2009; Weiss, 2009). The IS community has responded to news that IS is among the least preferred majors (Lee and Lee, 2006; Colvin, 2007) by investigating why students do not choose IS as a major and implementing initiatives to increase enrollment.

Research identifies many reasons why students do not major in IS such as perceptions about the type of work, opportunity and education (Lee and Lee, 2006; Colvin, 2007; Dick et al., 2007; Walstrom et al., 2008; Scott et al., 2009). Many students lack knowledge about the IS field and perceive that IS professionals sit at a computer all day doing hard, uninteresting, boring and difficult work (Dick et al., 2007; Walstrom et al., 2008; Scott et al., 2009). Students believe that opportunity in the IS field is limited and salaries are depressed because of offshore outsourcing (Dick et al., 2007). In addition, IS programs have historically done an ineffective job marketing the major to students, parents, peers and counselors who have little knowledge of the major

or the expanding career opportunities (Walstrom et al., 2008).

To address these misconceptions, the IS community has started sharing strategies for increasing enrollment (Becker, Hassan and Naumann, 2006; Watson and Keil, 2006; Dick et al., 2007; Scott et al., 2009). The remedies proffered in these discussions generally fall into two categories: (1) improving the recruiting process and (2) improving the IS curriculum.

Numerous ideas have surfaced regarding how to better recruit students into the IS major. These include marketing the major, using the introductory IS class as a venue to attract potential majors and taking early intervention strategies. Most marketing themes focus on building awareness of the opportunities in the IS field and communicating the changing face of the profession (Dick et al., 2007; Granger et al., 2007). Universities have educated advisers and held information sessions for students and parents (Dick et al., 2007; Koch and Kayworth, 2007). Scott et al. (2009) suggest refining promotional material, utilizing new technologies like Second Life to promote the major and highlighting top IS students at promotional events.

Using the introductory course to attract students to the IS major is another popular recruiting tactic (George, Valacich and Valor, 2005; Looney and Akbulut, 2007; Firth, Lawrence and Looney, 2008). This involves using effective

teachers in the introductory course and having these teachers identify and invite high performing students to join the major.

Others take a long-term approach to the IS enrollment challenge by initiating early intervention strategies such as hosting information technology (IT) career camps for high school students (Choudhury, Lopes and Arthur, Forthcoming).

In addition to improving recruiting, IS programs are also revising curriculum. Curriculum improvements focus on the introduction to IS course (George, Valacich and Valor, 2005; Firth, Lawrence and Looney, 2008; Scott et al., 2009) and the courses in the IS major (Street et al., 2008). Firth et al.'s (2008) 12-step program emphasizes moving the introduction to IS class that is required for all business students away from the excel for business course that is taught in many universities. They suggest revamping the course to teach IS by incorporating readings about IS, featuring recent students as guest speakers and exposing students to innovative technologies such as Microsoft Moviemaker.

Several researchers offer suggestions for improving the courses taught to IS majors (Becker, Hassan and Naumann, 2006; Street et al., 2008). These improvements center around content, organization and delivery (Street et al., 2008). Content suggestions include hosting an orientation, hosting social events, bringing in industry speakers, partnering with industry on curriculum changes (Granger et al., 2007) and placing less emphasis on technology and instead focusing on information and business value (Becker, Hassan and Naumann, 2006; Street et al., 2008). Organization suggestions include redesigning courses around practical problem solving and teaching problem analysis. Delivery suggestions include incorporating Web 2.0 tools (i.e., Second Life, wikis and blogs) to support classroom activities (Street et al., 2008).

The IS community has made considerable progress addressing the enrollment problem and anecdotal evidence suggests that IS enrollment is on the upswing. However, few studies offer a comprehensive roadmap detailing actions departments have *actually* taken to increase enrollment. Firth et al. (2008) and Choudhury et al. (Forthcoming) provide two notable exceptions. Firth et al. (2008) detail how the University of Montana increased IS enrollment by bringing about change in the introduction to IS class. Choudhury et al. (Forthcoming) explain the IT careers camp that they host at the University of Cincinnati.

Like these studies, our study provides a roadmap for increasing IS enrollment. Our paper discusses initiatives taken over the last 2.5 years to increase enrollment in the IS major at Baylor University. Our initiatives are unique in that our IS majors play a key role planning and executing the initiatives as well as developing the business relationships necessary to support these efforts. Second, we describe a set of enrollment initiatives that target each phase of a three-legged process: recruitment, retention and placement. We propose that all three components of this process must be addressed to adequately tackle the enrollment problem. We hope that this paper will benefit others striving to increase enrollment in their IS program.

The remainder of the paper is structured as follows. We begin by providing our research method and a background

on our enrollment situation. This is followed by a description of the initiatives that we have undertaken and the results. We conclude with lessons learned.

2. RESEARCH METHOD

The initiatives, results and lessons learned in this paper come from an action research approach (Baskerville and Wood-Harper, 1996). Action research is a form of case-based research (Galliers, 1992), where the researcher is directly involved in the phenomenon being studied. In this research, the authors worked with IS majors and business partners to increase IS enrollment by implementing a variety of initiatives. To track these initiatives and their effects, the first author kept detailed field notes.

The field notes included interviews, surveys, focus group discussions, journals, participant observations and secondary data. During the course of the study we interviewed IS majors, company recruiters and faculty. We conduct annual surveys of the more than 400 pre-business students that attended the IS Summit, our main recruiting event. Since the spring of 2007, we have also held on-going focus group discussions with officers in our student organization, the Association of Information Technology Professionals (AITP). These discussions occur weekly during the spring semester and monthly during the fall semester. The first author and students enrolled in our leadership program over the past two years have maintained journals where they record their impressions regarding the recruiting initiatives on a weekly basis. These field notes also include the first authors' observations at various recruiting events as well as secondary data. Secondary data includes enrollment in IS classes, attendance at recruiting events, job placement rates, average starting salaries and grade point averages of IS majors.

3. BACKGROUND

In the spring of 2007, Baylor University revamped its efforts to increase IS enrollment by partnering with our majors and leveraging the student's relationships with company recruiters to address the problem. At this time, enrollment in our IS program mirrored that of IS programs across the United States. We did not have a critical mass of IS majors to fill classes, due in part, to the dot-com bust in 2001. At this time, we had the second largest number of majors in the university and had strong relationships with recruiters. However, when the dot-com bust occurred, many of our majors could not find employment, recruiters reneged on job offers and campus recruiting nearly came to a halt.

By fall of 2004, the number of IS majors dwindled to the point where there was only about fourteen new students entering the IS program each semester. Subsequent semesters through the spring of 2007 fared no better. In fall of 2004, the department took steps to address the problem. These included updating recruiting materials, attending university-sponsored recruiting events, hosting an IS career night, meeting with high school students, introducing computers into the classroom, conducting brainstorming sessions to develop strategies for attracting students, and finally, revising curriculum in our freshman level IS courses to attract potential IS majors.

Despite these efforts, the enrollment problems persisted. There was a general lack of energy in the major as evidenced by hardly any students visiting the IS booth at majors fairs and poor attendance at AITP meetings. An IT manager from USAA explained the situation, “We showed up at an AITP meeting and there were more people from USAA than students.” Faculty feared that the IS program might be merged with another department in the business school or possibly even eliminated altogether. In response, we revamped our recruiting efforts by placing a faculty member in charge of increasing enrollment and charging that person with soliciting student ideas and building business relationships. Our first effort in this regard was the IS Summit which we hosted in the spring of 2007.

Because of the IS Summit’s success, a renewed sense of pride and team spirit emerged among the faculty and the IS majors. Upon completion of the first Summit, we had a record number of students run for officer positions in AITP. One of the newly elected officers spent his summer writing a consulting report outlining what the department needed to do to further increase enrollment. The initiatives described in the remainder of this paper stemmed from this consulting report and an on-going collaboration between the authors’ and our IS majors.

4. ENROLLMENT INITIATIVES

To tackle the enrollment issue, we adopted a “supply-chain” process metaphor in designing our enrollment initiatives. Use of this metaphor suggested that simple recruitment activities would be but one piece of the equation. In other words, getting students to sign up to become IS majors would not be a long-term, permanent solution to our enrollment woes. In addition to recruiting students into the program, we would also need to focus on their retention once they had joined the major. Retention, we felt, could be addressed through implementing several initiatives designed to increase students’ perceptions of overall program value. Finally, we believed that a third and critical component of enrollment would be placement; getting IS students placed in well-paid, high visibility IS jobs with leading firms. Thus,

from the start, we believed that a well-thought out strategy for tackling the enrollment problem would be one that was connected through every link of the process beginning with recruitment, leading to retention and upon completion of the program, with job placement. Furthermore, we believed that these three areas would be inter-dependent with retention and placement activities in particular influencing subsequent recruitment success. Figure 1 depicts this three-pronged approach to enrollment and serves as a basis for describing specific enrollment initiatives we deployed in the pages that follow.

4.1 Recruiting Initiatives

Our recruiting initiatives target potential IS majors and center around increasing awareness of the opportunities in the IS field. To do this, we host an IS Summit, showcase our majors, award scholarships and invite potential IS majors to meet with faculty and majors one-on-one. While many IS departments have implemented similar initiatives, Kate, a senior IS major and one of our AITP officers, points out that our initiatives are unique in that our IS majors play a big role designing and executing these initiatives.

“One thing about the leadership program that is definitely making me a stronger person is that we are in charge of everything and making it all run smoothly. Dr. Koch is our guide but the work is up to us”.

4.1.1 Hosting the IS Summit: The IS Summit is a recruiting event that our department hosts each spring. The purpose of the IS Summit is to highlight career opportunities in the IS field to pre-business majors. The event consists of a mixer and banquet held in the evening. The mixer provides an opportunity for students, businesses and faculty to network and the banquet follows. The banquet consists of an excellent meal, informative presentations about the IS field and students awards.

We have followed two strategies to get pre-business students to attend the IS Summit. Both of these strategies hinge on the students in our freshman-level Introduction to IS

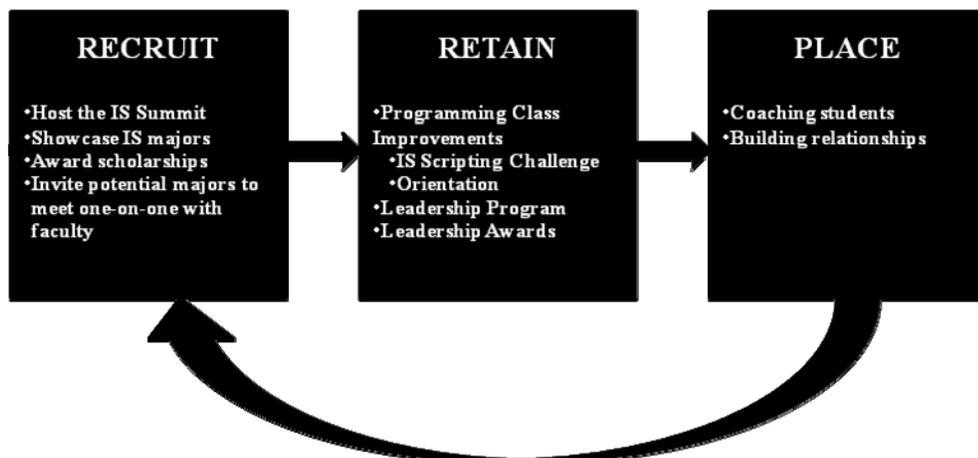


Figure 1. 3-Pronged Approach to IS Enrollment

Class. The first strategy has been to induce students to attend through offering prizes and a social activity. In 2007, the first year of the IS Summit, an IS faculty member and four IS majors spoke in all sections of the class and passed out tickets to the IS Summit. We used the tickets to award door prizes and to track attendance. Students received extra credit for attendance. To further increase attendance, we held a networking challenge and a video game tournament. The IS networking challenge awarded \$1000 in prizes to the three IS majors that invited the most students to the event. This created a forum for our IS majors to talk to pre-business students about the IS major and the event. The video game tournament included a Counter-Strike tournament with prizes (e.g., gift certificates to a local video game establishment).

Building on this initial strategy to garner attendance through “fun and prizes,” we have changed this strategy to include pre-business student participation as a basis for motivating them to attend the IS Summit. For the past two years we have incorporated participation in the IS Summit into the course requirements for the introduction to IS class. To help students better understand the opportunities in the IS field and to give the sponsoring companies a chance to highlight their company as an employer of choice, we host an IS Summit Challenge competition in conjunction with the IS Summit. For the IS Summit Challenge, the pre-business students work in teams to develop presentations marketing the opportunities in IS at a specific sponsoring company that has been assigned to their group. We launch the IS Summit Challenge six weeks before the IS Summit by inviting sponsoring companies to make presentations to each of the introduction to IS class sections. The presentations focus on IS careers at the respective companies. Taking this input, the pre-business students then research the company and rework the presentation. The goal is for them to improve the company’s presentation and create a presentation that highlights the opportunities in the IS field at the respective company to their peers.

We executed the first Summit in March 2007 and have improved the Summit every year since its inception. The Summit offers benefits to the pre-business students, the companies, our IS majors and our department. The pre-business students gain knowledge, build relationships and receive awards. They gain knowledge by hearing business professionals speak in their classroom and at the IS Summit and by developing a marketing presentation highlighting the opportunities in IS. They build relationships by getting to network with business professionals, IS majors and faculty at the Summit. The teams that develop the best IS Summit marketing presentations for each company receive \$1,000. Each year we award \$6,000 in prizes. In addition, the company hosts each of the students for a nice dinner at the Summit. We also award additional smaller prizes such as I-Pods, X-boxes, Best-Buy gift certificates and cash for participating at the Summit.

The benefits to the companies participating in the IS Summit include being perceived as an employer of choice by faculty and existing IS majors and the chance to increase their pool of potential applicants in years to come. As part of the Summit, the companies get to speak in the classroom, have the students do a project for their company, get posters

with their logo displayed in the school, are included on an IS Summit website, are featured in university news articles and are highlighted in career fair listings as an employer of choice. A manager from one of the sponsoring companies sums up the benefits, “I am pleased with how the Summit gave us exposure to students and helped build our brand in the business school.”

Two of the three Summits were planned during a period where IS majors were in high demand and short supply. Prior to October 2008, these companies were competing fiercely with other companies to fill their available IS positions with qualified candidates. The Summit provides these companies an opportunity to differentiate themselves. Participating in the Summit substantially increased the sponsoring companies’ traffic at our three career fairs and the number of candidates applying for positions. During this period of economic decline, many of the companies are revamping their hiring process and planning to hire more through internship programs. The Summit gives them an opportunity to highlight these internship opportunities among younger students.

The IS Summit benefits the IS majors by giving them an opportunity to develop new skills, showcase their skills and build peer relationship with companies. A key differentiator between our IS Summit and recruiting events mentioned in the IS literature is that the IS Summit is led almost entirely by our IS majors. A subset of the majors, who are officers in our student organization, put on the IS Summit under a faculty’s supervision. These student-leaders host the companies in the classroom, develop the website, build the project submission system, plan the meal, design the marketing material, collaborate with companies on the presentation, speak at the Summit, plan the activities, manage the program, manage the crowd and raise sponsorship money. Jonathan, a senior IS major and an AITP officer points out the value of having the IS majors put on the event:

“I think the best part of the Summit for me was just being involved. I think by planning it and having to work to do it makes it seem more interesting and rewarding.”

In the quote below, Jonathan further highlights how managing an event this large and complex with multiple stakeholders gives the students real world experience.

“I think that by working with the Summit I have a new skill set to get things done. I have never had a main role in executing something this big. I know now that I can execute a program for almost 500 people. I think the main thing that went well was the execution of the whole program. I never saw even one error.”

Because the students work in collaboration with the companies on the event, we showcase the quality of our program to the companies. This allows our students to build peer-like relationships with company recruiters. Most of our students accept positions with the sponsoring companies. This has proven invaluable in this period of economic decline. The companies are continuing to recruit at Baylor even though their recruiting demands have declined.

The IS Summit benefits the IS department by increasing the number of majors, improving the quality of our IS program and providing a fundraising tool. Since its inception, enrollment in our IS major has increased by 293%. The Summit improves the quality of our IS program by allowing us to attract better students and providing more opportunities for these students. We collect sponsorships for companies to participate in the IS Summit with amounts ranging between \$2,500 and \$5,000. While raising the sponsorship money was initially difficult it has become easier as companies see the value that they are getting for their sponsorship. The sponsorship funds the IS Summit as well as other recruiting initiatives. One of our core sponsors, donated over \$60,000 because of the value they have seen from this event.

4.1.2 Showcasing our Majors: Another tactic that we use to build our IS enrollment involves showcasing the quality of and opportunities available to our current IS majors. We showcase our majors to high school students, pre-business students, new IS majors and career counselors. Our showcasing efforts involve featuring our majors at university recruiting events, featuring our majors in promotional campaigns and having our majors host information sessions for career counselors.

Our university hosts three recruiting events for high school students and the business school has two annual recruiting events for pre-business majors. Our University's recruiting events include hour-long information sessions for each major that the university offers. In 2008, we revamped our presentations and started having a successful IS major co-present with the faculty. Co-presenting with successful IS students has several positive benefits. First, the parents and high school students can see the product of our program first hand in the experiences and professionalism of the successful IS major. Second, having a rotating IS major put the presentation together keeps it fresh and allows the faculty member to learn what the IS major considers the main selling points of our IS program. Third, the following quote from a spring 2008 student presenter shows that as the IS major develops the presentation, they share it with their friends and family and begin recruiting these people to the IS program. "My sister Hannah is going to come to Baylor and major is IS!"

We showcase our IS majors at business school recruiting events by having them work alongside IS faculty at the two business majors' expos hosted annually and inviting them to speak in the introduction to business class. The business majors' expo is a class requirement for freshman students enrolled in the introduction to business class. The expo gives students the opportunity to talk with faculty from all the majors represented in the business school. The IS department is the only department that staffs the booth with majors and faculty. Having the majors at the booth improves recruiting in several ways. First, the majors bring energy to the booth. They see working the booth as an honor and an opportunity to develop recruiting skills. Second, this generation of students trusts their peers and therefore seems to prefer speaking with the students instead of the faculty and take more stock in the information the students share with them. Third, having the students at the booth gives the faculty

member an opportunity to point to examples of students that have achieved success while enrolled in our IS program.

Our faculty also co-presents with an IS major in the introduction to business class. This class in the largest class in the business school and has around 800 students. The goal of the presentation produced by the IS major is to depict two well rounded IS professionals and to emphasize the opportunities available in the IS field.

We have featured our majors in promotional campaigns. These campaigns include posters, newspaper articles and magazine articles. The posters depict successful IS majors and a major where students are a part of something. The success posters include pictures of current majors that have secured internships or jobs. The inclusiveness posters include pictures of all of our current IS majors at the various functions that the department hosts annually. To ensure that the students take ownership of the posters, we have our majors design the posters. The newspaper and magazine articles highlight key things that our majors are doing. Annually, our majors work with the business school magazine or university newspaper to publish an article about the IS Summit. We keep the business school public relations department informed about what our students are doing so that our students may be featured in one of their stories. Most recently, our students inspired an article on business innovation.

Finally, we showcase our majors by having them give a talk to the university career counselors about the IS major. This is an important activity since counselors have a high degree of influence with new students. After being admitted to the university, new students work closely with counselors to select a major and plan their schedule. If these counselors have a thorough understanding of the IS major and the opportunities it affords, they are much more likely to recommend potential students to this major. In 2009, we hosted a reception for all career counselors where seven of our student-leaders discussed the field of IS and the opportunities available in the field. We hosted this event for the career counselors in order to increase attendance at the IS information sessions at the three recruiting events that the university sponsors for high school students. Although we put great effort into these information sessions, they have been among the most poorly attended over the past 6 years

4.1.3 Awarding Scholarships: Given that very few high school students enter our university as an IS major, we have to work to get students interested in our major. To do this, we have started awarding scholarships to top students interested in IS. Each semester, we award two \$1,000 scholarships to the most impressive pre-business student that wants to major in IS.

We identify these students at the business majors' expo. As discussed previously, the goal of the business majors' expo is to give students an opportunity to talk with faculty from a variety of majors in the business school. Since we started awarding scholarships, traffic to our booth increased from almost nothing to a steady flow of interested students. Our majors, who work the booth with us, choose the two most impressive potential IS majors. The introduction to business professor announces these winners in class along with why we chose them for the award. To ensure that they actually become

IS majors, we pay the scholarship when the students finish the first class in the IS major, introduction to programming.

4.1.4 Inviting Potential Majors to Meet with the Faculty and Majors One-on-One: We follow through with our recruiting initiatives by inviting the potential majors to meet with our faculty or IS majors one-on-one. Our department head or a management information systems (MIS) major sends an email to every student that we meet at a recruiting function. The email thanks them for attending and invites them to meet and discuss how a career in IS would benefit them.

4.2 Retention Initiatives

Our recruiting initiatives have yielded dramatic results. In the semester following our March 2007 IS Summit, enrollment in our IS major increased by 207% over the prior semester. In keeping with our overall enrollment strategy, we then focused on developing initiatives to help insure that these students would follow through and complete the major. We developed initiatives in three areas to retain these students; improvements in the programming class, the development of an IS student leadership program and the creation of IS leadership awards.

4.2.1 Improvements to the Programming Class: The introduction to programming class (MIS-3301) which uses Visual Basic, is among the first classes that new IS majors must take. The instructor and a long-time department head explained that, "historically, half the students drop the class after the first day." While we had no data to ascertain reasons for low retention rates, we suspected that many students equated a career in MIS to coding and would therefore become quickly discouraged and drop out. To help boost retention, we launched two initiatives in the programming class; first we began hosting an IS orientation and secondly, we initiated an IS scripting challenge.

The purpose of the IS orientation is to show students the rewards that await them upon completing the IS major and to advise them on how to have a successful career. To do this, we host the IS orientation at the beginning of each semester and make it a requirement for students in the programming class. In this orientation, we bring in a career ladder of former IS majors who are now at various stages of their career at SunGard consulting. The career ladder of former majors includes entry-level consultants, consultants, managers, senior managers and a partner. The partner tells the students how smart they are for choosing IS as a major, highlights the career opportunities, dispels myths and provides career advice. The IS orientations is a formal sit down meal, where the new IS majors get the opportunity to interact one-on-one with these business professionals and the IS faculty.

In addition, students in our leadership class plan and host the orientation, so the new majors get to know these leaders, who become an important source of advice for the new students.

To encourage the programming students to push themselves on their final project, in August 2008 we launched a scripting challenge in the class. The challenge awards three cash prizes to the three students with the best IS project in each section of the introduction to programming

class. First place wins \$350, second place wins \$200 and third place wins \$100. Our department chair comes into each class at the end of the semester and announces the winners. We post an article recognizing the winners on our website and name the challenge for the sponsoring company.

4.2.2 The IS Leadership Program: To provide an opportunity to challenge our top IS students we launched an IS leadership program in October 2007. The objective of the program is to provide top IS students leadership training and experience and to provide the department dedicated resources to execute recruiting, retention and placement initiatives. The program includes a formal leadership class help each spring. In the following fall, students serve as AITP officers.

The leadership class involves training students on the mission of the class, hosting events and taking an end of semester trip. Class training includes educating students on the enrollment problem, sharing our enrollment initiatives, researching the current job market for IS majors and reading leadership books and articles.

The leadership class designs and executes all of the IS recruiting and retention initiatives and marketing plans that have been discussed in this paper. These include the IS Summit, the orientation, the university recruiting events, the business school recruiting events and the presentations to career counselors. The leadership class puts on an end-of-semester party for IS majors and hosts a variety of career development events, which we will discuss in the placement section. In the following statement, Steven a junior member of the 2009 leadership class, highlights how this class engages high quality students and empowers them to improve the IS program:

"We have accomplished much in the past few months and I am proud of how far we have come. I have had the honor and opportunity to work with exceptionally bright and capable peers headed up by the most efficient and exceptional team leader around. I feel very fortunate to have had these experiences and am actually sad to think that this class is drawing to a close. The leadership class had been such a (if not THE) high point of my career here at Baylor. I hope there will be more opportunities next year to help enhance the program and help make the department all that it can be."

To reward the students in the leadership class for their efforts, our department provides an all-expense paid trip at the end of each semester. This creates excitement for students in the class and serves as a word of mouth marketing tool for the major. The trip encourages younger students to perform well academically in the IS program and to serve the IS program so that they can be selected for the upcoming leadership class. In April 2009, this class presented to the IS strategy group at Wal-Mart's corporate headquarters in Bentonville, Arkansas and in 2010, Warren Buffet will host a forum for this group.

4.2.3 Leadership Awards: To further motivate our IS majors to perform well in their classes and volunteer their time helping to improve IS enrollment we award three IS

leadership awards annually. We partnered with ConocoPhillips, one of our sponsoring companies that annually hosts a student leader forum for the top IS students at the universities where they recruit. We make the awards at the IS Summit to the three most deserving IS majors that have volunteered their time to host the Summit. The following quote shows the pride our students take in the Summit and what it means to them.

"You lifted us up on your wings and let us do the Summit. It changed my life and gave me direction. — Sophomore IS major and 2007 leadership award winner."

In addition to being recognized in front of more than 400 people, the award includes an all-expense paid trip to ConocoPhillips' corporate headquarters where the students are treated to a weekend of fun and learning. ConocoPhillips uses this as a recruiting tool, so this award often leads to internships or job offers.

4.3 Placement Initiatives

A long-term approach to increasing IS enrollment requires continuously placing IS majors in high profile jobs. To do this, we developed placement initiatives which center around (1) coaching students on securing a job and (2) building relationships with prospective employers.

4.3.1 Coaching Students: We coach students on securing jobs through formal presentations and informal mentoring. The formal presentations occur at the IS orientation and at career development events hosted by AITP. At the IS orientation, a current IS major that has completed an internship and secured a job talks to the new students about how to approach their job search. This IS major takes them through the steps they need to follow to look for a job including creating a resume, registering on our career services system, attending the career fairs and signing up for interviews. The student speaker goes on to encourage the students to apply to the companies that sponsor our initiatives. Finally, the orientation includes a high level IS professional who shares interviewing and job search tactics with the new group of IS majors.

Students receive additional coaching at the two IS career development events that our department hosts each year. We invite business professionals to speak to our students about some aspect of the job search process for which the majors desire more information. Topics have included evaluating job offers and interviewing skills.

We also coach students through several informal mentoring programs. The department head and the faculty in charge of enrollment take new students to the career fairs and introduce them to the companies. As these faculty members participate in the career fairs, they serve as a source of support, encouragement and advice for the other IS majors attending the fair. Students in our leadership program mimic the faculty members' behavior and take new IS majors to the fair. In addition to introducing the new majors to recruiters, these students walk their friends through the career services and interviewing process. The informal mentoring continues as students share their interview experiences and job search process with the faculty and leadership team members. We

facilitate informal mentoring between our majors and company recruiters through several forums. First, we have mixers before and after all of our events, like the IS Summit. Secondly, when recruiters are on campus, we invite students to dinners and meetings between faculty members and recruiters.

4.3.2 Building Relationships: Faculty and students need to build relationships with prospective employers to place students. We, like many universities, have a Career Services center that specializes in student placement. Career Services provides many valuable services such as hosting career fairs, providing workshops for students and providing an on-line job placement system that brings recruiters and student job seekers together. While such services are greatly needed, the IS department can provide prospective employers with benefits beyond those offered by Career Services by partnering with prospective employers to work together to develop high quality IS majors. Such partnerships that are forged over time become particularly invaluable during those inevitable times of market downturns where companies are recruiting fewer IS majors. Companies will most likely continue recruiting at universities where they have personal relationships with IS majors and faculty while halting recruiting efforts at universities where they do not have these personal relationships and are merely attending job fairs.

We have used several strategies to develop company relationships. We started our efforts in the fall of 2006, when the IS job market was just coming back after the dot-com bust. First, we leveraged our students' relationships. When our students shared their job search experiences with us, we would ask the students to introduce us to the recruiters. Once we got to know the recruiter and their demand for IS majors, we talked to them about partnering with us to develop more IS majors. As the job market heated up, more and more companies were trying to get an edge in a market with a high demand and low supply of IS majors. A second way we developed company relationships was by meeting with companies that contacted us looking for IS majors. Before 2007, when we received such inquiries we simply passed the company off to Career Services. Today, when we meet with companies, we educate the company representatives on the enrollment situation and provide them some options to highlight their company. These options usually include sponsoring an event like our orientation, the IS Summit or a career development activity. Third, we visit our students on their internships to see how they are doing and how we can improve our program. Fourth, we hold IS advisory board meetings where the companies can provide insight to our curriculum. The final way we build relationships with prospective employers is by expressing our gratitude to the companies. Our IS majors write the companies thank you notes following visits and we post news articles about the initiatives the companies undertake with us.

5. RESULTS

The results of our initiatives have been dramatic both in terms of quantifiable results and in terms of the renewed sense of pride and team spirit that we have seen in our IS majors and faculty. Many of our faculty are highlighting IS as a major of choice for business school students. Other

faculty are identifying and talking to talented students one-on-one. Career counselors are pushing the major and our colleagues in the school note how "IS has come back."

In addition, to this anecdotal evidence, we have enrollment, placement and salary statistics indicating the positive effects of our efforts. Figure 2 below shows how our initiatives have significantly impacted enrollment in the IS major. The figure tracks enrollment in MIS 3301, the introduction to programming class. This is the first class that students take as an IS major and the indicator that our department chair uses to track enrollment. In the spring of 2007, our enrollment had reached a near record low. We had 14 students enrolled in the class and as one of our majors commented, "many of them weren't there most of the time." In the fall of 2007, following our first IS Summit, enrollment more than doubled with very little attrition. In the spring of 2008, we began offering two sections of MIS 3301. At the writing of the paper, 41 students are enrolled in the class, a 293% increase from where we started.

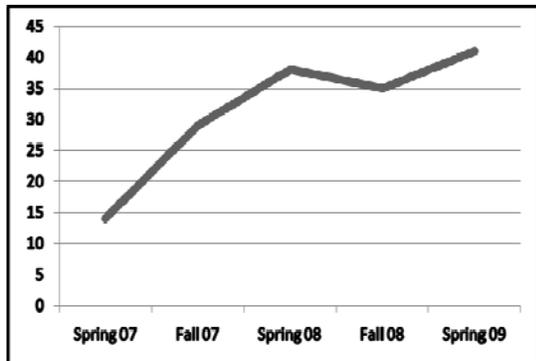


Figure 2. IS Enrollment

In addition, we are attracting better students. Informal conversations with students indicate that until the past few semesters IS was not a students' first choice as a major. Typically, our majors would start out pursuing another major like accounting. When the other major did not work out for them, they would end up an IS major. As the associate dean indicated, "IS was the dog of the business school."

Since we began these enrollment initiatives job placement rates and the average starting salaries for IS majors have improved dramatically. Since spring 2007 the average placement rate for IS students upon graduation is 69% compared to 53% for the business school. Many of our students secure jobs or internships up to 8 months before the date they will start employment. The average starting salary for IS majors increased by 13.8% in the semester that we began these enrollment efforts. Since that time, our graduates have earned the highest average starting salaries in the business school for five of the past six semester and our students' starting salaries are always higher than the national association of college employers' average starting salaries.

6. LESSONS LEARNED

In implementing these initiatives, we have learned seven lessons that will help others trying to increase enrollment in their IS programs.

6.1 Lesson 1: Put Your IS Majors in Charge

Putting the students in charge of initiatives to increase IS enrollment yields several benefits. First, the students are close in age to the students that the IS department is trying to recruit to the major. This age similarity will enable the department to execute IS recruiting events that are fun for the prospective IS majors.

Second, through the recruiting process, the students spend more time than faculty with the companies recruiting IS majors. By making the students aware of the importance of company relationships they will focus on building relationships with companies and highlighting the quality of the IS program. These relationships have helped us gain sponsorship money and place students.

Third, by being in charge, the IS majors take pride and ownership in the enrollment initiatives. This inevitably results in the IS majors telling their friends about their efforts, sharing the need to attract majors to the program and recruiting their peers into the program. This creates positive word of mouth about the IS program. In fact, our experience indicates that their involvement and work on the IS recruiting initiatives has the potential to be as important as the recruiting events themselves. While the events target a certain group of people, the IS majors begin marketing to other groups of people as they share their work on the recruiting events. The following quotes from junior IS majors that hosted our spring 2009 initiatives, highlights the sense of ownership and pride that students take from bring in charge of our recruiting events like the Summit.

"I was being a busy bee all night trying to make sure that everything was going as planned and that everyone was having a good time. Working on the Summit has made me a better person by allowing me to show others what a great leadership team we have at Baylor and how hardworking we are on recruiting for the major. Not only do my fellow classmates respect me as a leader, so do my classmates in other classes. I feel respected and I enjoy my position within the class."

"The banner was my favorite part of the posters I made. It was so cool being able to see my hard work all over the business school. I also liked getting to talk with the students and learn more about them. I shared with the freshman at my table why I had become a MIS major and what I was looking forward to in the field. One student expressed interest in meeting Mr. Baker from ConocoPhillips and so I took him by Mr. Baker after the Summit was over. I really like being able to help someone else out."

6.2 Lesson 2: Incentivize Your IS Majors

Comprehensive efforts to increase IS enrollment involve hosting many events highlighting the opportunities in the IS field and improving the experience of current IS majors. To give the IS students time to plan, execute and market these events, we suggest developing a course where the department gives IS students course credit for their work recruiting majors to the IS program. As part of their efforts, the students receive several incentives including prestige,

experience and monetary rewards. Prestige comes from being in a “by-invitation only” class and feeling as if they are peers with faculty members and recruiters. The students gain real world work experience by developing marketing material, websites and event project plans to execute the events. Monetary rewards include scholarship money and an all-expense paid leadership retreat.

While all these incentives are important, our data and the following quote indicates that prestige is probably more important than the money.

"When I am around campus, people are like there is that guy with the Summit. I will be an old man and remember my work on the Summit. It was the best experience during my time at Baylor. - Junior MIS major and member of our 2007-2008 leadership team."

6.3 Lesson 3: Involve the Prospective Majors

IS departments across the nation routinely host events where prospective majors hear the message about IS. Education research indicates that students retain 26% of what they hear while they retain more than 70% of what they discuss with others (Johnson, 1996). Our study corroborates this. Involving the prospective majors in solving the IS enrollment problem by having them develop presentations marketing careers in IS to their peers yields several benefits. First, this forges a close relationship with the recruiting companies as they get to see the quality of our students' projects first hand and learn how to adjust their marketing presentations to recruit freshman students. Second, as the students develop the marketing presentations, they share their projects with their friends and family. This process educates two groups that have historically discouraged students from becoming IS majors (Lee and Lee, 2006). Finally, as the students complete the project, they begin marketing IS to themselves.

We saw evidence of this at a majors fairs 3 weeks after the 2009 IS Summit. At this fair, we were swamped with pre-business students interested in MIS. Unlike years before the Summit, these students knew about the MIS field and asked pertinent questions about careers. Although students cannot officially declare a major in the business school until their junior year, these freshman students were already declaring themselves MIS majors and strategizing about finding IS internships with companies that had sponsored the Summit.

6.4 Lesson 4: Don't Delegate Job Placement to Career Services

By working with the companies that recruit IS majors, IS departments can gain critical resources that are necessary to improve the quality of the IS program. While we, like many others had delegated job placement to career services, we suggest that IS departments leverage career services. This involves learning about the services career services offers and developing close, long-term relationships with key companies interested in recruiting IS majors. Reflecting on a dinner the IS leadership team had with a corporate recruiter, a senior IS major highlights the importance of building relationships with recruiters:

"Having dinner with Mr. Bill Baker (the ConocoPhillips recruiter) begins to place an understanding within not only mine, but the teams' mind as well, of how important this program and our work is to recruiters and their interactions with Baylor. It surprises me still, that our actions can make such a difference in the lives of students at Baylor—how students who have been blessed by this school are given the chance to pass the chance back down, even in the face of this economy."

Relationships with companies are easiest to develop when companies are looking for IS majors to hire. Companies can provide a source of funding, awards, guest speakers and student placement. Since many students enter our field because of the promise of finding jobs and high salaries, having these relationships can help ensure that recruiters still attend career fairs at your university in periods when their hiring needs decline.

While we initially leveraged our majors' relationships to develop relationships with companies, IS programs can develop relationships with companies by attending university career fairs, staying in touch with former students and providing venues that allow the companies, faculty and students to work together on mutually beneficial goals.

Our leadership retreat provides one such venue. As part of the retreat, our students work on a project for a company. In the following quote, a senior member of our 2009 leadership class talks about how working on the company project created a better relationship between Baylor and Wal-Mart, a company that has historically not recruited our students.

"He even asked Carlos why we weren't on their top ten list of schools! That alone makes all the work worthwhile. I really hope that we can continue improving Baylor's image and push us up into the realm nationally, that way students can look back in a few years and feel pride that we were part of the change."

6.5 Lesson 5: Have the Faculty In-Charge of Enrollment Teach Undergraduates

Tackling the enrollment problem requires the involvement of IS majors. So, rather than getting release time, the faculty heading up the departments' enrollment efforts needs to pick up a class to plan, organize and incentivize the student leaders who will be driving all the initiatives. Without this class, students would have no accountability and recruiting efforts would depend upon volunteers. In addition, we suggest that the faculty in-charge either teach IS classes offered to students who have not yet started classes in their major or teach students just entering the IS major. Teaching classes to students who have not yet entered the major gives the faculty the opportunity recruit students to the major. Teaching students who have just begun the IS major allows the faculty member to introduce these students to prospective employers.

6.6 Lesson 6: The Process May Be More Important Than the Recruiting Events

As we have worked with the businesses, majors and faculty on our main recruiting event, the IS Summit, we have found that the process of planning the IS Summit may be more important than the event itself. This represents a departure from the literature that recommends taking advantage of Microsoft's program where they will come in and put on an IS recruiting event at universities (Becker, Hassan and Naumann, 2006; Dick et al., 2007). Our experiences indicate that having the students plan and execute a recruiting event with key employers is critical.

Since the process of planning and hosting the event requires commitment and involvement from all relevant stakeholders, each party gets to know one another as they work on the event. This process has created social capital and fostered strong relationships between company recruiters, our faculty and our IS majors. Each party has become committed to increasing IS enrollment and to improving the IS program. Evidence of this exists for all the stakeholders. The businesses have created special leadership awards for our students and are continuing to donate to our program and recruit at our university even during this time of economic decline. Recruiters have commented, "We are here because we have this relationship with Baylor." In addition, our students have something of interest to talk about in their job interviews. The following quotes show how the Summit creates a rapport between our majors and corporate recruiters during job interviews.

"They asked me to talk about something in my life that I was proud of. I talked about starting my own business and my work on the IS Summit. This gave me an instant rapport with them because they were also working on the Summit.—Larry, junior MIS major and 2007-2008 leadership team member"

"USAA was on campus and only three people attended their information session. They called me for an interview because they knew I was working on the Summit. I interviewed with them and it went great. They offered me an internship.—Eric, sophomore MIS major and 2007-2008 leadership team member."

6.7 Lesson 7: Recruiting New Majors Is Only Part Of The Solution

Recruiting new students into the major is not enough. Solving the enrollment puzzle requires efforts on multiple fronts. Departments need to develop a comprehensive, integrated approach where they also pay attention to creating a quality experience for IS majors and placing them.

7. CONCLUSION

This paper shares a 2.5 year effort to increase IS enrollment at Baylor University. It discusses initiatives that represent a useful starting point for universities trying to build their IS programs. Although previous research shares many ideas about how to increase IS enrollment, our paper takes a more systematic approach and explains how to tackle the enrollment challenge using a supply chain process metaphor.

We show that enrollment requires a process approach where departments must make improvements in all areas of a students' experience with the major. This begins with recruiting, extends to retention and culminates in job placement. Alumni relations are one area that we have not discussed. This is a key part of the process and an area we are just beginning to develop.

This paper discusses each of our enrollment initiatives in detail, including the lessons we have learned and the results we have achieved. We have increased our enrollment by 293% and raised nearly \$75,000 in business support since implementing these initiatives. In addition, we are attracting better students, retaining our students and placing students in high quality industry positions. In particular, this research describes student led enrollment initiatives, a fundamentally different approach to enrollment. We highlight the importance of securing buy-in and working closely with your current IS majors to design and execute the initiatives and some strategies for gaining their support. We hope this paper has provided an actionable plan for our colleagues who are trying to build their IS programs by increasing enrollment, retaining students and improving job placement.

8. ACKNOWLEDGEMENTS

We want to thank our IS majors, faculty and our business partners for their role in this research.

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ISSN 1055-3096