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Out of the Fog: A Program Design for Understanding Alternative Career Choices: Examples in Management Information Systems and Operations Management

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Abstract:

Management information systems (MIS) is typically not the most popular major for students in business administration because, for one, incoming undergraduate business students are often unaware of what studying MIS entails and what career opportunities await those who choose this major. Another major with similar problems is operations and supply management (OPS). Whereas incoming students have some preconceived notion of what the marketing or finance field is about, they tend to be left in the fog when it comes to having a corresponding idea about MIS and OPS. In this paper, we describe the approach we have taken to remedy this situation at our university. Essentially, we developed short, "painless", enjoyable, one-credit pass/fail courses made available to students pursuing a BS degree in business administration who have yet to decide on a specific major (concentration). After four years, the courses have proven to be remarkably successful. We describe our approach to help not only other MIS and OPS programs but also other fields seeking to help students make good major/career choices.

Keywords: Education, Innovation, Major Selection, Career, Enrollment, Student Recruitment, Management Information Systems, Operations And Supply Management, Course Design, Undergraduate.

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1 The Strategy/Program

Each year, approximately 350-400 incoming students join the University of Dayton to study business administration. Of these, approximately 61 percent decide to major in accounting, finance, marketing, or management. The other 39 percent do not declare a major and decide it one or more semesters later—sometimes not until their third year. For the management information systems (MIS) major, students' not declaring their major has proven to be a problem in terms of planning course offerings. Similarly, it has been a problem for the operations and supply management (OPS) field. Before 2009, the average number of MIS and OPS majors was modest and relatively unpredictable. Initial research made it clear that young students simply the lack knowledge about careers in MIS or OPS (Walstrom, Schambach, Jones, & Crampton, 2008), which has led to lower than desired enrollment.

Universities have engaged in various initiatives to address enrollment problems. Koch and Kayworth (2009) classify various initiatives to increase enrollment into 1) recruitment events or 2) program/curriculum-development initiatives. An example of a recruitment event is a summer camp on careers in a specific field (e.g., information systems) conducted with prospective students (Choudhury, Lopes, & Arthur, 2010). Another is educating high school and middle school teachers and guidance counselors about opportunities in a specific field (e.g., supply chain management and logistics) to help them more capably represent the field to prospective students (Gardner, 2013). Such events attempt to increase potential students' (and those influencing them's) awareness of job opportunities, job availability, and salary in a specific field just as other promotional initiatives (such as Web postings, brochure distribution, and emailings) do (Koch & Kayworth, 2009; Walstrom et al., 2008). An example of a program/curriculum development initiative is St. Louis University's revision of its information systems program to make it more flexible. Instead of six required courses, the revised curriculum had three required courses and three electives (Koch, Van Slyke, Watson, Wellis, & Wilson, 2010). Another example is Kemmy School of Business' revision of its introductory information systems course. Changes included assigning the most effective teachers and exposing students to career and internship counseling (Whelan & Firth, 2012).

To address the enrollment problem for the MIS and OPS majors at the University of Dayton, we created two new elective courses for any student: MIS 220 and OPS 220 (see Appendices A and B). In Walstrom et al.'s (2008) study, these two majors suffered from the lowest career awareness among students in an introductory business course. We target both courses toward younger, undeclared students. Both are one credit "pass/fail" courses and take place over five evenings during the Fall and Spring semesters. Both begin with a kickoff meeting in which lead faculty describe the MIS/OPS program and have fourth-year students majoring in MIS/OPS and recent graduates working in regional firms describe their experiences. The remaining four weeks comprise field trips to a variety of regional firms to see what professionals in MIS and OPS do for a living.

These innovative courses represent both recruiting and curriculum/program development initiatives designed to increase students' awareness of and interest in these majors and career choices. Besides addressing awareness, we wanted these courses to allow students to understand their interest in these majors since prior research has shown that interest in a field is "one of the most important, if not the most important factor affecting students' choice of majors" (Zhang, 2007, p. 449; Kuechler, McLeod, & Simkin, 2009). We designed these courses not only to address our enrollment problem but also to help students make a decision about the choice of a major and associated career that was in their best interests. Thus, we designed the courses to assist students in developing 1) a valid understanding of outcomes associated with the majors and 2) an understanding of their interests and alignment of those interests with actual outcomes, two dimensions that researchers have suggested for interventions that address enrollment issues (Ferratt, Hall, Prasad, & Wynn, 2010).

2 The Uniqueness of the Program

The most important goal with the corporate visits is not so much about viewing a firm's products/processes but rather to learn first-hand what MIS/OPS managers actually do. The goal is to make students aware of the career opportunities and what a work day is like for professionals involved in MIS or OPS. The classes introduce students to careers in MIS or OPS via opportunities to see, discuss, and experience what real professionals and managers do. (See Appendices C and D for hosting expectations.) We have found no such class elsewhere.

The courses seek to overcome misperceptions that a career in MIS means no interaction with people, sitting behind a desk 40 hours a week, and staying behind the scenes with little opportunity for advancement or that a career in OPS destines one to confinement to a dingy factory floor or to a sector of the economy that lacks opportunity and is in decline. Hosting managers and professionals discuss the work that they do (e.g., describing what a typical day would include), what has been interesting, fun, and exciting, how their careers have developed, what educational background they have, and what they like and dislike in their work.

Although each visit includes a “plant/office tour”, we keep the tour deliberately short because it is not the visit’s primary purpose. This is a feature that requires preparation with the host firm as managers are often so proud of their products and processes that they deviate from the trip’s true purpose. Experience with the course has shown that a short tour satisfies students’ need to understand the nature of the business and work spaces; the real substance is in learning about the daily challenges and activities in which the managers and professionals regularly engage.

3 Benefits

The program has been extremely popular with both MIS and OPS offerings—it often fills to the capacity of 30 students (each offered twice annually). Since 2009, the numbers of MIS and OPS majors at the University of Dayton has consistently grown (see Appendix E). Between 2009 and 2014, total MIS majors increased from 51 to 104 (an increase of about 11/year or 21%/year on the original base) and OPS majors increased from 81 to 143 (an increase of about 12/year or 15%/year on the original base). Historically, most students choosing MIS or OPS as a major did not do so until their junior or late sophomore year. This program’s courses are focused primarily at first-year and second-year students and, therefore, have encouraged more students to declare our majors earlier. As the graph in Appendix E shows, the percent of seniors in the total number of majors has shrunk over time, which indicates that the time for students to decide their major from “undeclared” has shrunk. As we detail below, four parties benefit from this innovation: students, the academic programs in which these courses are based, faculty, and the organizations that host the class visits.

3.1 Benefits to Students (See Appendix F)

3.1.1 Increased Understanding of Career Outcomes

Students have consistently reported at the end of these courses that they have a much better understanding of what people working in these fields do and the variety of potential career paths. For example, one student said: “I truly did not understand anything about the MIS major or what it meant. ... I feel that, after taking this course, I really understand what MIS is and what a career in MIS would entail.”

3.1.2 Greater Clarity of Their Interests when Choosing a Major or Minor

Through their visits and reflections, students completing these courses have much greater clarity regarding their interest in majoring or minoring in OPS or MIS. Students recognize more clearly that these academic programs strongly fit with their values and interests or that their values and interests lie elsewhere. For example, one student said:

I also really liked the course because I think it helped me gain a better perspective as to what MIS is. It confirmed some ideas that I came in with while also dispelling some others. First, and most importantly, I think that notion that the MIS field is vast and has a great job market is something that I can say was definitely confirmed for me.

Another said: “It opened my eyes to different professions that might interest me in life, and that is an invaluable thing to know.”

3.1.3 Early Preparation for Success in their Academic Program and Career

By learning from fourth-year students and working professionals, including recent graduates, about the value of program-related work experience, such as internships and co-ops, students in these courses are motivated to obtain such work experiences. Obtaining experience early in their academic programs prepares them to understand how to apply classroom learning to practice and better contribute to class.

Such experiences also make these students attractive to employers on graduation by launching them successfully into their careers. For example, one student said:

Hearing from the other (OPS) students who are currently seniors and hearing from the recent graduates really solidified my choice to choose this major. It was exciting to hear that students have great opportunities to obtain internship and summer employment opportunities with many companies.

3.2 Benefit to Academic Programs

3.2.1 Growth in Majors and Minors

Since offering these courses, the number of majors and minors in both OPS and MIS has increased (see Appendix E: from 2009 to 2014: MIS majors increased from 51 to 104 (a 104% increase) and OPS majors increased from 81 to 143 (a 77% increase)). Although other factors may also have contributed to the increase, student essays provide strong evidence that these courses were a significant factor. For example, one student said:

I am currently a finance major. This class has helped me decide to double major in OPS.” “MIS 220 really introduced me (to) a major/minor I did not know anything about and now I am considering minoring in it.

3.3 Benefit to Faculty

3.3.1 Awareness of Current Practice

Site visits include overviews of OPS or information systems in the host organizations. These overviews provide faculty with current practice updates that enrich their teaching throughout the courses for which they are responsible. During advanced MIS or OPS courses, we all frequently refer to projects, examples, or practices learned during host site visits.

3.4 Benefit to Organizations Hosting Site Visits

3.4.1 Student Awareness of the Host Organization

Although the reasons organizations host site visits include providing service to the university, the academic programs, and students, they also include an interest in attracting students as employees. The opportunity to attract students as interns, co-ops, or full-time employees is enhanced by their serving as hosts. Historically, many of the companies that have acted as course host sites have successfully hired the university's graduates.

4 Transferability to Other Institutions

Courses similar to the one that we describe here can readily be implemented at other universities. Requirements for implementation include:

- **Organizations willing to host:** advisory boards serve as a ready source to solicit hosts.
- **Different kinds of organizations:** having a diverse set of organizations host the visits demonstrates the breadth of industry and career choices. Examples of different kinds of organizations we have visited include large and small manufacturing and service (including distribution), healthcare, consulting, and governmental organizations.
- **Faculty resource:** universities need to determine how to incorporate responsibility for this course into the work load of faculty. A one-hour course provides a variety of options, including making it part of a normal teaching load or an add-on for tenure or non-tenure track faculty in a single semester or over a number of semesters. At our university, we use different options. In one option, two instances of these one-credit courses are deemed equivalent to teaching one traditional three-credit course. In another option, teaching the course counts as a service activity. Compared to traditional courses, there is considerably more faculty activity required in promoting the course, developing potential corporate contacts, and scheduling and planning

visits. Departmental administrative support is provided to manage transportation to the various site visits.

- **Transportation:** the students and faculty need to be transported to the host organizations for the site visits. Our approach has been to rent a bus.

Faculty and administrators at other universities may also find it helpful to consider these factors:

- **Good candidate programs:** academic programs and careers that students do not understand well or that have lower than desired enrollments should be good candidates for offering the innovative courses described here. However, feedback from students indicates that they believe any major would benefit from such a course.
- **Class size:** fewer than 10 students in a course may lead host organizations to question whether the effort of hosting is worth it. More than 30 students may make finding a place to host that many a challenge for many organizations.
- **Promotional efforts:** to populate these courses, we invite undeclared students to consider these courses with messages identifying what makes MIS and OPS interesting career choices. We reach these students via letters (see Appendices G and H), emails, and course presentations.

5 Closing the Loop

The foggy understanding of major/career choices is not unique to our university. We suggest that our approach to helping students out of the fog is readily transferable to others. In developing the programs described above, we anticipated various challenges including: would we have enough host organizations, would there be a significant demand for the classes, and would the courses make a difference in helping students better understand career opportunities after studying MIS or OPS. Our MIS and OPS advisory boards have been highly supportive in hosting site visits. As we chronicle above, our promotional efforts and structuring of the courses have allayed the other concerns. However, continued attention to recruiting and setting expectations with hosts, promoting to students, and reviewing students' reflective essays is essential for continuing to offer these courses, assess their effectiveness, and identify potential improvements.

An unanticipated issue was the continuing need to communicate to firms the purpose of the visits and how the visits need to be structured to assure the visits met the goal of understanding what managers and professionals in operations or management information systems do. Our experience is that firm management loves to describe the firm's strategy, its personnel, its market and technological approach, and so on; in sum, they like to brag. So, unless controlled, the visit is more of a recruiting event. In response to this, we carefully coach the firms regarding what might comprise the ideal visit. To this end, we communicate to firms an outline for what might be the ideal visit:

1. Welcome greeting, overview of firm, products, markets (10 min).
2. Overview of the local division: products, markets, operations, or information systems (15 min).
3. Tour of facility (35 min).
 - a. Before beginning tour, we overview what will be seen and what to watch for.
 - b. Please give special attention to assuring students are put in small enough groups that they can hear the tour leaders.
4. Return to meeting room for discussion, Q and A (60-90 min)
 - a. Students always appreciate a snack of some kind (e.g., pizza, or box lunch, etc.).
 - b. **This is the most important part of the visit. The goal is to make students aware of the career opportunities and what the work day is like for the different managers and professionals involved in operations or information systems.** What has worked best is to have managers and professionals speak to what they are responsible for and what their work is like. Especially good is to hear from recent graduates as to how they found the transition from university to work life and how their education in operations or information systems prepared them.

All told, these enlightening visits last approximately two hours and have made a significant difference in the career choice of many students.

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Appendix A: MIS 220 Syllabus

MIS 220: Exploring Careers in Information Systems Syllabus

Description: MIS 220 is intended for students exploring their interest in being a major, minor, or double major in management information systems (MIS) in the business school. The course is designed to allow students to develop an understanding of career possibilities in MIS. The class focuses on introducing students to careers in information systems by providing opportunities to see, discuss, and experience what real information systems professionals and managers do. The course primarily includes visits with MIS professionals, discussions, and experiences guided by leaders and professionals in the information systems field.

Meeting place and time: all classes meet in AN 130 at 4:30pm and are scheduled until 8:30pm.

Table A1. Schedule

Date	Theme	Bus departure from/to campus
Feb. 24	Introduction to careers in IS (udmis.info) Meet MIS Alumni and Students	
Mar. 3	IS careers at premier health (www.premierhealth.com)	4:45-5:00pm/ 7:30-7:45pm
Mar. 10	IS careers at Triad Technologies (triadtechnologies.com)	4:45-5:00 pm/ 7:30-7:45 pm
Mar. 24	IS careers at Reynolds and Reynolds (www.reyrey.com)	4:45-5:00pm/ 7:30-7:45pm
Mar. 31	IS careers at Sogeti USA (www.us.sogeti.com)	4:45-5:00pm/ 7:30-7:45pm

Simply put, those responsible for information systems in organizations focus on solving business problems and pursuing business opportunities using information technology. They operate at the intersection of business and information technology to provide a bridge between the two. They perform and manage tasks that help shape and leverage the informational component of products, services, or business processes. For any enterprise, MIS involves several key generic interrelated functions:

- Leveraging information and technology to achieve organizational goals and perform effectively
- Analyzing, designing, and supporting organizational processes with knowledge, information, and technology
- Understanding and managing knowledge, information, and data to support analysis and decisions
- Identifying and managing systems acquisition, integration, and development projects
- Providing secure, valid data and systems
- Architecting, establishing, and maintaining technology infrastructure—hardware, software, networks

Grading scheme and expectations: the class grading scheme is S (satisfactory) or NC (no credit). To earn a grade of S, students should attend all five class sessions, submit satisfactory initial and final reflective essays on their interest in MIS, and submit satisfactory one-page (500-word) write-ups based on what they learned about careers in information systems during visits with MIS professionals.

Appendix B: OPS 220 Syllabus

OPS 220: Experiencing Operations Syllabus

Description: designed to immerse students into the contemporary issues of operations management. The course is comprised entirely of site visits and guest lectures from operations management leaders. The class is limited to 30 students. The goal of the class is to introduce students to the field of operations management by providing the opportunity to see for themselves what real operations managers do. The course is open to all students, but priority is given to undergraduate business majors who are yet undecided on their choice of major.

Meeting place and time: all classes meet in AN 130 at 4:30pm Class completion times are approximately 8:30pm but vary depending on distance and host company program.

Table B2. Schedule:

Date	Theme	Activity	Notes
Jan 22	Introduction to OPS careers	Guest speakers: President, OPSSA; Ohio Health	Learn about the OPS Student Association and OPS opportunities in healthcare
Jan 29	OPS in aerospace	GE Aerospace	Learn about OPS opportunities in GE Aerospace
Feb 5	OPS in distribution	Kohl's fulfillment center	See a modern distribution center in the retail sector
Feb 12	OPS in core manufacturing	Johnson Electric	Visit a world class manufacturing firm
Feb 19	OPS CO-OP OPPS OPS in consulting	Guest speakers: career services, advising center	Learn about co-op opportunities for OPS majors. Visit a first class OPS consulting practice

Simply put, operations and supply management is “running the enterprise”; that is, performing and managing those tasks having to do with making and delivering the product/service to the market. For any business enterprise, it involves several key generic interrelated functions: designing the production process; assuring quality; forecasting demand and capacity planning; planning and scheduling, managing material inventory and the supply chain; and managing the work force.

Grading scheme and expectations: the class grading scheme is S (satisfactory) or NC (no credit). Students must participate in the opening session and in the four remaining sessions to earn a grade of S. Each session comprises a visit to a regional firm including presentations by key managers and a tour of the facility. Emphasis is placed on providing students an appreciation for the activities of operations management as they apply to a given industry. After each visit, students are expected to complete a short report on their impression of the visit and what was the valuable learning experience. Students are expected to attend all site visits and complete all assignments.

Dress code: business casual, no open-toed shoes, photo ID required for all field trips.

Appendix C: MIS 220 Site Visit Expectations for Hosts

MIS 220: Exploring Careers in Information Systems

Site visit expectations: we focus on helping students, who could potentially become MIS majors or minors in the school of business administration, to develop an understanding of careers in information systems. We hope to overcome misperceptions about graduates of our program (e.g., that there is no interaction with people, that one sits behind their desk 40 hours a week for their entire career, that the work keeps one behind the scenes, that there is little opportunity for advancement, and that there is a lot of math and computer programming). We hope to address a lack of knowledge as expressed by students who have said, "I'm not really sure what you would actually do". We hope to overcome concerns that students have about succeeding in the field when they say that it is too difficult or they lack the skill or talent to succeed. Finally, we hope to engage the students so that they come to realize whether they would be interested and could succeed in a career in information systems, starting with an MIS major or minor.

We are indicating to students that those responsible for information systems in organizations focus on solving business problems and pursuing business opportunities using information technology. They operate at the intersection of business and information technology to provide a bridge between the two. They perform and manage tasks that help shape and leverage the informational component of products, services, or business processes. We indicate that, for any enterprise, MIS involves several important, interrelated functions:

- Leveraging information and technology to achieve organizational goals and perform effectively
- Analyzing, designing, and supporting organizational processes with knowledge, information, and technology
- Understanding and managing knowledge, information, and data to support analysis and decisions
- Identifying and managing systems acquisition, integration, and development projects
- Providing secure, valid data and systems
- Architecting, establishing, and maintaining technology infrastructure—hardware, software, networks

Our MIS major and minor prepare our graduates to enter the information systems field with an understanding of the role of a business systems analyst. Thus, our graduates focus primarily on the first five bullets above. To help majors develop their understanding beyond this MIS core, we encourage them to double major or go into more depth in business intelligence or cyber-security.

During the site visit, we would expect to have several of the host company's managers, information systems professionals, and others they deem appropriate (who could be role models for our majors and minors) discuss the work that they do (e.g., describing what a typical day would include), what has been interesting, fun, and exciting, and how their careers have developed, including how they got started, what educational background they have, and what they like and dislike about their work. The students appreciate hearing a variety of individual stories. It would be helpful if those who are discussing their work and careers could highlight work they have done relative to the bullets above.

As part of the agenda, we assume the host company (or someone they select) would want to introduce their organization and the importance to their organization of information, technology, and the people responsible for them. In addition, it would be helpful to have an overview of the size and scope of the functional area responsible for information and technology (and what the company calls this area) with a brief indication of the various roles or career paths of the people involved.

Interestingly, students appreciate a brief tour of the company's facilities. They particularly like seeing the kinds of places they would work.

One other item: we ask companies to think about how to actively engage the students. We will prompt them to be prepared to ask questions related to information systems jobs and careers (including what would be important, interesting, fun, and exciting to them), the interrelated functions in the bullet list above, and our two emphases. If the host organization has a 10-20 minute activity that is actively engaging and would give students a sense that they could enjoy and be successful in an information systems career, we would encourage its use.

We have reviewed the expectations above with the other MIS faculty. These expectations represent our best thinking at this point, but if the company and their staff have other ideas, we would be glad to discuss them.

Logistics of the visit: we expect to arrive around 5:15-5:30pm and depart by 7:30-7:45pm. Given the hour of day that we are visiting, the host organization has typically provided a light meal (pizza, sandwich, etc.) for the students. Our expectation is that we will have about 10-20 students. We will provide an update on the number of students nearer the site visit.

Appendix D: OPS 220 Directions for Host Companies

OPS 220: Directions/Advice for Host Companies

OPS 220: Tips on Site Visits

Goal: to acquaint younger students (first and second years) with the career opportunities in operations and supply management (i.e. what do operations managers do).

The ideal visit:

5. Welcome greeting, overview of firm, products, markets (10 min).
6. Overview of the local division: products, markets, operations, or information systems (15 min).
7. Tour of facility (35 min).
 - c. Before beginning tour, we overview what will be seen and what to watch for.
 - d. Please give special attention to assuring students are put in small enough groups that they can hear the tour leaders.
8. Return to meeting room for discussion, Q and A (60-90 min).
 - c. Students always appreciate a snack of some kind (e.g., pizza, or box lunch, etc.).
 - d. **This is the most important part of the visit. The goal is to make students aware of the career opportunities and what the work day is like for the different managers and professionals involved in operations or information systems.** What has worked best is to have managers and professionals speak to what they are responsible for and what their work is like. Especially good is to hear from recent graduates as to how they found the transition from university to work life and how their education in operations or information systems prepared them.

All told, these enlightening visits last approximately two hours and have made a significant difference in the career choice of many students.

Appendix E: Growth in Students Majoring in MIS and OPS

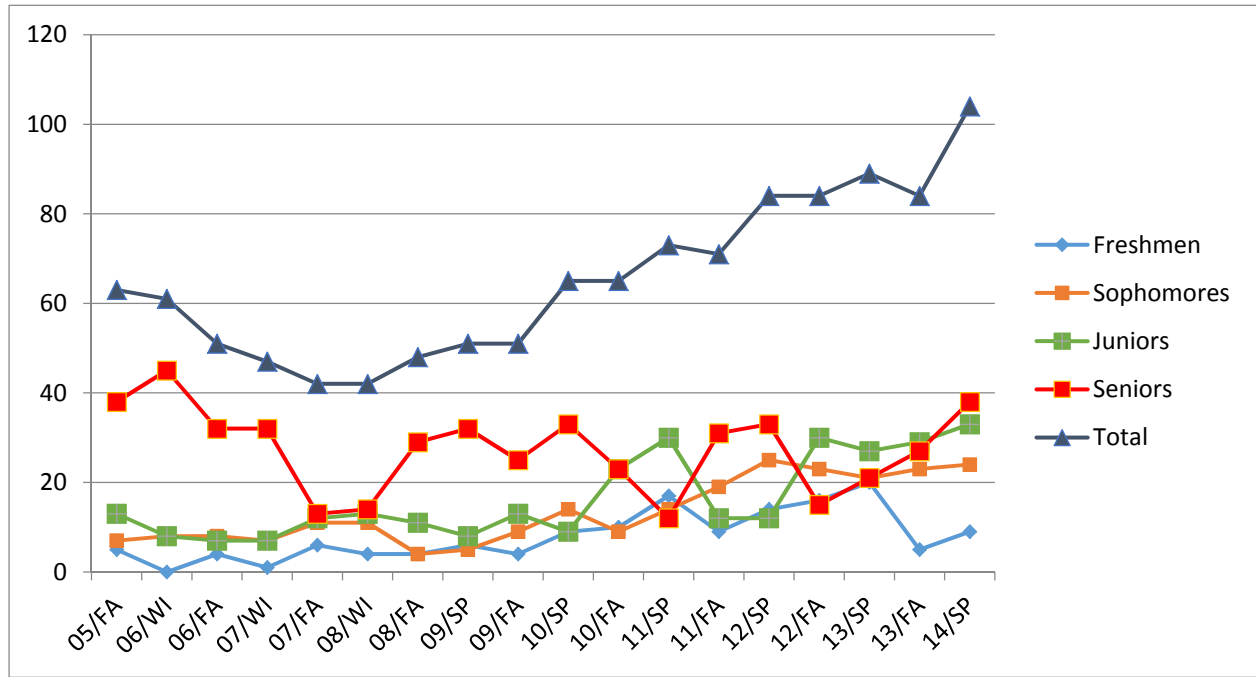


Figure E1. MIS Majors

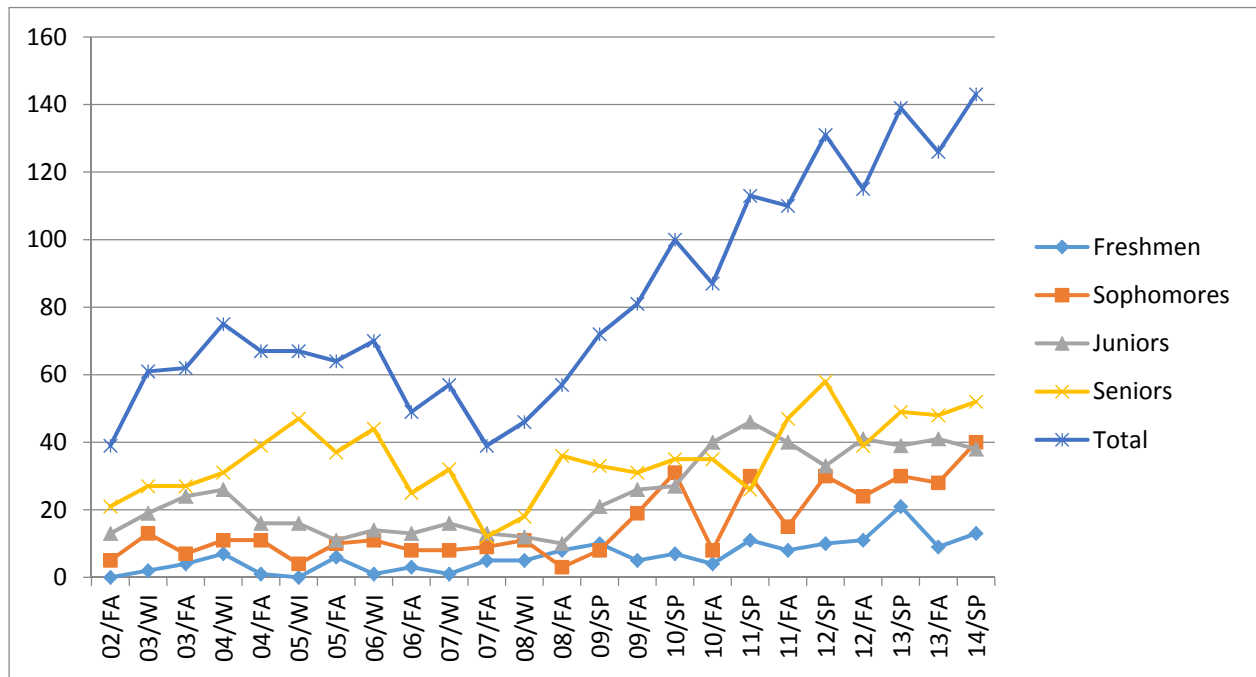


Figure E2. OPS Majors

Appendix F: Student Reflective Course Comments

- *I truly did not understand anything about the MIS major or what it meant. ...I feel that, after taking this course, I really understand what MIS is and what a career in MIS would entail.*
- *I am currently a finance major. This class has helped me decide to double major in OPS.*
- *MIS 220 really introduced me [to] a major/minor I did not know anything about and now I am considering minoring in it.*
- *I am very happy that I took this class. It was very to-the-point, and really helped me understand my soon-to-be major far better than I did before.*
- *I found this class very interesting because in most classes, we just sit around and talk about the subject, but in this one we actually went to the jobsites and learned first-hand what MIS is all about.*
- *Overall, I would highly recommend this course to other students. I really enjoyed the course and the professors, and the first-hand experience I got with a lot of the companies that we talked with during our visits. It opened my eyes to different professions that might interest me in life, and that is an invaluable thing to know.*
- *It was over the course of the next 5 meetings that my mind changed drastically. This class sealed the deal about my decision to major in MIS and gave me insight into what other areas I may wish to major or minor in.*
- *Every fieldtrip left me thinking that THAT was the company I wanted to work for.*
- *This class was crucial for me in understanding and making decisions about MIS. I personally think that all majors should take this class to further their understanding not only of MIS, but of what they might want to do once in the workforce. Thank You!*
- *This may have been one of the most influential courses I have taken of all time.*
- *This course really opened my eyes up to the OPS field and major. Before taking this class, I honestly had never really heard of OPS or even considered it because I was unaware of it. This class taught me not only about what the major entailed and what Operations Management was, but it showed me the possible careers in the field.*
- *I honestly cannot even think of a least interesting aspect of the class because I was truly interested and engaged the entire duration of each course each week.*
- *I thoroughly enjoyed this course because we got out of the classroom and into the field. This is something that I think needs to be done in college.*
- *I believe the most interesting aspect of the course was being able to talk to operations managers at their places of work and hearing what each of them do and how they go about doing it.*
- *Overall I thought the course gave me a good sense of what operations supply management really is. I now have an interest in possibly minoring in it to go with my major, entrepreneurship. Going into the class, I didn't know enough about OPS to really express any interest in it. I feel now that I can excel in the minor to help me in my future goals.*
- *I felt the most informative parts were the trips that we took to businesses. It is an awesome opportunity to get to do this and see this while deciding if the field is right for me. I am excited about all of the opportunities for Internships.*
- *I truly value all I experienced in OPS 220, even though I didn't take the traditional route. I am a senior and an OPS major but, this experience has been one of most beneficial ones I have had with my career here, and would recommend to everyone considering OPS as a major.*

Appendix G: MIS 220 – Student Invitation Letter

Dear «First_Name» and Parents:

Based on your high ACT/SAT score of «ActSat_Composite», «First_Name», the Management Information Systems (MIS) faculty believe that you have the potential to do great things. MIS majors like working with people and helping them implement innovative information solutions that serve all areas of business and society. You can enjoy a fulfilling, exciting career with strong job prospects....and corporate talent demand exceeding U.S. university supply.

“Current projections point to a promising future in the IT sector. Over the span of 2010 to 2020, the U.S. economy could create as many as 758,800 new computer and IT jobs -- a 22 percent increase.”
-- The Bureau of Labor Statistics estimated in its “Outlook on job growth” released last March

Our 2013 graduates working in MIS earn an average starting salary of **\$56,077 (a high of \$70,000)** annually, **typically the highest salary and placement rate in the School of Business Administration.**

We can help you, «First_Name», realize your potential. Our program is small enough that our faculty will get to know you personally, and they are dedicated to helping you succeed. You and your parents are invited to join us during our **open house** which will be held on Wednesday, August 28, 3:00-5:00 p.m. in the Anderson Center to talk with the MIS faculty and current majors.

You should also check out **MIS 220**, our short pass/fail course (1 credit hour) entitled *Exploring Careers in Information Systems*, Mondays at 4:30 p.m., October 7—November 4. This is an easy and nonthreatening way to learn more about MIS by meeting with MIS professionals where they work. Enrollment is limited to the first 30 students.

If you have any interest in exploring a major in MIS, I encourage you to do the following:

Visit our website

Register now for the introductory **MIS 220** course that starts on October 7

Mark your calendar to attend the **MIS open house** on Wednesday, August 28 in the Anderson Center from 3:00-5:00 p.m.

Major in MIS by contacting the Advising Center.

Enjoy the rest of the summer, and I look forward to seeing you this fall!

Warm regards,

Appendix H: OPS 220 – Student Invitation Letter

Dear «f_name» and Parents:

Congratulations on your decision to join our business learning community! I am contacting you because your high scholastic record (HS GPA = «Hs GPA», ACT/SAT Score = «Act/Sat Composite») indicates that you are a potential candidate for the exciting field of study of **operations management**. Like marketing and finance, operations is one of the kernel functions of any business. Many operations majors set their long-term goals to become executives at the Chief Operating Officer (COO) level for their company. I invite you to review the enclosed brochure and video which provide information about the field of operations and how we prepare students for it.

Operations courses are both challenging and interesting, and the OPS faculty are here to help you be successful! The rewards are well worth the effort – our operations program is nationally recognized, and our students are **among the highest paid business school graduates**. Enrollment in the OPS program is currently limited to 32 students per year.

Through our Operations Student Association (OPSSA), we have an active corps of OPS students creating their own vibrant educational, social, and community service program(s). See the enclosed letter from the incoming OPSSA President.

Consider signing-up for our easy (pass/fail) **OPS 220** introductory one credit course specifically designed to introduce freshmen and sophomores to the field of operations (Thursdays at 4:30pm, Sept. 10th – Oct. 15th). It consists of field trips and guest lectures from distinguished operations executives from all industries. This is an excellent opportunity to continue your exploration of the field of operations. Register now as space is limited!

If after reviewing the enclosed materials, you are interested in joining our Operations Team, **I encourage you to take the following actions:**

- Register now for the Sept. 10th introductory OPS 220 course
- Major in OPS by signing up on-line
- Mark your calendar to attend the OPS Department Open Houses on Wednesday, Sept. 2nd, and Monday, Oct. 5th, 3:00-5:00pm, Anderson Center (meet the faculty, learn more about OPS, enjoy free food and fun events)

Sincerely,

About the Authors

Thomas W. Ferratt is a Visiting Scholar in the Marshall School of Business at the University of Southern California and the Sherman-Standard Register Endowed Chair in Management Information Systems at the University of Dayton. His primary research focuses on the management of information systems professionals. He has been on the editorial boards of *Information Systems Research*, *MIS Quarterly*, *Journal of the Association for Information Systems*, and *The Data Base for Advances in Information Systems*. In addition, he has served in leadership roles with the Special Interest Group on Computer Personnel Research (SIGCPR), and subsequent to its merger, the Special Interest Group on Management Information Systems (SIGMIS) of the Association for Computing Machinery (ACM).

Stephen R. Hall is the Director, Center for Project Excellence and a faculty member at the University of Dayton. His primary teaching emphasis is in the areas of management information systems, operations management, and professional project management. With over 35 years as an information technology and operations executive and strategist, he has broad experience within publishing, distribution, manufacturing, healthcare, and education, including: Global Information Systems, Infrastructure, Operations, Networking, Telecommunications and Engineering disciplines. He has directed the design, development and implementation of large scale projects including global information networks. His research works have appeared in *Communication of the Association of Information Systems* and *Information Management*. He has served on the IBM Networking Advisory Council and the Ohio Blue Ribbon Panel for *The Future of Telecommunication/Networks in Ohio*.

John K. Kanet. Professor and Niehaus Chair in Operations Management at the University of Dayton, former Burlington Professor of Management, Clemson University, was thrice Senior Fulbright Scholar to Germany. In 2012 the Alexander von Humboldt Foundation awarded him the Reimar Lüst prize for promoting research relations between Germany and the U.S. He was Area Editor for *Production and Operations Management* and advisory board member for *Journal of Operations Management*. A lifetime POMS member, he won the Best Paper Award at the 1992 national conference. In 2004, he was Program Chair for the POMS World Conference in Cancun, MX. His POMS Emerging Scholars program is now an annual event at POMS conferences. Jack's research interests include production planning and scheduling. His work has appeared in *Management Science*, *Operations Research*, *Journal of Operations Management*, *Production and Operations Management*, *Manufacturing and Service Operations Management*, and *Mathematics of Operations Research*.

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