Bell the Cat –
Don't Let the Introductory Class Die

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Abstract

A fable attributed to Aesop concerns a group of mice who have suffered a series of losses to a cat. The mice agreed upon a great plan - a bell needs to be put on a ribbon and hung around the cat's neck. Once the cat is belled then all the mice would know it is near and they can hide. The problem with this great plan is that no one is willing to bell the cat – it is a dangerous and perhaps impossible task. We can liken the mice to information systems faculty and the cat to the introductory information systems course. The information systems discipline has its own "cat." Too often the information systems course is simply a smorgasbord of concepts and technologies that are loosely cobbled together. We know that there are non-information systems faculty as well as business professionals that do not believe information systems is important as a separate discipline in a business school. Could that be because they do not see a cohesive set of concepts in the discipline and only see the latest gadgets? We need to rethink the introductory information systems course along two axes; who should be the audience and how to measure the success of the course.

Keywords: Introductory course, curriculum recommendation, success metrics.

1. INTRODUCTION

There is a fable, attributed to Aesop, where a community of mice is being terrorized by a single cat. The cat even eats entire families of mice at one time! The mice hold a meeting to discuss what can be done. Several plans are brought up and each is discarded for one reason or another. Then a young mouse stands up and explains his plan and all the mice agree it is the plan they should execute.

They will get a small bell and will tie the bell around the cat's neck with a ribbon. Whenever the cat is close by the mice will hear the bell and hide. They will be safe.

While all the mice are congratulating the young mouse for developing the plan an old mouse speaks up. Who will bell the mouse? No voice is heard. And as all of the young mice slip quietly from the meeting the old mouse notes that it is easy to make a great plan. The test is finding a great plan that can actually be accomplished.

That is not the storybook ending we should accept for the introductory course on information systems. Yet information systems as a core course in the business school curriculum is under siege (Bloomberg, 2016). As a discipline, we have looked at Aesop's fable in a mirror and seen it in reverse. It is not that we have plan that cannot be carried out, it is that we are carrying out a bad plan so well.

The purpose of this paper is to stimulate interest in revising curriculum recommendations of professional associations such as the Association for Computing Machinery (ACM) and the Association for Information Systems (AIS) in regards to the introductory information systems course. The course must be relevant and inviting to all majors in a business school. And

the course must focus more on the core concepts of information systems and less upon the latest/greatest new technology that appears on the market.

There are many non-believers when it comes to the value of having an information systems course in the business school core. Perhaps the most disturbing is the AACSB which considered dropping the verbiage concerning information systems from its list of "traditional" business school subjects (Ives, et al., 2002; AACSB, 2013).

Do not believe that our discipline is safe because information systems remained on the list. There are 23 individual subjects in that list of "traditional" business school subjects[1]. A list of 23 subjects does not imply that there will be 23 core business courses.

Bloomberg (2016) published their list of "best" schools in the U.S. for undergraduate business degrees and the list has some disturbing facts. All of the schools have AACSB accreditation. There are 114 schools on the list but Hult International Business School does not have detailed information (such as a catalog) available via the web so it is not included in the analysis of which schools offer and information systems major and/or require an information systems course in the business core. That leaves 113 schools.

Only 55% of those schools have both a degree in information and an information systems course as a core business requirement. 18% of the school have neither an information systems degree nor a required information systems core course. Consider that for a second, 18% of AACSB accredited schools considered as "top business schools" by Bloomberg farm out the traditional business school subject of information systems to other discipline courses.

When one of the schools has an information systems degree, 17% of the time that school does not have a required information systems course in its core. 34% of the schools, all AACSB accredited, do not have an information systems major.

To continue and thrive as a discipline in business schools, information systems must be seen as one of the critical disciplines (not simply a class) for business organizations operating today. This can be done. But we are not doing this now. We must convince non-information systems students, faculty, administrators, accreditation agencies, and business organizations that every student needs significant understanding information systems in order that critical organization tasks can be accomplished. We must convince the non-information systems audience that information systems are a critical value for organizations.

2. DEFINE THE TASK

The introduction hopefully convinced you that the continuance of information systems as a core course and significant major for business schools is already in doubt. A number of business schools do not require information systems in their core business courses – even in business schools with a major in information systems.

If you are not yet convinced that the undergraduate business major and possibly the undergraduate core business course in information systems is not at risk, then you may not find the rest of the paper interesting. The rest of the paper sets a skeleton for a discussion around which the information systems discipline can be viewed as of vital importance to business organizations.

The discussion is about the information systems course in the business core. If it is already there then keep it in the core and strengthen its position in the core. If it is not in the core, then get it in the core. The skeleton consists of two parts; (a) define who should be the audience of the content in the core information systems course and (b) determine the metrics to measure the success of the core information systems course.

Audience
We must accept that the audience for the core information systems class is not an information systems major (IS major) – the audience is simply a business major. If we wish to convince non-information systems students and faculty that we deserve a core course, then *every business school student* leaving the course must understand why information systems are important to their major – that they cannot succeed in today's business organizations without the course.

The information systems discipline is uniquely positioned in a business school to both explain and benefit from Moore's Law. Every 18 months the power of computers doubles (Denning &

Lewis, 2017) and so our courses can be fresh and inviting every year. New technology is arriving to the students enrolling in our classes like a huge wave. Our job is to help students Cerf that wave to success (apologies to Vinton Cerf). Technology should be the delivery system but not the sole content of the course.

Erik Brynjolfsson (2013) made a TED Talk that focused on how to save jobs. His message was that as machines evolve and take more jobs the best way to survive and thrive is to think of computers as our teammates – not as the opponent. We need to incorporate that concept into our view of the information systems course.

It is beneficial to understand who is not the audience for the introductory information systems course. Non-audience students are those who want to know the transmission speed of CAT 5 and CAT 6 and CAT 7 cables, the seven layers of the Open Systems Interconnection (OSI) model, and comparisons of Windows versus iOS versus Unix operating systems. Those are topics that should be left to courses for information systems majors. Non-information systems majors only feel alienated by those details/concepts and will associate the introductory class with information they do not need for their major.

The information systems subject matter that interests all business students is the what the introductory course needs. Find the interesting subject matter (Ferratt, Hall, Prasad, & Wynn, 2010) at the intersection of all business student majors and that audience will reward you.

Measuring Success
Student credit hour generation is a powerful measurement of success since many colleges/universities allocate resources (a.k.a. faculty positions) based on that criteria. Yet many information systems faculty believe that success is measured by the number of students majoring in information systems. During the early 2000s the number of information systems majors dropped sharply and that led to a rash of papers seeking to increase majors to pre-crash levels (Ferratt, Hall, Prashad, & Wynn, 2010; Firth, Lawrence, & Looney, 2008; Granger, Dick, Van Slyke, & Watson, 2007).

Using the number of majors as the measure of success can be self-defeating simply because a strong influence on a student's choice of major is the perceived likelihood of finding a well-paying job in that field. Since information systems faculty cannot influence the job market we need to accept that during stagnant economic growth our majors simply decline. We cannot control that. Using the number of majors as our success factor leaves our fate to others.

This paper proposes that a better strategy for sustaining the information systems discipline in business is to measure credit hour generation. But with a twist. Measuring credit hour generation in those courses that are best taught by faculty with terminal degrees in information systems.

The list of those courses is debatable but for the sake of argument let's assume there are three; databases, systems analysis, and information security/privacy. The information systems faculty and their department chairmen should be able to construct a persuasive argument that these courses should be taught by terminally degreed information systems faculty. These are classes which non-information systems majors may desire to take. Possibly as a minor.

Databases and systems analysis are very commonly required courses for information systems majors. Variations in student enrollments (perhaps because of fluctuations in the market for jobs) could be accommodated by fewer or more sections of these classes but there would always be a need for information systems faculty to teach these classes. These classes have historically been taken by a variety of other business school majors when prerequisites permit.

Information security/privacy is less likely to be a course required of all information systems majors. However, it is often offered as an elective. It can be argued that a business communications course is more frequently required for all information systems majors and should therefore be the third course. However, it is less useful as a measure of success because it is less likely to attract non-information systems majors.

The three chosen courses all have the opportunity to attract non-information systems majors as well as IS majors. This is in keeping with the audience we wish to attract. In keeping with measuring success by credit hours taught we should include one additional component – an IS minor.

The IS minor accomplishes several objectives. It increases the credit hours generated by

terminally degreed information systems faculty, it provides opportunities for non-IS majors to develop a deeper understanding/appreciation for IS, and it acts as a way to draw students to information systems courses when job market prospects may be low. Even if your school does not recognize minors it would might be possible to offer a certificate in recognition of the three course series. Success of the introductory IS course is measured by how many credit hours are generated in additional information systems courses.

Concepts and Learning Goals
The introductory course must contain enough materials about databases, systems analysis, and information security/privacy that it is sufficient as the prerequisite course for these three additional courses. Again, it can be debated as to how much of the introductory class should focus on these topics. The remainder of concepts/learning goals should address why and how information systems contribute to the value of business organizations. That value can be measured in efficiency, effectiveness, or even intangible benefits.

The core information systems curriculum guidelines (Topi et al. 2010) are not being ignored here. This section is not a laundry list of topics but a suggestion of the strategic planning for the core information systems course. We must resist the temptation to focus on the newest, most glamourous technology entering the market. Technology is the condiment for the course and the substance of the introductory IS course is information systems.

3. HOW WE GOT HERE

Three widely adopted curriculums for information systems majors were published in 1997, 2002, and 2010 (Davis et al. 1997, Gorgone et al. 2002, Topi et al. 2010). In both 1997 and 2002 those suggested curriculums focused on topics of systems and systems components, cost/value/quality of information, competitive advantage of information systems, and specification/design of information systems. The 2002 curriculum offered further topics in information security and ethics. There was somewhat of a divergence with the 2010 suggested curriculum.

In 2010, the second out of 14 learning objectives is "explain the technology, people, and organizational components of information systems." The topics proposed make even more specific recommendations for the introductory IS course that deal with hardware, software, networks, Web 2.0, and others. The focus in the 2010 recommendations were significantly more aligned with the technology of information systems than previous curriculum guidelines.

It seems as if there was a throwback to the 1997 curriculum that recommended all students take a full course in personal productivity software. In 2010 the "personal productivity software" suggestions were replace with suggestions that the introductory course should have more time devoted to the technology of information systems.

4. CONCLUSION

Information systems faculty must become aware of the fragility of the IS core remaining a core course of a business school's curriculum. From a Bloomberg publication of the "best" undergraduate business schools only 51% had both a required IS core course and an information systems major. 18% have neither a required core IS course nor an information systems major. It should jar you into action when you consider that about 30% of the "best" business schools do not require a core information systems course.

All of these "best" schools are AACSB accredited. Our goal as a discipline should be to make information systems as ubiquitous in business schools as management, marketing, and finance. Currently only 70% of Bloomberg's "best schools" require an information systems course for all business majors.

To accomplish the goal of all "best" business schools requiring an IS core course we need to agree on the correct audience for the introductory IS course. If we wish to be ubiquitous then we need to make a course that focuses on every business student and not predominately a course to attract IS majors. We want the students to leave the introductory course with an understanding of how information systems are valuable to them and to their careers. That understanding of IS value will increase the probability that they will take more IS courses.

We should measure the success of the introductory course not by the number of IS majors it produces but by the number of student credit hours it generates from higher level IS

courses. The number of information systems majors is strongly influenced by factors beyond our control, e.g. market demand. Databases, systems analysis, and information security/privacy are three courses that can be taken by IS and non-IS majors alike. These courses can be taken and be valuable to non-IS majors even when demand for IS majors is low. The increased credit hour generation from these three courses could sustain the information systems major (and faculty) when market demand is low.

The introductory course must not be seen as simply a laundry list of all the topics of interest to information systems majors. That only reinforces the perception of non-IS majors that nothing in the course is relevant to them. We must also remember that the course is about information systems and their value to organizations and that technology is supportive but not the central component of the core course.

5. ENDNOTES

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"Traditional business school subjects include accounting, business law, decision sciences, economics, entrepreneurship, finance (including insurance, real estate, and banking), human resources, international business, management, management information systems, management science, marketing, operations management, organizational behavior, organizational development, strategic management, supply chain management (including transportation and logistics), and technology management."

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