ARE WE ON THE WRONG TRACK AND SO DO MIS CURRICULA NEED TO BE REENGINEERED?

ALL THE PANELISTS ATTEST TO THEIR INTENTION AND COMMITMENT TO ATTEND ICIS 2011 IN SHANGHAI, CHINA

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Abstract

Extensive discussions and roundtables done by the panelists with tens of CIOs in recent years suggest that there is increased CIO concern about the depreciation in the perceived importance of MIS in the industry and a need therefore to adapt the curriculum of MIS and its place in the MBA program to what the industry needs. The panel will discuss this issue by first presenting the industry view of the issue based on CIO input and with it the need to reengineer the curriculum accordingly to tune it to what the industry, our clients, needs. The panel will then balance this perspective with a more cautious academic one. Practical steps academia can take will also be discussed.

***Keywords:** Revised MIS Curricula, Reengineering, Relationship with the industry*

Introduction

Recent years have seen a dramatic drop in MIS enrollments throughout North America. Worse still, this has been accompanied by a growing feeling in the industry that academia are not preparing students adequately from what industry really needs. In this panel we propose to share details of this industry concern based on our individual extensive interactions and discussions with CIOs. The objective of this panel is to bring this issue to the awareness of the AIS community and start an AIS discussion about what to do about it.

Our objective is to think outside the box on this crucial issue. The panel will share these industry concerns with the audience, provide an historical perspective of how things developed, and then consider whether maybe it is time to rethink the MIS curricula, possibly even starting its redesign from scratch with an emphasis on listening to the industry. While recognizing the complexity of the issue at hand, and by no means attempting to provide the only prescription, the objective of this panel is accordingly to promote discussion by arguing for and then cautioning about the need to reengineer MIS curricula.

This leads to a potential serious problem: IT will end like Operation Research. There are almost no Operation Research department/disciplines in MBAs. There are a couple of professors (if any) that teach operation research as service courses. Consequently, there are very few professors in operation research, and obviously, not much research is done, and the journals are disappearing. We need to avoid this in the IT discipline.

Controversial Issues and Panelists' Positions

Gefen and Ragowsky will argue for the need to reengineer based on CIO inputs based on extensive discussions they had in the last 3 years with the industry. The panel will balance this perspective with the traditional one in the USA and in Northern Europe as brought by the other panelists. The floor will be opened to audience input. Next, having defined the problem, the panelists will discuss what can be done and, again, the audience will be invited to add their input. This is a controversial issue, and so we have attempted to present a balanced discussion on the topic. The panel will conclude with recognition of the complexity of the issues at hand.

The Problem, an Industry Perspective, Presented by Gefen and Ragowsky

As practitioners in the past and academics in the present, we find IS to be one of the most amazing and interesting fields to study and manage. But we realize the need for drastic change. The status of IT management in the industry and academia is in decline. The status of IT in the business has been demoted with an increased trend to outsource the headache. Many times the outsourcing decisions are done under the impression that IT is simple commodity and therefore they should not devote "too much effort." Characteristic of this, IT budgets are continuously cut and in many organizations the IT department reports to the CFO instead of the CIO being on the executive table. Moreover, many organizations appoint people with no IT background to the role of IT director or even CIO. This demotion is reflected in academia. In many Business Schools the IT group has became part of other departments (e.g., management or accounting) and has lost its own unique identity. Tellingly, AACSB does not require anymore to have IS course in the MBA. The market shows this too with continuing declined enrolments.

Based on our experience in the business world, many times organizational managers and users (non IT people) do not understand the potential added value of IT, are not aware of IT's concepts, capability and limitations because they have not learned enough about it in school. Therefore, academia MUST find a way to include again IT course/s in the core of the business studies, and find the way to communicate to the non-IT business students the individual value they will gain by better understanding the IT. We also have to find the way to communicate to these students the value the organization at large can gain.

MIS in business and in academic is losing clout. Something needs to be done.

Some Reasons, an Industry Perspective, Presented by Gefen and Ragowsky

There are many reasons why this is happening. Some might be unavoidable. IT has become a commodity which makes managing one's own infrastructure in-house too expensive and unnecessary (Carr 2003), especially with the Cloud (Gefen 2010). This vendor driven commoditization of IT has made many non-IT managers wrongly think IT is simple because they do not realize the cost and complexity of integrating all the IS together (Gefen et al. 2011) and because they wrongly equate the IT technology with its information systems aspects and in doing so forget the complexity of IS and its ability to provide competitive advantage (Ragowsky and Gefen 2009; Ragowsky et al. 2008). Cloud computing also decreases the demand for IT people. The result is that non-IT users do not appreciate the capabilities of IT because they lack understanding of it and its complexity.

But, there is more at stake here than only the *commoditization of IT*. There is also the *lack of adjusting to the revolutionary nature of IT* and therefore misunderstanding market needs. One of the key features that for many years has determined the nature of the IS profession is its very fast rate of innovation and change. MIS as a field is what it is to a large extent because there is a revolution every two or three years. In fact, in a recent SIM meeting of the Philadelphia chapter, it was highlighted how every year there are new topics that pop up that were never even on the horizon the previous year. It is this constant flux in technology that also makes teaching MIS so challenging. We need to adapt course content, and the paradigms of MIS, on a regular basis. What the industry has been telling us is that we have fallen behind. Here are some excerpts from CIO roundtables we managed.

The VP and CIO of a large $150M real estate investment fund told us in one of the roundtable discussions: "I think if you look at the future of IT, our jobs will be very different twenty years from now than they are today, meaning a lot of things that we do today to keep the lights on are going to be taken care of by others, because they're not our core competency; they don't give us competitive advantage. We're just going to outsource that stuff." The result of all this will be a change in the very nature of MIS, a change we seldom prepare our students for. A change where MIS will be to integrate readymade bought services. *In house development, where a lot of our current curricula currently focuses on, will become far less important*. And yet, look at a typical MIS program and integration and outsourcing are not at its core.

Then, there is also the need to *teach problem solving*. Programming, database, telecomm, project management, and so on are and will remain crucial, but MIS, in the words of another CIO, this time of the American subsidiary of a very large German automaker, people choose to be IS managers because of the fun in solving the puzzles of integrating among IS. CIO may have stood in the past for Chief Information Officer, but perhaps today a more relevant term is Chief Integration Officer. We do not train our students in this. It is perhaps among the most creative, and not taught, skill in business.

Also missing, although to give credit where it is due, some of us do this already to some extent, is the need to teach MIS in the context of addressing and solving business problems. In the words of a very senior IS manager at one of the largest automotive companies in the world "... what I've found is you need the technology courses, you need the mathematical courses, you need the analytical capabilities, statistical capability, but you need to teach business as well. ... But if I had to go back in today's environment and say what would I change or what would I need if I was going through school now, in addition to all the calculus, in addition to learning the languages and the programming and the analytics, it would be learning business, right? So it would be taking some of those MBA courses or the enterprise and how companies run, etc., and bringing those into the computer science curriculum."

Moreover, as a recent meeting with the number 2 person below the CIO of one of the largest medical insurance companies in the US, reveals, the company still runs its COBOL programs from the 60s and 70s and that it is scared to touch them because after so many outsourcing, and with them the recruitment of key personnel to the outsourcing vendor, nobody knows what these systems actually do and how they do it. It is not that we should teach COBOL again, but rather what is needed is people who can solve puzzles and see the broad business picture and how IS enables it. This issue is of course exacerbated by outsourcing where at each round of outsourcing more key personnel are taken over by the vendors, leaving even less people who know the IS at the core of the company. We *need to teach IS maintenance*.

And, crucially, what is *missing is the message what MIS is really about, integration*. Put bluntly by the CIO of a six and a half billion dollar international mechanical engineering company who is also its senior vice president said, basic technical knowledge is crucial but it is only the starting point. What is really

needed is problem solvers who can integrate separate IS because we do not have the time or budget to redesign the IT as it should be as a single unified system. What is needed is puzzle solvers who can see the forest despite the trees. And this requires recognition that "number one – and remember that as you put in technology, you're bringing your culture. It's your company culture. People forget that. Putting in an information system platform brings not just a piece of technology, but it brings your company culture into this company." And this goes hand in hand with realizing "what a wonderful opportunity it is to work in IS today. You're getting project management skills, global visibility of the organization, you understand something about the economics, you put it all together, and you are really in a wonderful position to grow not just in the IS organization, but I'm sure many of us here have examples of people that have moved from IS into other parts of the business, which is a wonderful, I think – to me, something we can advertise really to young people is it's a stepping stone, because you have a better visibility of your company than most people do who grow functionally versus looking cross-functionally across an organization." It is an open question if this is what we in academia are broadcasting.

*Suggested solutions Presented by Gefen and Ragowsky***:**
   1. Recalibrate the curriculum so we tell what MIS is now, not what it used to be. This relates not only the curriculum for IT students, but also to all business students (undergrad and grad).
   2. An integral part of MIS in academia should be fostering close ties with the industry both on the IT side and on the side of those who use the IS in the organization. This means that MIS should again become a practice driven discipline, just as Finance and Accounting are, and research topics of direct relevance to the industry such as Gefen and Carmel (2008).

McLean and Markus Will Balance this Argument
These two distinguished leaders of MIS research and academia will then present for academia and in doing so will examine the pros and cons of several alternative ways of positioning information systems in business schools and the MBA curriculum based

Rivard Will Argue In Response
Concluding this part and responding to the above Industry perspective brought by Gefen and Ragowsky, Rivard will argue that the suggestion of starting the redesign of the MIS curriculum from scratch, with an emphasis on listening to the industry, could be the equivalent of rearranging the deck chairs on the Titanic. Indeed, the argument that the decline of MIS in academia – the problem we want to address – is solely due to our failure to listen to what the industry (here the CIOs) wants, paints an incomplete picture of the situation. Rivard will argue that the causes of the decline – defined by Gefen and Ragowsky as drop in MIS enrollment, IT programs being closed, or IT groups being dismantled – are multiple and intertwined. Programs are being closed and IT groups dismantled because of the drop in the enrollment. From Gefen and Ragowsky's description of the situation of IT in the industry – e.g., demotion of the CIO position, perception of IT as a commodity – one could even argue that, in turn, the drop in the enrollment is due to the failure of the industry to be attractive for business students. In a nutshell, both parties have to repair their image. And they may indeed gain by engaging into this endeavor together. She will also suggest that we include IT service providers in our definition of "the industry".

Rivard will suggest the need for a conversation, with academia listening to what the industry needs and with the industry listening to what academia has to offer, with a common goal of uprooting the causes of the problems and reviving the IT domain. Rivard will not contest the argument that academia has not always been very attentive to the industry, but would argue that the reverse is also true, as the industry is not always eager to apply the results of the research conducted in academia. One example of note is that of IT project risk management, where research has provided methods that have been shown to contribute to project success. Yet, many sources indicate that the project managers shy away from project risk management. She will also suggest that there are two approaches that we can take to adjust to the revolutionary nature of IT. The first approach is to constantly modify our curricula – adapt our course content, in Gefen and Ragowski's terms - so as not to fall behind. The second approach is to identify the skills that we should help ours students develop so as to make sure that, no matter the changes in the

industry, our graduates "stay on the crest of the wave." Environment scanning, boundary spanning, diagnosing, and problem solving are such skills.

If this conversation leads to the diagnosis that a dramatic change in the curriculum is actually required, we will have to be aware that no matter the quality of this curriculum, it will not be sufficient to attract students and increase enrollment. The curriculum will have to be packaged and marketed in such a way that students will be pulled toward our courses. The experience reported by universities who have been successful in increasing their MIS enrollment (Koch et al. 2009) – to which Rivard will add the quite successful experience of her own School – shows that a vast array of efforts have to be made to attract, retain and place IS students.

Rossi and the alternative "North European View"

Balancing the American view of things, Matti Rossi of Finland will represent a Northern European aspect. Northern Europe had put an emphasis on software engineer education, but recently many large companies have started to ask business schools for more business oriented IT majors. This is due to the changes mentioned by Gefen and Ragowsky, but also due to the highly technical focus of service providers. Now both technology providers and buyers are more interested in solutions to business problems than just new technology by itself. We have tried to respond to this need to provide instead of traditional MIS majors what we call business technology majors: students who have a wide background in general business topics and in depth knowledge in IS, consulting and analytics. So less traditional building and more skills of applying/buying/integrating solutions. The demand for these students is currently very high, at least in Finland and we are responding to this by adding more business intelligence and data "understanding" into the curricula.

Panel Structure

The discussion at the panel will constitute of three sections. In the first part Gefen and Ragowsky will play the Devil's Advocate presenting the above critique based on CIO input of a disconnect between what MIS teaches and what industry needs and hence the need to reengineer the way MIS is taught, namely recalibrate the content to what our clientele, the industry, needs. In the second part the other panelists will present advocate for academia claiming things are not quite that bad, based on their own industry ties. The panel will then open the floor to comments from the audience. Having presented both sides of the argument, and having reached a mutual understanding of where each side stands, the third part of panel will then investigate what can reasonably be done considering the limitations academia faces. Again, the audience will be invited to contribute at this stage. The panel will conclude suggesting the need to consult extensively with the industry what skills should be cultivate and the appropriate mix between enduring skills, such as systems analysis, and those driven by more short term market demands.

References

Carr, N.G. 2003. "IT Doesn't Matter," *Harvard Business Review* (81:5), pp 41-49.

Gefen, D. 2010. *The Art of Successful Information Systems Outsourcing*. New York, NY: Business Expert Press.

Gefen, D., and Carmel, E. 2008. "Is the World Really Flat? A Look at Offshoring in an Online Programming Marketplace," *MIS Quarterly* (32:2), pp 367-384.

Gefen, D., Ragowsky, A., Licker, P., and Stern, M. 2011. "The Changing Role of the CIO in the World of Outsourcing: Lessons Learnt from a CIO Roundtable," *Communications of the Association for Information Systems* (28:1), pp 233-242.

Koch, H., Fuller, M.A., Slyke, C.V., Watson, R., and Wilson, R.L. 2009. "Panel: Attracting, Retaining and Placing IS Students in an Economic Downturn," *AMCIS*, p. 354.

Ragowsky, A., and Gefen, D. 2009. "Why Information Systems Management is in Trouble and how to Save it: A Case Study in the Automotive Industry," *Communication of the ACM* (52:2), pp 130-133.

Ragowsky, A., Licker, P., and Gefen, D. 2008. "Give Me Information, Not Technology," *Communications of the ACM* (51:6), pp 23-25.