Those Who Can, Do, and Those Who Cannot, Teach

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Abstract
The paper explores the relationship between universities and industry and the opportunities available to academics doing research in Information Systems (IS) field in the event of creating and maintaining a successful relationship. In order for such a relationship to stand any chance of success, both parties have to benefit explicitly or the relationship will not be sustainable. It is therefore important to understand the differences and similarities that exist between universities and industry. In this respect the driving forces, focus areas, management styles, metrics, rewards and penalties of universities and industry are explored for similarities and differences. The analysis of a typical day in the life of the IS academic and a day in the life of a Chief Information Officer (CIO), is used to highlight the differences between a typical IS academic (representing university IS teaching and research) and a typical IS practitioner (representing people practising IS in industry). In order for research to be valuable to industry, research needs to be relevant not only in terms of time but also in terms of content and has to be written in a way which is accessible and understandable by the IS practitioner. The dilemma these requirements pose to the IS researcher, is explored in the paper by re-examining the issue of rigor in research versus the relevance. Reference is made to several academic articles on the subject. The paper attempts to identify ways in which the two 'worlds' of university and industry can be brought closer together without the IS academic having to sacrifice his/her primary goal of doing research, but, at the same time, to also address the needs, expectations and requirements of the IS practitioner. Opportunities for research and the resultant publication of academic articles stemming from this 'symbiotic

relationship' are explored. Reference is made to successes of the department of Informatics at the University of Pretoria in its attempts to create and foster a closer relationship between its academics and industry practitioners.

Key terms: Information Systems (IS), IS Researcher, IS Practitioner

Introduction

The view IS practitioners have about academics in the field of IS, is often one of scepticism regarding the ability of academics to 'make it' in the world of IS practice. The implication of the quote used for the title of this paper, is that the reason why academics are in the teaching profession is that they would not be able to successfully practise IS outside of Academia. Senn (1998) quotes a sceptical CIO as follows:

> If I want to know what works or what is being tried, I'll pick up the phone and get a hold of my counterpart in other companies… With few exceptions, the academic IS community doesn't have a clue.

This view is potentially created as a result of IS practitioners either simply not understanding what academics are trying to say or that whatever academics are actually saying may be totally irrelevant to the IS practitioner. Robey and Markus quote a practitioner saying: 'From a practitioner's point of perspective, academic writings are literally unreadable' (Robey & Markus, 1998: 8). Sears and Pickler (in Benbasat and Zmud, 1999) put it even more strongly:

> Journal and Review seem written by academics looking to impress their fellow academics with their ability to use polysyllabic jargon to confuse and obfuscate.

Westfall puts the shoe on both feet: 'IT is managed by people who don't understand it, and understood by people who don't manage it'

(Westfall, 1999). Of course, the possibility must exist that there may have been cases where a person has indeed been more 'successful' as an academic than as a practitioner, but to generalise would be unfair and wrong. After all,

practitioners and academics require different skills to be successful.

Much of the perception could be as a result of how IS practitioners view the deliverables and knowledge of IS academics. These outputs are mainly students graduating from universities and research published. Many IS practitioners are of the opinion that graduate intakes have to be 're'-trained before they become productive. Little of what gets published by IS academics is read by IS practitioners for a variety of reasons which will be explored later in this article. Davenport (1997) light-heartedly remarks when writing about IS practitioners: 'Curled up with Information Systems Research lately?'

Irrespective of what the reasons that gave rise to the perception may be, the fact that IS practitioners may have such a view of IS academics, is enough reason for the any IS academic to give some serious thought to the matter. The objective would not be to prove the perception incorrect as this would purely be to adopt a defensive position. Far more should it be an attempt to bridge the gap between two worlds that may be quite different to one another, but two worlds which share the same field of interest and focus. Instead of developing in isolation and each serving its own selfish interests, they could work more closely together for the benefit of both. Robey and Markus (1998: 14) warn that both parties stand to lose if they don't work together.

Research Design

This research re-examines the individual roles of the IS academic and the IS practitioner and the relationship between them by combining what researchers have said about the subject with the researchers own experience. Many examples exist in practice where these two groups function quite independently from one another, seemingly without much of a problem. This research addresses the problem of whether these two groups indeed need one another by taking a theoretical approach. It surveys the literature to examine the role and function of the IS

academic and re-introduces the rigor vs. relevance debate. By contrasting the worlds of the IS academic and the IS practitioner, a deeper understanding is obtained. It concludes by looking at an instance of where IS academics and IS practitioners work closely together and explores the benefits of such a relationship.

The World of the IS Academic

Before an attempt can be made to bridge the gap between the world of the IS practitioner and the world of the IS academic, it is necessary to take a closer look at these two worlds. For simplicity sake, the world of the IS practitioner, will be called 'industry' and the world of the IS academic will be called 'university'. The names of these categories must not be interpreted to be too narrowly. 'university' must be interpreted to include any institution of higher education and 'industry' to include any form of business other than the business of education and form of non-profit organisation.

The first dimension to be analysed, is the environmental factors driving the world. Industry is mainly driven by very strong market forces based upon the economic laws of supply and demand. There is almost without exception a strong motive for creating wealth for the owners (shareholders) of the business. Even though other entities (stakeholders) are acknowledged and specific business efforts are directed to meet their objectives (eg. in terms of the environment), these are mostly given lower priority than the wealth creation goal.

Until very recently, universities could afford to be far more internally focused than their industry counterparts. Competition between different universities has been and still is weak, relative to their industry counterparts. Residential universities mostly attracted students from their geographical location (convenience), or as a result of a specific niche carved out by them in terms of language, beliefs and/or values. Customers of universities (students) have traditionally been far less demanding than customers of industry and, as a result, universities can afford to be more inwardly focused than industry.

The second dimension for analysis, is that of results. Industry is mainly measured on financial success. The metric used for this measurement is simple, unambiguous, clear and regularly reported in the

annual financial statements. Public companies are scrutinised by the public and the investment community and industry watchdogs (auditors) ensure, as far as is possible, that high standards are applied so that comparisons can be made with relative ease. Less emphasis is placed on how these results have been achieved (within accounting practices and corporate governance principles); as long as profit and other objectives have been achieved. The process is therefore secondary to the results.

It is less clear how success is defined for and by universities. Some universities quote the number of registered students as a measure of success, whilst other seem to be quite satisfied to measure their success in being a niche player with a relatively low number of students. Research output (quantity and quality) seems to be recognised between universities as a measure of comparison, but it is doubtful if this is necessarily recognised by prospective students or their parents (i.e. the public). In whichever way universities measure their own success, or how the public measures success of universities, there is no standardised measurement similar to the one found in industry.

The biggest differences between universities and industry are probably found in the management style prevalent at each. If a particular management style is practised long enough, it usually gives rise to a specific culture found in the organisation. One could therefore say that the culture of a university differs substantially from the culture typically found in industry.

Although many companies may deny this, the style most used by industry, leans very heavily towards autocracy whereas the style used by universities is more of a democratic nature. Language used in industry Executive Committees and Boardrooms is mostly to the point and direct whereas language used at universities is more indirect and evasive. Fierce arguments, often spiced with strong words, are not uncommon in industry, whereas politeness and respect for opposing views is more common at universities. Interestingly enough, it would seem that conflict at universities is more personal in nature than in industry, at least from the author's experience.

Good personal performance in industry is usually in some or other form of financial reward and symbols representing success is commonplace. Failure in industry is usually dealt with severely and could either take the form of outright dismissal, or being moved sideways to

the company's 'Alcatraz' from where the only way to escape is resignation. Good personal performance in universities is rewarded through recognition by peers and authorities whilst little seems to be done regarding underperformance.

Although the differences describe above are gross generalisations and very much based on the experience of the author, any person having been exposed to both worlds, intuitively recognise that there are some real differences. One must also acknowledge that there are always exceptions to any generalisations. What is important is to note that the world in which the IS academic lives and the one in which the IS practitioner lives, are vastly different. The objectives, the principles, the practices, even the values and the ethics, can be significantly different.

Yet, the discipline of Information Systems is the same in both worlds. The IS academic studies the discipline in order to understand it better. The IS practitioner must practice it every day. The discipline of IS is the binding force between these two worlds.

The World of the IS Practitioner

The focus of the IS practitioner is on operational service delivery activities. Very few companies nowadays are not entirely dependent on the flawless functioning of its IT infrastructure at least during working hours, but in many cases on a 24x7 basis. The days of having more than enough in the IT budget have long gone and the IS practitioner, like the rest of the business is constantly expected to 'do more with less'. As a result of the focus on operational issues, the IS practitioner finds little time for longer term planning and still less time to undertake the necessary IS research that has to go into such planning.

IS service providers play an important role in the lives of IS practitioners and the performance of these service providers is, in many cases, a direct reflection of the company's perception of the performance of its IT department. Very often IS practitioners have to rely heavily on the 'research' done by Service Providers, published in so-called White Papers to keep them abreast of what is happening. Many IS practitioners realise that these documents are sometimes biased towards certain products and that the 'research' that went into the document is rather shaky, but still accept it in the absence of something better.

IS practitioners work long hours and spend long periods away from their families, but is mostly adequately rewarded in terms of attractive salary packages and other 'perks'.

IS academics are also faced with a substantial workload. Student numbers have increased over the last years and a hundred or more students in post-graduate classes, has become the norm rather than the exception. Preparing for lectures, presenting the lectures (sometimes repeating the lecture in another language), answering students' queries in person and via email and the marking of assignments, tests and examinations, translate into many hours. Apart from teaching, the IS academic is also expected to undertake research, leading to the publication of articles in accredited Journals. 'Publish, or perish' is the maxim.

The third component of the IS academic's task, is to be involved in 'Community Service'. This component takes on a variety of forms, ranging from getting involved in voluntary community upliftment initiatives to paid consulting work in an attempt to enhance what is generally considered to be a meagre salary package.

The priority given by IS academics to the three components varies, but in most cases teaching takes priority. Lecture times are fixed and as a result, takes the highest priority in most IS academic's lives. Answering long queues of students' queries is also something which cannot be delayed for any length of time and takes second place. Third place is usually shared by research and 'community service' and priority is often dictated by the financial needs of the family more than anything else.

An argument often used by IS academics actively engaged in private consultation, is that it benefits the university and the students in the sense that it provides the person with industry experience which can be applied in either teaching or the classroom. Whilst this is true in many cases, it is not always found to be the case. A fairly popular way for a number of IS academics to earn an extra income, is by marking examination and/or test papers for other academic institutions. It is difficult to appreciate how this could significantly benefit one's own university or students.

Some IS academics, however, do get involved in industry. Whilst some of this activity may be of a commercial nature mainly benefiting the individual, others definitely are aimed to learn more about industry and to obtain first hand experience of problems and opportunities faced by IS practitioners.

Likewise, some IS practitioners get involved in academia, leading to what is sometimes referred to as the 'Reflective Practitioner'. Davenport (1997) acknowledges this, but calls them 'an endangered species'. A number of IS practitioners managed to complete their PhD's despite the pressures of work. Some of these and others are involved in part-time lecturing, or acting as external examiners.

Opportunities for IS Academics and IS Practitioners Working Together

IS academics and IS practitioners are essentially working in the same discipline, namely the field of Information and Communications Technology (ICT). However different the university and industry environments may be, IS academics and IS practitioners face the same challenges in terms of the discipline.

IS academics are primarily interested in the theory underlying the discipline whereas IS practitioners primarily apply the theory in practice. The one aims for understanding the fundamentals; the other aims to put it to best use in business.

Although different, these are like to the two sides of the coin. The one cannot be separated from the other. They feed on one another; providing input into the other and assessing the output in order to gain better understanding. Unlike the Yin and the Yang, both components experience growth in the process. One does not grow at the expense of the other.

Is there a precondition for this symbiotic existence? The answer lies in relevance. The IS academic would be interested in the work of the IS practitioner as long as what the IS practitioner is doing, is relevant to the IS academic and vice versa.

Relevance in IS Research

The debate in terms of relevance versus rigor in research has been a long-standing one in IS. Business Schools faced this criticism in the 1950's when it was said that management education was 'devoid of intellectual content' (Robey & Markus, 1998:7). This led to a bigger emphasis on more rigorous research, but with the result that in the 1980's, Business Schools were then criticised of being irrelevant!

Not surprisingly, the field of Information Systems also experienced the criticism that IS research was 'not relevant, reachable, or readable' to IS practitioners (Senn, 1998: 23). Several articles on the subject appeared in 1998 in a single edition of the Information Resources Management Journal on the subject. Robey and Markus (1998) point out that careers and respect in academic institutions depended on the ability of scholars to publish their research in peer-refereed journals that are well-known for rigorous research, but that these journals were seldom read by IS practitioners. Other, non-peer-reviewed publications (typically White Papers prepared by vendors) 'stepped in with timely reports on the practical implications of numerous emerging technologies' (Robey & Markus, 1989:8). They argue that rigor and relevance are not mutually exclusive and coin the term 'consumable' research to mean a combination of both. The intent with this kind of research is that it is more digestible to IS practitioners, yet academically rigorous.

A similar debate took place the following year in the prestigious flagship of academic IS Journals, MIS Quarterly. Various articles by renowned authors appeared (Applegate, 1999; Applegate and King, 1999; Benbasat and Zmud, 1999; Davenport and Markus, 1999; Lyytinen, 1999; Lee, 1999; Kavan, 1998). It was clear from this that the 'big guns' of the academic world, were taking notice of the issue.

Davenport (1997) identified the need for universities and industry to take hands. He convincingly argues the case for business to take an active interest in what is taught by universities and to assist in shaping the courses in order to obtain a more suitable product for their businesses, but also encouraged academics to 'make contact with the real world' (Davenport 1997). He quotes examples in the medical and legal fields where this has been achieved with much success.

In the article, he identifies two possible reasons for the weak relationship between IS practitioners and IS academics, namely the career and promotional system in use at many universities and the desire to be respected by their peers (Davenport, 1997). He argues that academics strive so hard to be recognised and respected by their peers for their rigorous research, 'that most of us have lost all relevance to the business community' (Davenport, 1997).

Benbasat and Zmud (1999) agree with the views of Davenport. They argue that rigor and relevance are not mutually exclusive. 'Relevancy does not imply that research needs to be carried out in a less rigorous fashion'. According to them, much of the problem can be blamed on the way researchers write their articles, such as a 'scholarly' tone and lengthy 'homages to the "literature"'. Although they appreciate the problem that much of the time of academics goes into teaching, they point out that academics need to spend time with IS practitioners in order to gain firsthand exposure to the problems they are facing.

Davenport and Markus (1999), reflecting on the article of Benbasat and Zmud, agree with their views, but feel that they could have gone further. They again make the point earlier made by Davenport in 1997 regarding the examples of academics in medicine and law who are quite active in their industries. They point out that academic journals are seldom read by IS practitioners, and that 'hybrid business-academic' journals, such as Sloan Management Review have a much higher subscription than, for instance, MIS Quarterly. This implies that IS practitioners attach more value to these publications than the accredited IS research journals. They make a plea to IS academics to support these 'hybrid' IS journals.

In the same article, Davenport and Markus (1999) point out that IS Consultants have to a large degree, taken the place of academics by publishing in journals such as McKinsey Quarterly and others. Although the research which appears in these journals is not always of a high standard, IS practitioners gain more from them than from the academic journals.

Lee (1999), at the time of the article the editor-in-chief of MIS Quarterly, reacts to the view of Davenport regarding the examples of medicine and law by pointing out that these disciplines 'are not natural

sciences, but professions'. He argues that the goal of inquiry into professions, is totally different from the goals of inquiry into natural science. He quotes Kuhn to point out that for IS researchers to find their research topics in industry, 'they might succeed only in explaining what practitioners are already doing'. Lee is not convinced that only what IS practitioners consider to be relevant, needs to be relevant. In fact, he calls for some research to be done regarding relevance itself.

Westfall (1999), taking into account the debate a few months earlier in MIS Quarterly and by quoting many other articles as well, wrote a passionate 'relevance manifesto'. In this article he takes a scenario planning approach to the problem of relevance vs. rigor and concludes that the real aim of academics should be to shape and deliver properly prepared graduates for industry.

Denning (2002:19) argues that obtaining funding for research would become easier if the projects proposed for funding add value to the funding organisation. He points out that the academic research performed at most universities has little regard for the practical side of IS (read as: relevance) while applied research is really what is required by industry. Academic research has a window of 20 to 50 years and applied research one of 2 to 5 years, according to Denning.

Although nothing matching the intensity seems to have been published on the topic since the 1999 debate, no clear winner has emerged. Much of the criticism expressed by Benbasat and Zmud, Davenport and others would still be true today, despite the 5 years that have passed since then. It can be argued that the debate may have initiated publication of the MISQ Executive, aimed more at the IS practitioner.

Institutions of Higher Education will always have their own research goals and good arguments can be made out why rigor is essential and why not all rigorous research is necessarily directly relevant to the IS practitioner. That is the nature of research. Relevant concepts from pure research will always filter through to the IS practitioner via White Papers, or through channels where IS academics do have close links with industry.

It would therefore seem that it is left to individuals and Schools of IT to decide for themselves where they stand on the issue. The fact that

not much is published about the issue lately, may be an indication that the right of the individual is recognised and accepted by all and sundry, bringing harmony and creating a peaceful environment where the focus is on other, probably more important issues.

IS Research at the Department of Informatics at the University of Pretoria

Since its inception in 1989, the department of Informatics at the University of Pretoria has always valued a close relationship with industry. Not only have some staff members successfully involved themselves in consulting or other roles in industry, but IS practitioners have regularly been involved in classes as guest lecturers.

By implication and deliberate choice, the department decided that it wanted to be relevant in terms of curricula and research while at the same time maintaining the necessary high standards for research. Over the years, a number of interactions between university and industry took shape.

Graduate curricula include a 4th year level 'internship' of 560 hours in the B.IT course and 3rd year B.Com students have to complete a systems development project for which they have to find the requirements outside of the university environment. Some of these projects have astounded IS practitioners who are invited to attend a 'project day' when students get a chance to 'show off' their projects to peers, staff, vendors and industry. Some even took the projects they did in their graduate studies and started businesses with the aid of the 'IT Coachlab', an incubator for ideas funded jointly by the university and industry.

IS practitioners, having appropriate post-graduate qualifications, are used extensively as guest lecturers, but also as external examiners and moderators.

An Advisory Committee, consisting of senior IS practitioners, has been in operation for many years to advise the School of Information Technology (the departments of Computer Science, Informatics and Information Science). This Committee advises the School on various

aspects such as course curricula, duration, staff matters and relevance in general. It is chaired by the Dean of the Faculty to demonstrate the importance the university attaches to this initiative.

The department also has formal relationships with businesses. One company sponsors a Chair in the department and another provides funding for prizes for best-performing students and subsidises staff attending overseas conferences. These relationships are highly valued and the efforts have lately been intensified to include regular exchange of information, focused research, identification of research topics for post-graduate students and staff members. One member of staff is a standing member of a senior management decision-making forum of one of these businesses. More businesses have been targeted and it is expected that the number of relationships will increase in the very near future.

As a result of the interaction with industry, the department has become quite well known in business circles. This led to a healthy stream of students registering for post-graduate courses. More than 100 students are currently enrolled for the B.Com (Hons) course and 72 are in the M.IT course. Industry is encouraged to suggest research topics for these large numbers of students. The result is research topics that are relevant to industry with the academic staff making sure that research standards are maintained.

Industry willingly contributes to a prize giving ceremony to best-performing students at a gala-event. The benefit to students is that they get publicly recognised and rewarded for hard work, but it also puts them in direct touch with potential employers. The benefit to industry is a healthy source of recruits.

The purpose of these interactions is to ensure that the department remains in touch with what takes place in industry. The opportunities for research that have been identified with the interaction to date, are both astounding and encouraging. The benefits to the businesses are clear and their appreciation is reflected in the enthusiasm they show in involving the department in their problems and challenges.

Conclusions

IS academics are often criticised by their practitioner peers that they are in academia because they were not (or would not be) able to 'make it' in industry. 'Those who can, do', it is often said, 'and those who cannot, teach'.

This quote is a crude generalisation, blatantly unfair and mostly said tongue in cheek, but at the same time, an element of truth is probably present. There is a real danger that an IS academic can isolate himself so far from the practical world that nobody takes any notice of what he does, say or write. One would not have to look far to find an example. At the same time, it must be said that there is a risk that IS practitioners know dangerously little about the fundamentals of the IS discipline.

The solution proposed is a closer relationship between the IS practitioner and the IS academic. There is clearly room for synergy. The IS practitioner can learn much from the IS academic and likewise, the IS academic can learn a lot from experiences of the IS practitioner. There is potential for a symbiotic co-existence between these two. What makes it perfect, is that both camps benefit enormously.

It may even be possible to envisage a day when the ICT industry, in working together, is eventually recognised by business as truly professional and truly adding value to their businesses. As long as we function in isolation from one another, this goal will elude us. Only if we work together, we will be able to take our rightful place on the podium.

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