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Inclusive or Exclusive? Methodological Practice and Policy for Organisationally and Socially Relevant IS Research

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ABSTRACT

In this research essay, we argue that IS researchers demonstrate a high degree of methodological exclusiveness in their preference for a relatively small selection of research methods that primarily follow the positivist tradition. Such exclusiveness is unethical because it severely and unreasonably limits the extent to which IS research and researchers can contribute both to pressing organisational problems and the scholarly literature. We synthesise our position in four arguments that guide our discussion of the nature and consequences of methodological exclusiveness as well as possible solutions. We end the paper with an exposition of steps that could be taken to address the current situation.

Keywords

Research methods, epistemology, rigor, relevance, IS researchers, inclusiveness, exclusiveness

INTRODUCTION

Since the founding of Information Systems (IS) as an academic discipline some 30 years ago, the critical importance of our research being socially and organisationally relevant has been recognised. Furthermore, IS researchers have devoted significant resources to ensuring that their research is rigorous - the correct application of methods to a research problem (Zmud, 1996). However, in order to achieve that rigor, it is notable that the vast majority of IS studies that involve organisational problems and actors are informed by an positivist epistemology, employing such methods as field experiments (e.g., Dennis, Heminger, Nunamaker and Vogel 1990; Vogel, Martz, Nunamaker, Grohowski and McGoff 1990), case studies (e.g., Lee 1989; Maznevski and Chudoba 2000) or surveys (e.g., Kankanhalli, Tan and Wei 2005), often in isolation from other methods, i.e. monistically. The almost exclusively positivist approach to IS research ended by the early 1990s, when it was complemented by interpretivist and critical analyses (e.g., Orlikowski and Baroudi 1991; Orlikowski 1993; Lee 1994; Walsham 1995). Lee's (1991) exposition of how positivist and interpretivist approaches could usefully be combined demonstrated one way forward. With the growing acceptance of a diversity of methods and perspectives, IS research has been enriched by studies involving methods such as ethnography (e.g., Myers 1999; Ward 1999), hermeneutics (e.g., Boland and Day 1989; Lee 1994; Myers 1995) and action research (e.g., Baskerville 1999; Kohli and Kettinger 2004; Mårtensson and Lee 2004). Nevertheless, while IS research is now in principle more methodologically inclusive, a more detailed analysis of methods used in organisational IS research shows that positivist methods are still very much dominant, especially in work undertaken by junior researchers and PhD students.

In this research essay, we revisit the scene of earlier epistemological struggles from a social, ethical, community-oriented and political perspective. Our aim is to demonstrate that we, as a research community, need to be more sensitive to the negative consequences of epistemological and methodological monism, and indeed to explore how a more pluralist approach to IS research can be realised. This essay is offered as a belated reaction to Lee's (1991) belief both that positivists and interpretivists can learn from each other (not to mention critical theorists); however, we suggest that a pluralist approach to research need not be undertaken or evaluated solely at the level of the single research paper. Instead, we argue that the reflective researcher (or team of researchers) should be able to devise a research plan that incorporates a diversity of methods across epistemologies through a linked series of studies. Such an approach provides the opportunity for a research problem to be tackled from a number of complementary perspectives. This is likely to result in a more holistic analysis and a more effective outcome with corresponding implications for both practice and scholarly learning. Further, we argue that any restriction placed on the application of methods by researchers would be profoundly unethical. IS researchers should enjoy both the intellectual freedom and the ethical obligation to avail themselves of whichever methods are most suitable for investigating the problem at hand. Following Sen (2000), methodological exclusion is a form of both “capability deprivation” and an instrumental “cause of diverse capability failures”. In other words, restricting the methods open to use also restricts our capability to solve problems.

Notwithstanding the above arguments, we agree that a more methodologically inclusive approach to IS research is by no means easy to achieve. As Zheng and Walsham (2008) observe “social inclusion in the information society entails great complexity”. As a form of social inclusion, methodological inclusion requires a spirit of intellectual and epistemological open-mindedness, so as to ensure that a diversity of methods are represented in the work that we conduct and publish. In order to achieve such inclusiveness, changes are needed in the way we: select research problems; approve funded research; train and socialise research students; undertake peer reviews; and ultimately set up editorial requirements. Further, even as we advocate methodological inclusiveness across epistemologies, we do not wish to create a new form of political correctness, mandating individual researchers to adopt specific methods. Instead, as we argue below, we believe that we need to develop awareness of the advantages for organisational IS research that will accrue through the adoption of a pluralist approach to research and so encourage scholars to engage in a pluralist fashion with their colleagues in research teams.

The essay is organised around four key arguments designed to capture the essence of the phenomenon. Some of the arguments are more controversial than others, but the spirit of the paper is to encourage both a healthy academic debate and a reassessment of the methods that we use. Finally, we consider how a more inclusive, ethical, approach to IS research methodology could be developed and sustained in our community.

FOUR ARGUMENTS

Argument 1: Research that is constrained to a single methodology will be impoverished in terms of the improvements it can stimulate or effect on social and organisational reality.

In IS research, a number of methods from different epistemological positions can be applied to research problems. Examples of methods include experiments, surveys, case studies, critical research, ethnography, action research, phenomenology, simulation and hermeneutics. Each of these methods has been established for a specific purpose and each has a more or less well defined set of rules or principles that govern its application. Significantly for our thesis, each method has its own strengths and weaknesses. Some of the methods are objective, with the researcher maintaining a distance from the phenomenon and its key actors; other methods are more subjective, requiring that the researcher work in close proximity with the organisational context, the research problem and the organisational stakeholders.

Given the richness of the problems that we tackle in IS research, as well as the complexities of organisational phenomena and the challenges associated with that work, we argue that it is important for IS researchers to obtain as holistic an impression of an organisational situation as possible, if they are to undertake research that will enable them to make significant scholarly contributions. However, it is seldom the case that a holistic understanding of a situation can be achieved if only a single method is applied.

Studies of knowledge sharing in organisations provide a good illustration of the benefits realisable with multiple methods. For example, a survey of individual employees’ attitudes towards and perceptions of knowledge sharing, whether in a single organisation or across organisations, enables the researcher to test specific hypotheses in the context of a structural model related to knowledge sharing. However, respondents to such surveys are seldom given the opportunity to provide more detailed feedback on related aspects of the situation as they experience it in their work life, with the consequence that the researcher is not able to gain as holistic an understanding of the situation as is potentially available.

Alternatively, a hermeneutic analysis of instant messenger texts sent by knowledge workers to each other in the course of their work may reveal much of interest about what they share and don’t share through this informal channel, including whether what they share consists of work-related knowledge at all, yet this analysis will also conceal much of the contextual richness of the work that they actually do if it is not reported in the texts. Furthermore, it will not enable the researcher to probe any deeper into issues not surfaced through the hermeneutic analysis.

A case study of knowledge sharing practices in a software house may provide a higher level view of knowledge sharing behaviour, as well as the incentives provided by senior management, the efficacy of the organisational culture and the overall impact of knowledge sharing on employee productivity, yet fail to get to grips with the precise knowledge sharing techniques applied by individual employees and the extent to which these techniques are effective in enhancing individual, team or organisational productivity or agility.

An ethnographic study of the same software house could reveal much of the detailed daily life of the knowledge workers and the effectiveness of their work practices at the individual level, yet conceal the broader context within which these work practices are conducted.

Each of the methods mentioned above has significant value to researchers. Each is likely to be appropriate for revealing certain aspects of the phenomenon under study. However, even as each reveals part of the phenomenon, so each also conceals part of the phenomenon, offering a view of the organisational situation and research problem that is simultaneously focused yet restricted. In consequence, while the rigor of the research undertaken is not in question, the likely impact, contribution and relevance of the completed study will be to some extent impoverished. Consequently, we suggest Argument 2, below, in order to overcome this limitation.

Argument 2: Research will make a more significant scholarly and organisational contribution when it incorporates different methods from a diversity of epistemological perspectives.

A single methodological perspective can only illuminate a partial and restrictive view of the natural richness and complexity of any given phenomenon (Avison and Myers, 1995; Landry and Banville, 1992; Orlikowski and Baroudi 1991). Thus, IS research will be both richer and more likely to produce both valuable scholarly knowledge and organisationally relevant outcomes when objectively analytical rigor is coupled with a contextually proximate and intimate investigation of the research situation, uncovering organisational phenomena in detail. This combined set of outcomes, which mitigates or eliminates the impoverishment described above, can be achieved if a pluralist approach to research methodology is undertaken. Such a pluralist approach is particularly appropriate in situations that involve rich and emergent phenomena that change over time and where individual human beings are functioning in a complex social reality. Such contexts are not always amenable to more objective, hands-off research methods such as surveys, which assume a relatively high degree of contextual constancy, or at least are not sensitive enough to detect significant contextual variance, and where it is not appropriate to control for the variance. Case studies do permit a closer set of observations to be undertaken, particularly if the case study protocols are allowed to evolve as the case is in progress, i.e. to be adapted to the shifting or emergent circumstances. Indeed, case studies sometimes incorporate more intensive methods such as ethnography and hermeneutics in order to afford researchers a more intimate view of certain aspects of the phenomenon under investigation.

However, a methodologically rich approach that combines objective and subjective stances requires strict discipline from the researcher or research team, who should be sufficiently familiar with each methodology applied to ensure that appropriate levels of rigour are maintained, even as relevance is sought. This form of disciplined methodological pluralism in IS research has been lauded both by those who would promote the diversity of the field (e.g. Robey 1996), and by those who believe that our research is best served by multiple perspectives (Avison and Myers, 1995; Landry and Banville, 1992).

Such disciplined methodological pluralism is particularly appropriate in complex organisational situations that involve a variety of circumstances, whereas trivial or artificially constrained research designs may well not benefit from a pluralist approach to methodology. Notwithstanding the strong levels of espoused support from prominent members of the research community, there are fewer examples of methodologically pluralist research than might be expected. Nevertheless, Galliers (1991) documents how such a pluralist approach to methodology could work in practice and it is notable that Galliers includes both positivist and interpretivist methods in his exposition.

A strong argument in favour of a pluralist approach is that it enables the tackling of a wider variety of valid organisational problems in contextually sensitive ways. Thus, rather than the IS researcher wielding one method (the hammer) at every problem, there is instead a richer tool-box of methods, each of which can be applied, alone or in combination, according to the specific circumstances – providing that the researcher or research team is comfortable with and competent to apply these methods. In practice, this means that methods from different epistemological persuasions may be deployed, if they are commensurable. Further, it suggests that those organisations that work with IS researchers will be better served.

Organisations themselves are naturally interested in not only the research process, but also the research outcomes. Practically, this means that they may be willing to contemplate organisational change as a result of, or even as a procedural aspect of, the research process. Action research methods are particularly suited to this kind of organisational research, since they demand that researchers be actively engaged with the organisational problem, even as they develop scholarly knowledge. Action researchers need to combine both objective and subjective stances in their research. The objective position is clear in the diagnostic phase of the research, since the researcher is not an organisational employee but an outsider who brings a fresh pair of eyes to the initial diagnosis of the problem situation. In the planning phase, the researcher must identify and apply a theory, as well as additional tools that can be used to objectively measure organisational performance and change, i.e. before and after the intervention that is to come. However, this objectivity must sit alongside a degree of subjectivity associated with the researcher's personal engagement with the organisational phenomenon and actors, not to mention an interpretation of emerging circumstances and establishing the causes of specific problems, as well as the most appropriate remedies.

For example, in a knowledge sharing project undertaken by the authors, where Action Research formed the guiding framework, we deliberately employed a multi-method approach, blending positivist and interpretivist epistemological paradigms. We collected survey data from organisational employees, conducted an ethnographic observation of selected employees, hermeneutically examined instant messenger logs for knowledge content, evaluated organisational work processes with business process modelling tools and the Value Shop (Stabell and Fjelstad, 1998), and both planned for and measured organisational change with the Balanced Scorecard (Kaplan and Norton, 1992). The above activities constitute parts of an extended study (i.e. more than a single article), where it is highly improbable that a single article would attempt to include each and every method. Instead, a series of articles, co-authored by different combinations of members of the research team, focusing on different aspects of the problem and drawing on different methods and epistemological perspectives are more likely to result, thereby demonstrating a pluralist approach to methodology across a stream of linked articles (cf. Lee, 1991).

Whilst we can make the case for methodologically pluralist research, we recognise that the skills required to conduct such research effectively take time to develop, and time is a key resource that is in short supply, in particular for junior researchers and PhD students who race against tenure and completion clocks. This leads to our third argument.

Argument 3: Junior professors and PhD students are discouraged from undertaking, and are consequently reluctant to undertake, multi-method research, especially in the interpretivist and critical epistemological traditions.

This third argument is an unfortunate one in our view, yet it appears to reflect academic reality. Based on our observation of PhD students and junior professors in a number of institutions and across several countries, it would appear that there is often a quasi-deliberate policy of encouraging the application of research methods that are perceived to be less 'risky'. Although such a policy is unlikely to be formally stated, we have encountered senior professors, supervisors and other mentors who have warned junior professors and PhD students not to stray far from the 'safer' realm of quantitative methods such as experimental laboratory studies and surveys – if they want to complete their research on time and also publish it with relative ease. Such warnings may be uttered with the best of intentions, i.e. recognition that more complex methods are less well understood by reviewers/editors and so may be subjected to more critical scrutiny, rendering publication more difficult. Nevertheless, these warnings are symptomatic of a worryingly exclusive attitude towards 'less safe', 'more complex' research methods, to say nothing of the impact of IS research in organisations.

Informal warnings apart, research methods from the interpretivist and critical epistemologies are seldom taught in any depth during PhD study, perhaps because few qualified professors are comfortable to teach them and fewer still students take the trouble to take up the challenge of learning how to apply them in their research. Consequently, many PhD students and junior professors are firmly socialised into a narrow positivist tradition that does not encourage the inclusion of methods from other epistemological perspectives.

The unfortunate consequence of this socialisation process is that these researchers are relatively detached from the real organisational world where IS applications can be found, and so are unable to offer deeper explanations of their findings, or indeed of the organisational relevance of their findings if they are relying on student subjects as proxies for organisational personnel. We recognise that multi-method research in organisations is more complex than single method research, requiring more time to complete an investigation, given the situational vagaries of working with organisations, and an intellectual dexterity associated with methods that do not necessarily share the same fundamental assumptions or values. Time is a critical issue, given the pressure under which PhD students and junior professors operate, and the expectation that they will complete their dissertations efficiently or achieve tenure with an appropriate number of high quality research publications. Taken together, these characteristics of the junior professor's or PhD student's life seem to favour a single-method and epistemologically positivist approach to research.

Argument 4: PhD students lack the skills to do multi-method research.

The training process for most IS research professionals includes very little detailed methodological guidance on more complex methods, notably those that involve qualitative data and those most frequently associated with the interpretivist and critical epistemological traditions. The culture of most PhD programs in IS discourages students from venturing far beyond the safer quantitative methods of experiments and surveys. Thus, it is not surprising that PhD students lack the requisite skills to engage in multi-method research, except within the narrow confines of the methods that they are encouraged to apply. This situation results in two significant consequences, associated with the frequency with which multi-method research is conducted and the quality of the multi-method research that is conducted.

Since new and junior members of our profession are comparatively unaware of multi-method research, they are less likely to consider it as a viable research strategy. This creates a vicious circle because relatively few people are aware of multi-method research and the outcomes it can enable. Consequently, only these few people are able to impart their knowledge to others.

Indeed, the situation is more complex still. The first author of this paper is knowledgeable about multi-method research and has practiced it for most of his academic career, but his own PhD students have been actively discouraged from following in his footsteps by both senior academics in his department and their own research students! Thus, in the absence of a departmental or institutional research culture that values multi-method approaches, it is extremely difficult to engage the next generation of IS researchers in multi-method techniques, formally or informally.

Notwithstanding the limited amount of multi-method research conducted by new and junior members of our profession, many of those who do venture beyond the safety net of traditional IS research methods are unlikely to have appropriate training or qualifications. Consequently, the quality and effectiveness of the research that they conduct is likely to be significantly limited. Naturally, novice multi-method researchers will improve their skills over time, if they persevere, but mediocre research is unlikely to be published in our better journals or conferences, and so the rewards for these novice researchers will be few and far between, at least in their early years. The only way forwards may be to partner with more experienced researchers who are familiar with multi-method research.

DISCUSSION & CONCLUSION

The four arguments developed in this paper serve to highlight both the methodological monism in IS research and some of its consequences. There is an espoused respect for an inclusive diversity of research methods, at least from senior scholars in the field. However, relatively little published IS research is based on multiple methods. This situation alarms us, particularly given the impoverished contribution of IS research to social and organisational realities. Furthermore, the methods that are adopted regularly tend to exclusivity – there are relatively few of them and they account for the vast majority of IS research conducted.

We suggest that the current situation represents a malaise that lies at the heart of the IS discipline. The malaise is not so evident in the conduct of the research, which conforms well to narrow standards of rigor – the correct application of methodology. Rather, it appears when we consider the relevance of the research. Research based on an exclusive set of methods limits the advancement of knowledge in our discipline.

We believe that this malaise must be addressed if IS research is to be more relevant to the often complex situations encountered by and in organisations. Rigor, as traditionally defined, is necessary but insufficient. Holistically, rigor should also encompass the appropriate selection of method(s), not just its (their) application. Ethically, we have an obligation to our practitioner colleagues and the organisations that provide contexts and problems for our research, whether directly or vicariously. This obligation suggests that we should not restrict ourselves to a set of research methods that we find most convenient to use or indeed easy to publish. If we do, the likelihood is that our research will become increasingly irrelevant to practice, increasingly exclusive and inaccessible to anyone but ourselves.

We recognise the complexities associated with multi-method research, notably methods associated with the interpretivist and critical epistemologies. However, we believe that such complexities are necessary and permit a richer diagnosis of organisational problems, as well as the development of contributions to both scholarly and practical knowledge that will be more significant and of longer duration. Nevertheless, given the exigencies of publication venues, it is unlikely that a single research article will contain a rich set of methods. Instead, we argue that each article in a linked stream of studies emanating from the same research project may usefully adopt a different epistemological or methodological perspective.

Each epistemology and method has its own distinctive strengths and weaknesses in the context of IS research in organisations. It is not reasonable to expect that every IS researcher should be an expert with every research method, but it does not seem unreasonable to suggest that every researcher could be an expert at recognising the strengths and weaknesses of every research method. The same researcher could then be expected to recognise where the benefits to be realised from one method end and where those of another method begin. Achieving such recognition would require a degree of genuine methodological integration, not to mention social and political acceptance in the research community.

Any methodological integration needs to be undertaken as part of the formal training and socialisation process for PhD students. Before engaging in their mainstream dissertation work, PhD students could be given an opportunity to conduct several smaller projects where they explore different research methods from different epistemological persuasions, alone or in combination. Such projects will at least give them a sense of the value of each of several methods and help them to choose the method(s) that they later apply in their own dissertation. At the same time, undertaking such projects will require them to read a wider literature from a methodological perspective, and so encounter research that does adopt multiple methods.

Given the realities of the tenure process at most universities, untenured colleagues will naturally prefer to reduce their risks and focus their efforts on simpler and better-defined research problems that can be addressed with the traditional methods with which they are more familiar. However, after securing tenure, we believe that the members of the IS research profession have an ethical obligation to apply a wider range of tools and methods so as to tackle the important and complex research problems that organisations face and that form the basis for much of our research. We hope that our call to action will increase their ability and propensity to do so by cultivating greater awareness and understanding of research that adopts multiple methods in a spirit of social, and methodological, inclusion.

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