

2. Information systems theory as cultural capital: an argument for the development of 'grand' theory

Douglas Hamilton, *School of Information Management and Systems, Monash University, Victoria*

Abstract

Bourdieu's concepts of social fields and social power provide a theoretical basis for the view that the IS field is engaged in an ongoing struggle with other disciplines for academic prestige and support. While IS has produced a considerable amount of high quality theory and research, it is by no means clear that this is understood either by the academy or by the general public. The issue has become problematic to the extent that IS now faces something of a public identity crisis. It is claimed that broad or 'grand' theories play valuable roles as items of cultural capital for other disciplines, and that an IS theory of this type would help to address the visibility problem. It is further proposed that an opportunity to develop such a theory is currently available, and that IS academics are ideally placed to interpret phenomena generated by the spread of standardised IS concepts throughout the business world.

Introduction

The proposal in this paper is that the development of a prestigious grand theory in the information systems (IS) field is possible, opportune, and would be of considerable benefit to the field. 'Prestigious' is taken in this context to mean achieving a degree of renown, ideally with the public at large, but at least within the academy. While significant benefits could derive from the application of such a theory in research and practice, its primary value to the discipline would be as a resource contributing to its public image. An influential theory is a statement that its originating discipline is a source of marketable ideas, and worthy therefore of interest and respect.

The theoretical grounding for the paper is derived primarily from Bourdieu's concepts of social power and social fields (Bourdieu, 1980; Bourdieu and Wacquant, 1992; Swartz, 1997). On this, the IS field – comprising an array of academics, professionals, and institutions – is conceptualised as engaged in a more or less continuous struggle for relative power and status with other disciplines. The assets supporting or enabling participation in such struggles include both economic and cultural capital, where cultural capital is the combination of ideas, knowledge and research that are seen as intrinsically linked to the field, and which form the basis for its academic and community standing (Bourdieu, 1980). Major theories are, in this perspective, items of symbolic capital that have value as the end products of significant intellectual efforts.

While popular theory is always likely to be of benefit to a discipline (Abbott, 1988), such a development would be particularly opportune within the IS field at a time when talk of disciplinary crisis is in the air (Markus, 1999; Khazanchi and Munkvold, 2000; Benbasat and Zmud, 2003; Hirschheim and Klein, 2003). In relating the development of

theory to the issue of disciplinary success, the argument is that the visibility and prestige of other disciplines has been shown to depend partly on their capacity to engage the public's interest in their intellectual products (Abbott, 2001). 'The public' in this context can be construed in a number of ways, ranging from a general population concerned with a variety of social trends and issues, to academic authorities responsible for allocating funds and determining relative resourcing priorities (Slaughter and Leslie, 1997).

The term 'grand theory' is used here to refer to the type of overarching theory constituted by a set of umbrella concepts designed to explain a broad range of social phenomena, and robust enough to act as the conceptual framework for a variety of research programs dealing with empirical data. Examples from other disciplines would include Marxism (Marx, 1981), psychoanalysis (Freud, 1938) and rational choice (Coleman, 1990). It is notable that such theories do not need to be generally accepted as correct to have a public impact, as recurrent surges of interest in Margaret Mead's anthropological theories demonstrate (Freeman, 1997; Freeman, 2000).

The claim that theory can be valuable is not to say that a powerful theory can be developed on request. But the argument in this paper extends to the claim that there is at least one area of general interest that IS theorists are ideally placed to address. The types of phenomena of concern are discussed in detail later in the paper, but can be briefly outlined here. In broad terms, the view is that IS structures for dealing with some basic types of business transactions such as account payments are becoming highly standardised and pervasive in social life, and are beginning to reduce the number of possibilities for social change. A number of related trends are driving this development, including data sharing among organisations and government departments, inter-organisational systems based on generalised data and process definitions, the emergence of systems with some degree of social autonomy (automated teller machines provide a simple but representative example [Dos Santos and Peffers, 1995]), and the widespread adoption of high profile proprietary enterprise software packages from vendors such as SAP and Oracle (Davenport, 1998). This trend and its social effects do not appear to have received comprehensive theoretical treatment in the IS field or elsewhere; in IS because the extant theories of IS integration (Segars and Grover, 1996; Wyzalek, 2000) and competitive advantage (Kettinger et al., 1995) that deal with large-scale IS structures do not address wider social effects, and elsewhere because theorists in other fields have tended to gloss over IS realities in favour of highly generalised and bland assumptions about IT capabilities (e.g. Bogard, 1996).

The view that gave rise to the development of this paper is that the IS field has an urgent need to improve its public profile, and that theory development along the proposed lines can help to achieve this. The underlying assumption is that the field is in fact in a state of crisis (Hirschheim and Klein, 2003), and that this stems from a combination of lost visibility with an emerging identity problem (Benbasat and Zmud, 2003). The presumption here is that IS is a significant discipline that addresses a specific set of issues and interests using its own concepts and techniques (Hirschheim and Klein, 2003). The need is, however, to convince external parties that IS offers value that cannot be provided by other disciplines, and that it addresses a particular set of practical and theoretical issues better than any potential competitor could.

Information systems: fading into the background

Contemporary studies of academic life suggest that a strong profile within the academy is crucial to disciplinary success (Slaughter and Leslie, 1997; Aronowitz, 2000). If this view is correct, then it follows that recognition is even more important for a discipline

like IS that is struggling for an identity distinct from computer science at one extreme, and business studies at the other. The assumption that the importance of recognition has actually increased recently is predicated on the view that the field is facing a long-term reduction in its funding (and hence a loss of economic capital) consequent on a decrease in the number of students enrolled and a loss of management faith in the discipline (Hirschheim and Klein, 2003). A more concentrated focus on the development of cultural capital, at least for the time being, would seem to be mandatory.

The question of visibility is seen here as the critical issue. While internal disputes about the nature of the discipline and the constitution of its 'core' (Benbasat and Zmud, 2003) can be taken as a sign of disciplinary vitality, uncertainty about disciplinary content can become a problem when it is coupled with a low external recognition factor (Avgerou et al., 1999, p. 136). One probable outcome is a decrease in the extent to which the general public will recognise IS either as an area of independent interest, or as a source of acceptable jobs for young people, including new graduates.

It is of course possible to identify quite a number of related areas where IS contributions are significant, including knowledge management, IT governance, IT management, e-business, e-government and many more (Baskerville and Myers, 2002). But it is also correct to say that these topics generally fall within academically contested areas, and that other disciplines are staking their claims to ownership of some of the key issues, usually by developing courses and units dealing with those topics. At the same time, traditional IS concerns with systems definition and building are increasingly being subsumed by analysts and consultants better described as working in applied business and economics than in IS. 'Green field' systems development, on which the discipline first built its foundations (Somogyi and Galliers, 1987), is becoming progressively less significant as the business environment moves ever closer to full automation, and the prevalence of proprietary software and packaged technical solutions increases (Gosain, 2004). The danger is that the building of systems will increasingly be regarded as a purely technical matter, and that the more interesting questions of systems meaning and social significance will be arrogated by other disciplines.

The view presented here is a pessimistic one with respect to the discipline's current standing, and it is therefore important to note alternative views. Perhaps the most positive perspective put forward in the last couple of years was in a major paper by Baskerville and Myers (2002), where the authors claim that IS has made the academic and intellectual strides necessary for the discipline to be seen as fully independent, and therefore able to take its place as a source of ideas for other disciplines. Accepted at face value, this claim would invalidate the argument presented in this paper. The following discussion therefore focuses on the key issues raised by the authors, with a view to identifying points of disagreement. It should be noted that there is no fundamental disagreement about the general value of IS work – the question of concern is whether high quality IS output is having, or more importantly will have in the future, any significance outside IS.

'Information systems as a reference discipline' – Baskerville and Myers

Baskerville and Myers make a case that the IS discipline is not only in good academic health, but also that it has reached a state of maturity: 'the IS discipline is no longer just emerging, but has fully emerged as a discipline in its own right' (Baskerville and Myers, 2002, p. 1). With maturity now achieved, it will become a source of ideas for other disciplines, in the same way that those disciplines have been a source of ideas for IS. As support for this, they point to the concern with rigour that has been a hallmark of IS

research practice, the establishment of high quality journals, the emergence of IS 'bodies of knowledge', the development of IS literature, and the establishment of an 'excellent scholarly communication network' (Baskerville and Myers, 2002, pp. 3-5).

It would be possible to debate some of the issues the authors raise on a point-by-point basis. The bodies of knowledge they identify are, for instance, strongly oriented towards applications (and hence are appropriate to an applied discipline), whereas whatever references there are to abstract theory tend to be to speech act theory, socio-technical concepts, social construction, and other concepts that originate in other fields (Baskerville and Myers, 2002, p. 4). But while this is not just a minor concern, it is possible for the purposes of this paper to accept the authors' major statements as fact, and still to question how they should be interpreted.

One of Baskerville and Myers' key points is that papers originating in the IS field are now being cited in other disciplines, and they focus particularly on a widely admired paper by Markus on power and politics in the IT context (Markus, 1983). It is indisputable that the paper is of exceptional quality and deservedly well known. But as Baskerville and Myers acknowledge, it is also the case that the theories utilised in it were imported from other disciplines (Baskerville and Myers, 2002, p. 6), and not developed within IS. Further to this, Latour (1987) has demonstrated the existence of a snowball effect with citations, so that the chances of more citations increase with each new reference. The fact that the Markus paper was published in 1983 therefore becomes relevant. A different interpretation of the citation evidence is that researchers are referencing a paper generally acknowledged to be of exemplary quality, but without concern for its disciplinary origins. What the evidence does not show is whether researchers in other disciplines are in fact staying alert for opportunities to cite new developments in IS theory and practice; as Baskerville and Myers concede, 'it is ... possible that some of these disciplines are themselves too inwardly focused and the "not invented here" syndrome will prevail' (Baskerville and Myers, 2002, p. 9).

While it is clear that the IS field has generated some extremely high-quality work and publications, this does not automatically translate into significant intellectual or academic influence. Avgerou notes that 'from the conventional academic perspective, IS has serious limitations ... it lacks the distinctiveness of theory and method that is usually associated with scientific disciplines ... [and] does not have a clear location on the map of academic disciplines' (Avgerou, 2000, p. 576). Although IS researchers continue to mine reference disciplines for useful concepts, there seems to be no evidence that IS ideas are being adopted in the same way within other disciplines. To take a specific example, Baskerville and Myers discuss business re-engineering as an area of attention in IS, yet while it is surely correct to say that IS researchers have 'studied [re-engineering] quite extensively' (Baskerville and Myers, 2002, p. 6), the idea originated as an organisational theory, and embeds no discernible theory of IS (Hammer and Champy, 1993).

To put the case in this way is not to dismiss the idea that IS could, and perhaps already should, be seen as a reference discipline. And, as the authors point out, there is surely no convincing reason to think that other disciplines are 'more foundational' than IS (Baskerville and Myers, 2002, p. 2). Nevertheless, in the absence of references to broad theories originating in the IS field, the widespread citation of some IS papers seems to imply a recognition of credible research rather than any acknowledgement of IS as an independently significant academic discipline. Overall, there seems little direct evidence to challenge the view that IS, to the extent it is understood and acknowledged as an independent field at all, is generally seen as an applied discipline primarily concerned with finding solutions to technical problems.

A critical point is whether IS benefits from an extreme diversity of topics (Banville and Landry, 1989), so that the development of new conference tracks is therefore a sign of disciplinary health (Baskerville and Myers, 2002, p. 11). That view is questioned here on the grounds that the persistent search for new issues to explore requires a constant probing into contested academic territories, and is therefore counter-productive for the development of cumulative discipline-specific knowledge. While this trend reflects the vitality and excitement of working in a new field (Avgerou, 2000), it does not improve the discipline's chances of defining and sustaining a distinctive academic profile. Perhaps what the issue shows is the potential for the interests of individual academics to clash to some extent with those of the other field, and these are matters that cannot be resolved on principle.

A problem of visibility

The author's experience first as a practitioner of more than twenty-five years standing and then as an academic dealing with business people as well as students-to-be and their parents, is that the capacity of people outside the discipline to 'recognise' IS has been steadily decreasing for some years. Anecdotal evidence from other academics strongly supports this view. Students signing up for undergraduate courses appear to have little or no background on which to base their understanding of the topics IS addresses. Nor is it easy to identify promising career lines that are specific to IS, and it appears in this regard that the lack of any concept of the elite IS professional is a critical problem for the profession. While it was originally anticipated that CIO positions might fill this gap, it now seems that the vast majority of these positions require strictly management skills (Earl and Feeny, 1994).

One way to illustrate the visibility issue is to consider the IS field's poor performance during the Y2K crisis. While the media influence on the presentation of events was strong, it was notable that the public discussion was led by a small number of self-appointed experts, rather than professional bodies such as the ACS (Australian Computer Society), and that decisions on acceptable mitigation practice were taken by a range of commercial and governmental organisations apparently without formal input from IS bodies. One of the most frequently cited 'authorities' on Y2K was Dr Yardeni, an economist with Deutschbank, whose perceived expertise was related to the presentation of a variety of estimates on the likelihood of various types of economic meltdown throughout the period of apparent crisis. His use of figures such as a '70%' probability of a Y2K-triggered recession (Dr Yardeni, quoted in Anon., 1998) revived memories of the economist who claimed high status as an authority on the grounds that he had successfully predicted 11 of the last four recessions. What became evident throughout the course of the crisis was a lack of IS theories and frameworks on which to base an assessment of the impact of minor changes to internal data and process structures. IS was effectively relegated to the role of providing low-level technical solutions rather than explanatory insights.

A number of papers in recent years have expressed concerns with IS and its directions (e.g. Benbasat and Zmud, 2003; Hirschheim and Klein, 2003; Weber, 2003; Lee et al., 2002; Lucas, 1999; Markus, 1999; Paton, 1997). Whether explicitly or implicitly, they share a concern with the visibility of the discipline, and a worry that its very real achievements may be lost in something of an IS diaspora, as topics, researchers and findings become spread as the fragments of a once coherent discipline. Two leading theorists state, for instance: 'we feel that some underlying structural patterns in IS are in definite need of attention because they could portend trouble in the longer run (pos-

sibly even in the shorter run)' (Hirschheim and Klein, 2003, p. 239). This is, if anything, a mild conclusion, given that they also comment that the field is in 'a state of fragmentation, and [suffers from] a number of significant communication gaps' (Hirschheim and Klein, 2003, p. 241). Their paper notes other issues including a major 'disconnect' between IS and organisational management. They highlight management's willingness to set IT issues aside as being peripheral to organisational interests, and suggest that this must be a serious concern for the discipline (Hirschheim and Klein, 2003, p. 251). A further claim is that management sees IS research directions as problematic, and as 'devoid of any practical relevance' (Hirschheim and Klein, 2003, p. 253).

The most frequent reaction to the perceived problems has been to suggest that IS needs to focus on identifying and consolidating its core body (or bodies) of knowledge in the interests of establishing and maintaining field coherence (Benbasat and Zmud, 2003; Hirschheim and Klein, 2003). While it seems certain that this would generate considerable benefits within the field, this paper takes a different tack, arguing on Bourdieu's principles that IS needs to consider its relations with external parties as critical. What is required is an increase in visible cultural capital, in the form of concepts and ideas that relate directly to external interests. It is argued that theory development and research at the portfolio or organisational level, where IS structures shape and constrain organisational possibilities and are beginning to be influential in broader societal terms, is the most promising way to achieve this. Put in the broadest terms, the loss of IS visibility reflects a lack of significant cultural capital in the form of publicly accessible ideas; this can best be addressed through developments at the level of general theory.

The value of cultural capital

This section discusses Bourdieu's concepts of social fields and power, and their relevance to a consideration of theory development in general. The value of theory for the mobilisation and coordination of the intellectual resources within a field is highlighted, and illustrated with some brief examples from other disciplines.

Bourdieu's conception of social structures is a perspective in which social fields are seen as embedded within a broader field of power. Fields can themselves comprise sub-fields and so on, down to whatever level of analysis is selected (Swartz, 1997). In the construction developed in this paper, IS is a sub-field within the field of academic disciplines, themselves embedded within a yet-broader field of education. The endemic underlying struggle for power between individual disciplines is manifest in contemporary experience through competitions for prestige, for new and/or higher quality students, and for funding (Slaughter and Leslie, 1997).

The idea that academic disciplines are in competition with each other is certainly not new. But as tertiary education has come to be seen more as an economic rather than social issue, the issues of relative performance and standing within the academy have assumed far greater salience than previously (Slaughter and Leslie, 1997). Placed in this context, Bourdieuan theory implies that struggles for relative prestige are endemic and inevitable, and that the current focus on economic factors will tend to intensify the severity of the battles being waged. Though such struggles are not necessarily to the death, it is in his view inevitable that the advancement of a field must be at the expense of one or more others (Bourdieu, 1980).

Bourdieu's approach in this regard is consistent with other findings concerning recognition and the value of image. That a politician's image is at least as important as the policies he or she stands for has become a commonplace observation in political analysis (Pratkanis and Aronson, 2001). While this trend has been deprecated, it has nevertheless

been accepted as a fact of political life, and attention has shifted towards trying to establish principles for the conduct of public debates that will ensure an image is reasonably commensurate with the underlying reality. It is in any case accepted that all political candidates, whatever moral stance they take toward image-making, must ensure that their public image is a positive one (Pratkanis and Aronson, 2001, p. 140).

While the effects of image on the reputation and visibility of an academic field are neither as obvious nor as immediate as in politics, its relevance is easy to show. A review of the literature concerning research methods reveals, for instance, that there is a well-defined hierarchy of disciplines based originally on their relative scientific 'purity' (Kline, 1995). In this the natural sciences rank above the social sciences, and physics ranks first among the natural sciences. This has led to a situation where the term 'physics envy' has been coined to describe the tendency for researchers in other disciplines to attempt to emulate physicists as closely as possible in their selection of research methods. The endless debates on whether qualitative methods should be deemed adequately rigorous are testament to the power of this particular piece of cultural capital (Sutton, 1997). The need for qualitative researchers to justify their approaches at the most basic level continues to contrast with the lack of such a requirement for quantitative researchers.

Changes in governmental and social perspectives on education have also had an effect in this context. Image becomes a critical issue when performance is judged on the power of the discipline to attract new students, to acquire funding from external sources, and to achieve research targets. All of these issues are affected by the strength and clarity of the discipline's public profile, which must be sufficiently recognisable to ensure that it is familiar to students, parents, investors, and research participants alike. Introna (2003, p. 236) comments in this regard that 'the status of IS as an academic discipline is ... a political [question] from the start', and the effects of the political aspect seem indisputable. Academics choose appropriate research topics, seek funding in approved ways, and write appropriate types of research papers in accordance with the need to satisfy externally defined performance targets (Slaughter and Leslie, 1997).

Theory as symbolic capital

Factors inhibiting an interest in theory development abound. Theoretical papers are generally judged to be difficult to conceptualise, difficult to write, and difficult to have published (Hirschheim and Klein, 2003). The performance value placed on rigorous research, numbers of publications and the pursuit of funding are further disincentives, both for the individual academic and for the discipline as a whole. From this perspective, it could even be argued that the IS field has a motive to discourage its leading academics from participating in theory development.

Theory development is inherently an objective to which standard management criteria for evaluation are ill suited. Targets for volumes of publications, the amounts of research funding obtained, and the numbers of new students signed up for courses can be specified, their achievement monitored, and funding rewards calculated, an outcome that accords very well with the contemporary passion for quick evaluation (Laverty, 1996). The investment of time and effort in theory development is in contrast always risky; not only does the activity produce nothing measurable; it may not even generate a viable 'product' (Aronowitz, 2000). The time spent in the pursuit of theory could therefore be considered wasted from some perspectives.

Yet Bourdieu's analysis, considered in conjunction with circumstantial evidence from other fields such as physics and sociology, suggests that the development of grand theory can be invaluable, at least from the broader disciplinary perspective, and that information

systems' 'acquisition' of an influential theory would add considerably to the discipline's symbolic capital. The phrase 'Einstein's theory of relativity' is an example of a phrase which states physics' claim to be a discipline of the utmost importance every time it is used. People with no understanding whatsoever of its theoretical content can instantly recognise the equation ' $E=mc^2$ ', and interpret it as a description of the forces behind nuclear weapons (Bodanis, 2001). As disciplines jockey for power, influence, and particularly money, in the contemporary university, the theory of relativity is an invaluable symbolic asset; irrefutable evidence of physics' relevance, importance and intellectual gravitas.

It may be that physics is a questionable example, given its dominant position, though arguing so seems more a tribute to the effects of cultural capital than a reflection of something intrinsic to physics. It can, however, be shown that the same effects can be seen in other disciplines, and that they occur irrespective of whether or not the grand theory in question is assumed to be 'true' in some absolute sense. As indicated earlier, sociology has a high recognition factor stemming from debatable concepts such as Marxism, but perhaps psychology provides the best example of a powerful theory with no demonstrable scientific proof to sustain it. Many scientists are still outraged at the lack of evidence to prove that Freud's theories are 'correct' (Webster, 1996), yet psycho-analytical theory survives and thrives.

Finding a site for grand information systems theory

Is it reasonable to suggest that IS can be the site for development of a major social theory? In arguing that the attempt is warranted, two factors are considered. The first of these has already been discussed, and is that influential theories provide valuable and long-lived symbolic capital. The second, mentioned briefly earlier, is that there is a gap that IS can target by providing an analysis and explanation of the social effects of the IS constructs that are now helping to define social relationships. These constructs are the sets of standardised data and process definitions that are spreading through organisations by way of enterprise software packages, EDI-facilitated relationships, and data sharing agreements.

Existing portfolio-level theory

A further factor influencing the recommendation in this paper is the view that there is a weakness in existing portfolio-level IS theory that has contributed to management's loss of faith in IS. That the management of IT issues is important from a bottom line perspective (Luehrman, 1997) does not equate to an interest in the technology or its applications for their own sake. The ongoing commitment to IT outsourcing by organisations in both the business and government sectors, now extending to encompass the off-shore transfer of some functions, seems indicative of a general loss of belief that IT is strategically significant (Hirschheim and Klein, 2003; Stewart, 2003). As has been pointed out by various theorists (for instance Hendry, 1995; Harvey and Lusch, 1997), organisations do not generally outsource functions they perceive to be part of their strategic core.

IS has had theories that address the relationships between IS and organisational structures and strategies. The strategic IS planning literature was a vibrant one at a time when theories of competitive advantage (Porter and Millar, 1985; Kettinger et al., 1995) and of the benefits of IS integration (Segars and Grover, 1996) were in fashion. But the theories on which the publications in these areas were based ultimately failed to convince, and the number of papers being produced on portfolio-level theory has fallen drastically.

The problems these theories encountered are, however, useful to indicate in which directions the development of a general IS theory might go.

In broad terms, competitive advantage theory appears to have foundered on at least two related problems. These are the issues of imitation and structural change, which together refute the idea that IT applications can generally be considered to be reliable competitive instruments. What the available evidence shows is first that it is in most cases at least as good to be a fast IT imitator (i.e. to wait and copy a promising innovation, usually at a lower cost) than it is to be a first mover (Vitale, 1986; Clemons and Row, 1988), and second that IT innovations usually operate to effect structural industry change rather than entrench specific competitive edges (Copeland and McKenney, 1988; Kettinger et al., 1995; Clemons and Row, 1988). Both these findings have been available for some time, and have not been refuted.

The weaknesses of theories dealing with systems integration are less obvious in that they deal with ideal structures (Martin, 1990; Wyzalek, 2000), theorists have acknowledged the practical difficulties of achieving integration goals (Segars and Grover, 1996; Hamilton, 1999), and the integration of processing platforms is not only possible, but frequently very effective (Weill and Broadbent, 1998). The problem is not just that there is virtually no empirical support for the view that comprehensive IS integration is achievable (Segars and Grover, 1996; Goodhue et al., 1992; Allen and Boynton, 1991), but that consideration of the negative possibilities inherent in integration is not part of the theory. Yet evidence is available that integrated systems structures are relatively rigid and difficult to change in practice (Allen and Boynton, 1991) and that an organisation implementing such structures must lose some capacity for flexible response to change as a result. The issue of how to balance efficiency gains against losses of this type has been neither conceptualised nor researched.

Toward a structural theory of information systems

The problems with extant theory suggest some directions for the development of a robust portfolio-level theory of IS as it relates to organisational and societal structures. The finding that IS innovations change industry structures rather than entrench competitive advantages (Clemons and Row, 1988; Kettinger et al., 1995) is one possible starting point. A good IS theory (in contradistinction to competitive advantage theory, which was predominantly business-oriented) would deal with a range of social phenomena that so far lack a broad analytical explanation. Those phenomena include the increasing encroachment of standardised IS structures on social behaviour through the implementation of standardised data and process definitions in a range of systems. As standard IS structures become more widespread, so commercial and government organisations come to look more and more alike, at least in behavioural terms.

The agency-structure relationship has been a central concern in sociological theory for a long time. Are social structures 'real' when it is clear that they are constructions that must be affirmed by human agents acting with some degree of individual autonomy? Putative answers, all of interest, and all shedding light on complex social issues have come from theorists as diverse as Marx (1981), Giddens (1984), and Bourdieu (1980) among many others. But the point at issue here is that these theories do not deal with the impacts of structures reified in formal information systems. Such structures clearly allow for voluntarism in principle, as people may choose to ignore IS constraints, but they cannot then achieve their transactional goals. Yet active resistance to the influence of standardised structures clearly becomes more difficult the more widely adopted they are. IS structures are in this perspective more rigidly defined, and more formally con-

straining, than structures that depend on rules interpreted and enacted by people for their enforcement (Giddens, 1984).

An analysis of the possible social impacts of such structures would be the central concern for theory development in this area. While it is perhaps a little premature to identify the issues in advance of the theory, three possible areas of interest can be mentioned. These are, first, the likely lengthening of IS change cycles as the number of organisations dependent on the same standardised structures continues to increase. Second is the capacity for standardised structures to be used to create, intentionally or otherwise, people who are system 'outsiders' in some way (the history of Nazi Germany's use of IBM technology is an extreme but nevertheless instructive illustration of what was already possible in this regard fifty years ago [Black, 2001]). Third is the change in social risk relationships – while the adoption of standard IS structures reduces the number of possible points of failure or breakdown, it simultaneously raises the stakes for any breakdown that does occur.

As the Y2K experience demonstrated, IS structures have considerable inertia once installed, making them highly resistant to change; much more so than structures maintained by human behaviour. The argument in this paper is that the possibility of developing an explanatorily powerful theory linking IS with organisational and societal structures is therefore a real one, that IS is the discipline best placed to develop such a theory, and that for the reasons discussed earlier, this would have a range of benefits for the discipline as a whole.

Conclusions and recommendations

Bourdieu has made the theoretical claim that cultural capital is a source of social power, and that it is crucial in the battle for relative standing within the academy (Swartz, 1997). Theory is one form that cultural capital can take, and the ownership of interesting and controversial theories is one of the ways in which a field can support its claims for relevance, interest, and public endorsement. For a theory to generate that type of interest, however, it is important that it addresses issues of general rather than specialised concern.

It has been argued that an opportunity exists for IS academics to develop a broad theory linking IS structures to social relationships and behaviours. An influential theory would bring with it a variety of benefits for the field, including an increase in public visibility, new ideas for practitioners working at the portfolio level, and a set of framing concepts for researchers.

Two recommendations are made; the first for an empirical investigation into the issues surrounding disciplinary recognition, and the second for further theory-oriented research into the social implications of contemporary IS developments. It would be possible, but perhaps somewhat gratuitous, to recommend that 'somebody' take up the responsibility for developing a grand theory in IS; history shows that the time and effort required are such as to require a major personal commitment. There is also a risk involved, in that the resulting theory is just as likely (perhaps more likely) to be received with an outpouring of scorn and contumely (Fish, 1999, p. 117) than it is to be accepted with approbation.

An empirical investigation into the extent to which IS is a 'recognisable' discipline could, however, be expected to be both possible and useful. A survey-based approach, designed to investigate the extent to which samples of different populations are aware of IS, its topics of interest, and its particular perspectives, is one possibility. Populations of interest would include secondary-level students, parents of school-age children, tertiary-level students already enrolled, and academics in other disciplines. Depending on their nature,

the findings from such a study would help either to confirm the existence of an IS identity problem, or to refute the idea that the discipline is facing a crisis.

The second recommendation is that detailed literature-based research into what is known about the 'hard-wiring' of societal structures be undertaken. Anthropologists (e.g. Wolf, 1999), sociologists (e.g. Foucault, 1972) and linguists (e.g. Chomsky, 1996) have all addressed the ways in which societies constrain their human constituents. A synthesis of this work would be a useful preliminary to introducing IS considerations, and addressing the fact that it is now possible for social controls to be exercised, and influence exerted, by IS that operate independently of people. Such systems are no longer 'representations' of more fundamental systems (Wand and Weber, 1995), but rather are independent entities with significant social autonomy.

The development of one or more general IS theories will not, of course, be a panacea for IS image problems, but it can contribute to their correction. General theory has played an important part in the advancement of other disciplines (Abbott, 1988), and could do the same for IS. It is not necessary for all, or even a significant proportion, of IS academics to be involved in this type of theory development, or to be interested in its implications. The issue is one of public perceptions, and promotion of the view that IS has relevance beyond its own borders.