

WHATEVER HAPPENED TO THE IT PLAN? [CASE STUDY]

Philip Dobson

School of Management Information Systems, Edith Cowan University, Churchlands, Western Australia 6060
Tel.: (08) 92738197, Fax: (08) 92738332
p.dobson@ecu.edu.au

Craig Standing

School of Management Information Systems, Edith Cowan University, Churchlands, Western Australia 6060
Tel.: 61 8 94005545, Fax: 61 8 9400 5633
c.standing@ecu.edu.au

ABSTRACT

The IT Plan is generally seen as a cornerstone of the IS/IT presence in an organisation. Researchers have outlined various approaches to IT planning and many have suggested categorising such plans in terms of an evolutionary model detailing the degree of integration with organisational business plans. To determine how IT plans are developed in practice and the actual forces at play the study in this paper uses an evolutionary model to examine the development of the IT plan over a five year period in a large governmental organisation. The case study highlights some of the pain and disruption evident within the IT department of a large governmental organization as it moves through the various business stages of "corporatisation", "privatisation" and "down-sizing". The findings highlight that IT plans do not always evolve through stages of closer integration with the business plan; that the IT plan can be viewed as a political manifesto often with the intention of cementing the IT Department's place in the organisation; and that an overly rational approach to planning appears to achieve very little. A complex interplay of structural and agency factors determine the success of IT plans at any particular stage and when both conspire in opposition a likely outcome is its complete obliteration.

1. INTRODUCTION

Throughout the eighties and nineties the importance of the linkage between the IT strategy and the business strategy has been continually highlighted (Reich and Benbasat 1996, Henderson and Venkatraman 1993, King 1978, King and Teo 1997). It is commonly suggested that close integration of the organisational business plan and the IT plan is desirable and is a goal that most organisations should work towards. The linkage or alignment ensures that implementation of information technology matches the organization's current competitive needs rather than traditional internal organisational IT trends (Bowman et al 1983).

King and Teo (1997, p. 193) argue that as the strategic use of IT becomes more important to organisations the linkage between BP (Business Planning) and ISP (Information Systems Planning) must increase:

The importance of IT has increased over the years. As a result, BP-ISP integration becomes increasingly important as firms strive to better deploy IT to support business strategies. Over time, therefore, we can expect increasing levels of integration between BP and ISP as the IS function begins to have a greater impact on the organization. It follows that generally the evolution of BP-ISP integration should be in the direction of increasing extent of BP-ISP integration, namely: administrative integration, sequential integration, reciprocal integration, full integration.

The difficulty from the IT perspective is that as BP-ISP integration becomes more necessary and commonplace this therefore means that IS Planning must be just as reactive as the business organisation to the rapidly changing business environment. The governmental case study investigated in this paper demonstrates the impact on the IT function of this necessarily strong linkage between ISP and organisational and environmental change. The case study also questions whether the evolutionary models proposed in the literature can actually provide a useful framework for investigating the role and development of the IT plan.

The first section of the paper reviews various insights into the role of IT Planning and its relationship with Business Planning; it then examines the particular issues impacting the case study and finally concludes with suggestions as to an alternate research model to better explain the changes underway.

2. IS PLANNING STAGES AND APPROACHES

The Information Technology (IT) or Information Systems (IS) plan has been an unquestionable feature of IS landscape during the eighties and a significant part of the nineties. It has continually ranked highly in surveys of the main concerns of CIOs - the implication being that CIOs want to be able to rationally develop a plan and a purpose for the IS function in order to avoid being drawn off course with each new technological innovation (Dekleva & Zupancic, 1993; Brancheau & Wetherbe, 1987; Pervan, 1997; Pervan, 1998).

One of the earliest papers to recognize the importance of a linkage between business planning and IT planning was that of King (1987) who proposed an Information Systems Planning methodology to allow the integration of IS strategies with business strategies. The methodology proposed that the IS strategy set (system objectives, system constraints, and system design strategies) should be derived from the organizational strategy set (business mission, objectives, strategy and other strategic organizational attributes). This "reactive" approach to IS Planning was later incorporated in IBM's Business Systems Planning Methodology (IBM, 1981).

King and Teo (1997, p 187 - 188) argue for different levels of integration between IS Planning (ISP) and Business Planning (BP):

Type 1: separate planning with administrative integration. In this type of integration, there is a weak relationship between BP and ISP. Generally, there is little significant effort to use information technology (e.g., computers, and telecommunications) to support business plans.

Type 2: one-way linked planning with sequential integration. In this type of integration, BP provides directions for ISP. ISP primarily focuses on providing support for business plans.

Type 3: two-way linked planning with reciprocal integration. In this type of integration, there is a reciprocal and interdependent relationship between BP and ISP. ISP plays both a role in supporting and influencing business plans.

Type 4: integrated planning with full integration. In this type of integration, there is little distinction between the BP process and the ISP process. Business and information systems strategies are developed concurrently in the same integrated planning process.

They suggest that whilst organisations at some time tend to match these stages of ISP and BP integration it is

too simplistic to claim that organisations will always follow the stages from Type 1 to Type 4 in a strict evolutionary manner. They suggest combining an evolutionary and contingency perspective - arguing that "Multiple paths of evolution, bypassed phases, and reverse evolution are made possible by the combined approach" (p. 189) thus adding richness to the analysis. The impacting contingency variables are broken into environmental factors (dynamism, heterogeneity and hostility of the environment) and organisational factors (information intensity of products/services, information intensity of the value chain, top management's perception of IT importance, IS competence).

King and Teo's model suggests the existence of different levels of planning dependent on internal organisational structures - the basic structure being defined by the degree of co-operation between the IS Department and other Business operations; increasingly higher degrees of co-operation demonstrate different levels of integration. The model also argues for the importance of organisational and environmental contingency factors that may affect the degree of BP-ISP integration.

In a similar vein to King and Teo (1997), Earl (1993) identifies five approaches to IS Planning: Business lead, Method driven, Administrative, Technological and Organisational. The business lead approach suggested by Earl can be equated with King and Teo's Type 1 Planning where BP drives the IT Plan. Earl's Organisational Approach can be equated with King and Teo's Type 4 Planning where "... [the] SISP (Strategic Information Systems Plan) is not a special or neat and tidy endeavor but is based on IS decisions being made through continuous integration between the IS function and the organization" (p. 10). Earl's Method Driven, Administrative and Technological Approaches however cannot be directly related to King and Teo's strategic categories - Earl's paper being more directed towards examining the method in which IT Planning is implemented rather than solely the underlying strategic approach. Falconer and Hodgett (1998) present a more recent Australian based study using Earl's framework - this study found the majority of organisations had either a business driven approach or an integrated organisational approach to developing the IS Plan.

Rather than the survey based multiple case approach used by Earl (1993) and King and Teo (1997), Knights and Murray (1992) suggest the use of a single case study and argue that management of IT can only be fully understood through an analysis of the relations of power and identity that supplement the politics of process. They suggest that:

Strategies are often accidental in their formation and neither a direct reflection of market forces (the rationalist approach) nor simply a negotiated outcome of political struggles (the processual approach). Rather, they are a complex product of both these features but not in a planned and consciously designed way that may be intended by practitioners seeking to control IT, their market and their own careers. More often they are discontinuous, fortuitous and produce unforeseen consequences in their realization. (p. 214)

Knights and Murray suggest a highly contextual investigation of IT management issues and propose that however 'coherent' and 'rational' the image of systems development might be, there will always tend to be unforeseen circumstances that cause serious disruption to IT strategies.

3. METHODOLOGY

Knights and Murray (1992) and King and Teo (1997) provide contrasting approaches to the examination of IS Planning. At a broad level it can be argued that King and Teo examine IS planning from a structural perspective in that they use an organisational structure - the co-operation between the IT Department and business in general - as a means of defining the stages of IS planning evolution. Whilst they consider organisational and environmental contextual factors as potential impacts on the planning process, such factors are considered at a high level and are not situational in focus. Knights and Murray (1992) in marked contrast examine IS Planning and implementation from a heavily contextual basis incorporating detailed examination of the politics and power relationships involved. Both methods can be criticised. The study by King and Teo can be said to be too heavily rationalist in its focus in that it suggests a rational logical development of IS Planning unimpacted by internal political pressures and power plays. Similarly Knights

and Murray can be criticised for its too strong focus on internal situational factors and its lack of recognition of the rational logical processes that are a result of justifiable business structures and trends. Such an approach can tend to ignore or relegate the influence of wider environmental and organisational structures as Reed (1997, p. 24) suggests:

Theoretical approaches that are sympathetic to the postmodernistic turn in social and organisational analysis – particularly in regard to its one-level, process-dominated social ontology and its inherent analytical tendency to collapse agency and structure into localized or micro-level social practices – offer a very different explanatory agenda and dynamic than that proffered by more structurally inclined perspectives.... The ontological status and explanatory power of 'structure' - i.e., as a concept referring to relatively enduring institutionalized relationships between social positions and practices located at different levels of analysis that constrain actors 'capacities to `make a difference' - is completely lost in a myopic analytical focus on situated social interaction and the local conversational routines through which it is reproduced.

Both approaches tend to emphasise different ends of the macro/micro perspective, each providing little recognition of the importance of the other.

This paper adopts a critical realist stance in that it suggests that investigation of the social process of organisational IT Planning requires a recognition of both macro and micro elements (Bhaskar, 1978, 1989). It argues for any social analysis to incorporate elements of structure (macro) and agency (micro). Human agents either reproduce or transform social structures which are seen to be relatively enduring over time. This simple model provides a powerful means for social investigation in that it provides a foundation for the integration of the micro and macro elements of social situations.

To examine the role and development of organisational IT Planning we use a case study of a large government organisation in Australia. The case forms a longitudinal study over five years; a period that coincided with the outsourcing of the IT division. A number of senior IT staff as well as the Business Planning Manager were interviewed individually on several occasions, and staff were interviewed both pre and post outsourcing. The case study draws upon organisational reports and documents in addition to the interview transcripts. The interview transcripts have been analysed by the researchers for key themes and the quotes used are representative of these.

We see the in-depth case study as an appropriate method for analysing the complex decision making and socially constructed character of organisations and their technological investments (Knights, 1992; Standing, 1998). Knights (1992) sees the investigation of IT decision making as heavily political in focus and the case study becoming a “vehicle for illustrating the way in which favoured technological ‘solutions’ are modified and alternative ‘solutions’ eliminated through a highly complex and power-laden, competition, co-operation, misunderstanding, fortuitous circumstance and accident”. This underlying argument is recognised, however greater recognition will be given to the wider structures impacting the planning process.

4. THE CASE STUDY

Over recent years there has been a worldwide trend towards smaller government - government departments have been under increasing pressure to privatise or outsource parts of their operation and to move towards a more independent corporatised model. This corporatised model is seen to involve the organisation moving away from being a direct arm of the government, acting more as a business entity in their own right. In many cases this operation has been preceded by an examination of business processes and subsequent re-engineering. This case study details the change process and presents some of the issues faced by the IT Department of an Australian governmental organisation involved in the provision of essential services as it moved through this difficult and complex process. With current assets of around A\$8 billion and over 2000 employees the organisation is a major business and governmental organisation.

In the mid 1990's the organisation was much larger with around 5000 employees and responsibility for the regulation, management and control of its own resources. Since that time the body has been split into a regulatory arm, a management arm and a service provision arm. This major corporatisation has been

associated with significant outsourcing of non-core functions - the outsourcing of the IT function being one of the first and largest functions to be outsourced. The IT Department at the time was one of the largest IT employees in the state and had a good reputation for efficient operation - its outsourcing was seen by the IT Manager at the time to be a test case for future governmental IT outsourcing. The case study details some of the events and issues that preceded the complete outsourcing of the IT Department's function.

In the late 1980s the organisation had attempted to develop models of organisational processes - the IT Department at the time being given the task of doing the modelling. The exercise had caused a degree of resentment:

They [the IT department] spent a lot of time and a lot of money - they bought very expensive work stations, started building models - only for IT's benefit and people just got very pissed off with this and it didn't work because the drivers were from IT, not the business (interview past IT Manager)

The earlier exercise was not a success - the modelling of processes was seen to be an IT exercise and was resented by other functional areas.

The organisation was moving towards being a quality organisation; it had been insisting that suppliers should have ISO quality certification and thus felt that the organisation itself should also follow "quality" principles. The organisation became committed to implementing TQM principles "totally committed, from the top - managing director downwards" (Interview past IT Manager). The characteristics of a quality organisation had been defined as being those in which the following management principles apply:

1. Customer perceptions determine quality
2. Improve system performance
3. Treat suppliers as partners
4. Decision making is based on information and knowledge
5. Involve everyone in creative improvement
6. Planning drives improvement
7. Lead by example

The transition was expected to take between 5 and 10 years and the IT manager at the time proposed a vision for IT at the Authority which detailed how the IT division would support this movement towards a "total quality" organization. For the IT Branch its major task was to support the fourth principle detailed above which was providing suitable information requirements to support decision making. The vision document was largely based on how the IT branch should support the information requirements of the high-level business processes within the organisation. It became evident to other branches that the IT Branch thus needed to be able to define business processes prior to being able to define information requirements.

The movement towards TQM therefore provided a good "excuse" for the IT department to re-open the prior investigations into processes on a more justifiable footing. It was hoped that this second attempt would prove more successful than the unpopular first attempt.

My role in this was to surreptitiously, behind the scenes get my information systems planning done without ever being seen as to threaten the process. So I was the biggest champion for process modeling, process development and management by information that you could have. I supported our Director- Corporate Services initiative to push the process modeling through the organisation (interview past IT Manager).

The quality initiatives provided a golden opportunity for the IT Department to actively approach the various Departments to model their internal business processes:

...by introducing the concept of "this is for continuous improvement; if you document your processes we [IT] will be able to work out the information requirements you need to manage

those processes” - I could see how getting that - from an extremely selfish point of view – was exactly what IT wanted - without them ever having to use the term "Information System Plan" or letting anyone know that anything we did would benefit IT at all. (interview past IT Manager)

The TQM work on business processes and information requirements was to prove the basis for production of the Information Business Plan.

The Information Business Plan introduced in 1993 was the first Information Plan for the organisation. The plan basically treated the Information function as a business - the concept growing out of the model whereby service departments were to be treated as cost centres in their own right, thus giving them the ability to charge other parts of the organisation for services. The Plan was the first such plan for the authority - it was to be completed under a very tight schedule and was largely formulated along the same lines as the other 3 internal business plans: money, assets and people. At the time of production of the Information Business Plan the Authority was using the IBM Systems Planning methodology as their framework for planning, which, as detailed above depends on the premise that BP drives ISP. King and Teo's (1997) model suggests that their approach would be seen as Type 2 Planning (sequential integration).

Prior to the development of this first Information Business Plan the IT Manager at the time felt that Information Services was not achieving adequate recognition. The underlying planning environment at the time could be categorised as Type 1 Planning (King and Teo 1997) in that IT loosely supported the business but not in a formal manner. The IT manager felt that the development of a plan based around Information Services faced an uphill task:

People didn't understand the requirements for it, even at an executive level, to the extent that even one of the Directors of Finance asked why we needed to spend all this money on an information systems plan! (interview past IT Manager).

At the time the plan was being drawn up the organisation saw the IT department as providing a service function:

The Authority in those days saw IT as a necessary evil. They were focused on one of two things, engineering or financial considerations and IT was something they had to have, but they didn't really want to spend any money on it and all the money they had spent, was too much - "where was the return on the investment?" - that was the continual question. (interview past IT Manager).

This opposition to the idea of an "Information" Business Plan was highlighted in an interview with the "post outsourcing" IT manager:

I must add that the term Information Business Plan went down like a lead balloon. It was seen as being totally inappropriate and if anything it should have been called the Information Processing Plan, it is not a business in its own right whatsoever. The prevailing view of executives at the time was that it was completely inappropriate to describe the information thing as a business. That caused quite a bit of grief and controversy - it is merely a process. No way is it a core business, it is just a support process or function. (interview - new IT Manager)

Yet the Plan was developed with tacit support of the Managing Director. The planning function at the time seemed well set to move along the evolutionary model towards a greater degree of integration between ISP and BP. The IT Manager was very proactive in his organisational role and considered the then Managing Director as an ally:

He [the MD] had a very good understanding of business process reengineering and championed it - he had a good understanding of the concepts we were putting together, of managing by information, he created the term "management through information" within the organisation. He actually championed it, which was fantastic for me. He was not overtly an IT supporter, though he knew where I was coming from and he could see where we were going, he was a great visionary. In the background he was a terrific supporter but would never sign the budget papers for me or anything like that. Really, but we'd have a wink at each other

occasionallyhe knew where I was coming from and I knew where he was coming from (interview past IT Manager).

Without the impact of outside environmental pressures for downsizing the IT manager and the managing director may well have moved the organisation towards being in a Type 4 Planning environment. Impacting this seemingly logical development was the outsourcing of the IT Department. The internal dissatisfaction with the concept of an Information Business pre-empted the move to outsource IT operations. The IT section was one of the first departments to be outsourced, reflecting the perception that IT was in fact non-core. The new planning manager after the outsourcing commented on the idea of treating the information business as a business in its own right:

Tied in with the Information Business Plan was one of the least successful things the organisation tried and that was the concept of commercial service units, which required the internal commercialisation of a number of units. The IT branch was a commercial service unit and the thrust of this was ... that the unit had to operate as if it was a commercial entity and had to attract work from within the authority, this work was paid for and would in turn pay the salary of the people involved. I personally saw this as a very destructive experiment - it was artificial and built unnecessary internal competition, destroying synergistic opportunities. I had a major problem with it. Because of that experiment it was seen as being very commercial and business like to treat IT that way, the plan was very much tied to this concept. It was ultimately seen as being a nonsense, calling the plan a business plan was tested and was not accepted in the end - Information Provision was non core (interview new IT Manager).

After the development of the Information Business Plan the organisation began to move towards outsourcing non-core operations. This was a result of wider governmental policies that encouraged smaller government and a move towards privatisation of governmental departments. In the view of the then IT Manager much of the outsourcing was not based on economic rationale:

[the MD] would've fought tooth and nail to continue the business process reengineering to improve the organisation not just for the sake of outsourcing. It cost [him] his job, he didn't move fast enough ...the agenda was "to outsource, period" - not to outsource only if it made sense. There were many areas and IT was one of them, where [the MD] said this doesn't make sense, it's not a logical decision and a board of a private company would not do this. His support virtually cost him his position (interview past IT Manager).

The managing director was replaced and the outsourcing went ahead post haste.

5. DISCUSSION

The case study highlights a number of issues in relation to IT planning:

5.1 The Evolution of IT Plans

The model presented by King and Teo (1997) appears to be over-simplistic. It makes the assumption that closer integration of the Business and IT Plans is a goal of most organisations. In doing so, it ignores the strong forces taking place within the organisation (political) and outside the organisation (outsourcing). The evolutionary approach assumes a high level of rationality as the driver for planning.

For this case study, it can be seen that IT Planning has not followed an evolutionary model founded around business and IT integration - IT planning has been drastically impacted by severe business changes enforced by outside governmental and environmental pressures. In terms of King and Teo's model the organisation never really got past the *Type 2* form of integration. Indeed, after outsourcing the organisation appeared to be back at a pre IT Plan stage:

Because we are a new corporation there is no official plan in place, what we do have though is some useful historical documents which are to be referred to and the brief I am putting together for the consultancy company will mention this. (new IT Planning Manager post outsourcing).

As an ex-employee states:

The initiatives identified by the plan are still there and still need to be addressed. We still need a corporate information model, we still need better access to information and whatever else we had listed. How we satisfy those needs will now be quite different under the outsourcing arrangements.

The role of IT Planning has completely changed in that much of the planning process is now related to performance monitoring of the outsourcing contracts. Information provision is completely outsourced with information planning being done internally. Planning still has a role to play but not a role the simple BP-ISP integration model can easily explain.

5.2 Total Rationality Doesn't Work with IT Plans

It appears that despite all of the efforts put into IT planning there was little to show for it. The treatment of Information as a separate business was certainly unsuccessful and the planning process can be seen to have been unable to accommodate the huge change in the business environment. The approach used to develop the IT plan was very mechanical and formal which, as Kamm (1995) argues reflects an "essentially mechanistic lack of trust between members of organizations". The essentially engineering type approach to information management neglects the importance of shared values and consensus as information remains primarily as a means of control, not a reflection of a shared understanding. In hindsight, this mechanistic approach to planning and information provision should not really have been too surprising given the heavy engineering focus of the entire organization - most of the senior management were engineers and many of the major achievements of the organization related to engineering construction and supervision.

The treatment of Information on the same level as money, people and assets is a reflection of an organizational "instrumental" or "formal" rationality. Such a formal process proved not to be sufficiently reactive to the huge business changes underway at the time.

5.3 The IT Plan as a Political Manifesto

The argument that politics is heavily involved in organisational IT planning and decision making seems an obvious point, however, many research articles neglect to acknowledge the importance of such a view on IT decision-making (Earl, 1993). As indicated in the case study the IT Plan was used as a tool to elevate the status of the IT Department within the organisation. This met with substantial resistance and in part may have played a role in the final decision to outsource the Department. Even the title of the plan "*the Information Business Plan*" was used as a political statement in that such a title attempted to elevate the importance of IT to the organisation by placing it on the same level as the other "businesses" money, assets and people. Clearly the attempt did not work - the IT function was outsourced and the department decimated.

5.4 The Importance of Both a Structure and Agency Perspective

The use of both a macro/structure and a micro/agency perspective is important in explaining the social processes involved in IT implementation and planning. Indeed both factors help explain the fate of the IT Department in the study. The use of both elements is important as is consideration of their interaction over time. The strong governmental push for outsourcing (an environmental structure) was resisted by the then managing director - this agency interaction with a pre-existing structure helped to explain his subsequent replacement and the rapid movement to completely outsource IT as the new managing director came in and asserted the authority of his new role.

6. CONCLUSION

Local high level structural impositions (governmental and business trends such as privatisation, outsourcing etc) play a pre-dominant and major role in the planning process. As the business and IT function grow closer together the likelihood of such major environmental changes impacting the planning process becomes more likely. Such change cannot be explained through a simple evolutionary model such as that proposed by King and Teo (1997). In our example the initial conditions for a sensible staged approach to planning were very good as the IT Manager and the Managing Director were allies and the IT Manager had a good business focus and understanding, yet the logically expected movement towards a greater integration of BP and ISP did not eventuate as the move to outsourcing prompted by high level structural change within the government resulted in the abandonment of the Information Business Plan.

REFERENCES

- Archer, M. (1995) *Realist Social Theory: The Morphogenetic Approach*, Cambridge University Press, Cambridge.
- Bhaskar, R. (1978). *A Realist Theory of Science*, Humanities Press.
- Bhaskar, R. (1989). *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*, London: Verso
- Bowman, B.J., Davis, G. B., Wetherbe, J. C., (1983), Three Stage Model of MIS Planning, *Information & Management*, Vol: 6, Iss: 1, p. 11-15.
- Brancheau, J. C., & Wetherbe, J. C. (1987). Key Issues in Information Systems Management. *MIS Quarterly*, Vol. 11. Number 1, pp. 23-45.
- Chia, R. (1996), The problem of reflexivity in organisational research: Towards a postmodern science of organisation, *Organisation*, 3:31-60.
- Dekleva, S. & Zupancic, J. (1993). Key Issues in Information Systems Management: A Delphi Study in Slovenia. *Proceedings of the International Conference on Information Systems*, pp. 301-313.
- Dekleva, S. & Zupancic, J. (1993). Key Issues in Information Systems Management: A Delphi Study in Slovenia. *Proceedings of the International Conference on Information Systems*, pp. 301-313.
- Earl, M. J. (1993), Experiences in strategic information systems planning, *MIS Quarterly*; Minneapolis, Vol: 17, Iss: 1.
- Falconer, D. & Hodgett, R. (1998). An Australian Evaluation of Earl's Five Strategic IS Planning Approaches. *Proceedings of the European Conference on Information Systems*, Aix en Provence, p. 1101-1108.
- IBM (1981). *Business Systems Planning: Information Systems Planning Guide*.
- Henderson, J.C., Venkatraman, N. (1993), Strategic Alignment: Leveraging Information Technology For Transforming Organizations, *IBM Systems Journal*, Vol: 32, p. 4-16.
- Kamm, R. (1996) *Information and the Mechanistic Metaphor: The Place of Information in Organizational Thought*. Systems Practice.
- King, W.R. (1978), Strategic planning for management information systems. *MIS Quarterly*, Vol: 2, Iss: 1, p 27-37.
- King, W.R., and Teo, T.S.H. (1997a), Integration between business planning and information systems planning: validating a stage hypothesis. *Decision Sciences*, Vol 28, Number 2, p 279-308.

- King, W.R., and Teo, T.S.H. (1997b), Integration between business planning and information systems planning: An evolutionary-contingency perspective, *Journal of Management Information Systems*, Vol 14, Number 1, p 185-214
- Knights, D. & Murray, F. (1992), Politics and Pain in Managing Information Technology: A Case Study from Insurance, *Organization Studies*, Vol. 13, Issue 2, 211-224
- Pervan, G. P. (1998). A CEO View of the Key Issues in Australian Information Systems Management 1997, *Australian Journal of Information Systems*, 1998, pp.51-60.
- Pervan, G.P. (1997). "Information Systems Management: An Australasian View of Key Issues - 1996", *Australian Journal of Information Systems*, 5, 1, pp.55-68.
- Reich, B. H., Benbasat, I. (1996), Measuring The Linkage Between Business And Information Technology Objectives, *MIS Quarterly* Vol: 20, p 453-468.
- Reed, M.I. (1997), In Praise of Duality and Dualism: Rethinking Agency and Structure in Organisational Analysis, *Organisation Studies*, 18:1, 21-42.
- Standing, C. (1998). Myths and the Art of Deception in Information Systems. *Proceedings of the European Conference on Information Systems*, Aix en Provence, p. 1238-1251.
- Synnott, W.R., (1987), *The Information Weapon: Winning Customers and Markets with Technology*. New York: John Wiley.