The Non-Rational Adoption of Online Learning Technologies in Australian Higher Education

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ABSTRACT

Why did so many Australian universities embrace online learning technologies during the 1990s when there was little research or evaluation evidence to support their adoption? This paper will examine this research, drawing on four popular higher education discourses within a meta-framework of decision making theory. It is proposed that this paper will be helpful in directing further empirical research in the field, in the spirit of Allison's (1971) multiple explanations for the Cuban Missile Crisis.

ONLINE LEARNING AND AUSTRALIAN UNIVERSITIES

Online learning is a relatively new technology that has been adopted in Australian higher education since the early 1990s. This technology was accompanied by promises of increased competitiveness in overseas markets (Hesketh,Gosper,Andrews and Sabaz, 1996: ;Yetton, 1997: ;Katz, 1999: ;Berg, 2002), enhanced world leadership in terms of innovation, enhanced quality of teaching and research (Lundin, 1993: , Yetton, 1997 #90;McCann,Christmass,Nicholson and Stuparich, 1998), more flexible learning, greater cost effectiveness (Lundin, 1993: ;Yetton, 1997: ;McCann *et al.*, 1998), as well as access to an international market in web-based training estimated to rise to $5.5 billion in 2002 (Scott and Alexander, 2000). Many reports however encouraged a more cautious attitude towards much of this early evidence, especially the extent to which the rhetoric was matched by substantiated evidence (Caladine, 1993: ;Cochrane,Ellis and Johnston, 1993: ;Alexander, 1995: ;James and Beattie, 1995: ;The Institute for Higher Education Policy, 1999: ;Scott and Alexander, 2000: ;Brabazon, 2002a).

The consequences for universities failing to properly investigate the promises of this technology are staggering. In the United States, Columbia University spent $25 million on online learning technologies and now offers the courses it developed for this purpose for free as samples. The University of Carolina shut down its online divisions. The London School of Economics does not charge for its E-Learning program but uses it to promote the traditional environment. NYUOnline closed after $25 million was invested (Brabazon, 2002b). In Australia, the University of Melbourne invested $5million of public funds into a private for profit speculative online venture, Universitas 21 (Senate Employment Workplace Relations Small Business and Education References Committee, 2001) however early negations with potential partner News Ltd failed (Centre for Studies in Higher

Education, 2001), 6 universities dropped out of the network, including founding member the University of Toronto (Young, 2001) and many unresolved issues of intellectual property, governance and the speed of planning continue to frustrate the project (Centre for Studies in Higher Education, 2001). RMIT has experienced great difficulty implementing its Academic Administration system costing the university at least $48.6 million in total (Buckell, 2003). Despite the shortcomings of the supporting research and the associated high costs of failure (established above), many Australian universities embraced online learning technology with fervour. In March 2002, the first national attempt to assess the extent of online learning technologies in Australian universities was released (Bell,Bush,Nicholson,O'Brien and Tran, 2002). In this study, the authors found that there were 207 fully online courses offered by 23 Australian universities.

These facts raise the important question of why so many Australian universities invested in online learning technology when the research literature supporting such adoption was so problematic? At the present time, there is limited empirical research and theoretical explanation addressing this question. This paper will examine this research, drawing on four popular higher education discourses within a meta-framework of decision making theory. It is proposed that this paper will be helpful in directing further empirical research in the field, in the spirit of Allison's (1971) multiple explanations for the Cuban Missile Crisis.

DECISION MAKING AND RATIONALITY

Decision making is a theoretical framework that is "critical to the comprehension of how and why organisations come to be what they are and control what they do" (Miller,Hickson and Wilson, 1996: 295). It is also capable of incorporating a wide range of interdisciplinary contributions (Miller *et al.*, 1996: 294). This meta-framework is capable of 'seeing' (Clegg, 1990: 20) both rational *and* non-rational processes, depending on the theoretical frameworks incorporated.

Structural functionalism, the dominant paradigm in Management, is "fundamentally concerned with rational decision making to facilitate the smooth running and goal attainment of the modern, complex,

structurally and functionally differentiated organization" (Miller *et al.*, 1996: 293). It emphasizes coherence and consensus rather than conflict, dissensus and operations of power. The critical assertion of this framework is that the organisation is a system that is functionally effective if it achieves explicit goals formally defined through means-end decision making. Management's task, according to this framework, is to define and achieve these goals (Clegg and Hardy, 1996: 2). This key theme and definition can be traced back to the work of Weber and his bureaucracy model of organisation where work was bound to a chain of command, organised around rules determined by objective performance that demanded an ethic of calculation upon the freedom to act (Clegg, 1990: 32).

The presumption of rationality in modern organisations has been the subject of much debate. Simon (1945) was critical of the extent to which decision makers acted with perfect rationality and proposed that they experience "bounded rationality" due to the complexity of modern organisations, limited cognitive abilities, and information that is difficult to collect and categorise (Miller *et al.*, 1996: 295). Barnard (2002/1995) argued that in determining a future course of action, "rigorous reasoning when applied to this type of problem of decision is, strictly speaking, not possible and the effort to do it indicates a lack of proper balance of mental processes." (Caladine, 1993: ;Cochrane *et al.*, 1993: ;Alexander, 1995: ;James and Beattie, 1995: ;The Institute for Higher Education Policy, 1999: ;Scott and Alexander, 2000: ;Brabazon, 2002a: ;Barnard, 2002/1995: 286). Clegg (1990) argued further from Weber (1978: 942), that there is always an unavoidable irrational element in economic systems because operations are always conditioned by a 'structure of dominance' alien to purely technical rationality (Clegg, 1990: 156). These structures of dominance achieve their expression through organisationally situated actions and vocabularies of motive (Mills, 1940).

ORGANISATIONAL ECONOMICS

Transaction Cost Economics, or Transactions Cost Theory, is one area of organisational economics (Barney and Hesterly, 1996) that originally viewed markets and hierarchies as competing instruments

for transactions (Williamson, 1975: 8). It was based on an efficiency argument for the present state of affairs (Perrow, 1986: 250), explained by reference to transaction costs (Perrow, 1986: 252). Bounded rationality and opportunism among organisational actors is assumed (Barney and Hesterly, 1996: 117), leading to application at both the industry and organisation levels of analysis (Perrow, 1986: 254).

Economic Rationalism, or the domination of social policy by the language and logic of economics (Welch, 1996), was inspired by the rise of global competition and led national policy makers in Australia, the US and UK to reduce growth rates in state expenditure on discretionary programs, putting more into direct technological innovation and economic competitiveness (Slaughter and Leslie, 1997). In Australian higher education, this shift to a competitive state coincided with the Dawkins Reforms which set in train the creation of a quasi-market system with competition for students, industry and public funding (Marginson, 1997). These changes occurred in an environment of fiscal scarcity (Welch, 1996) where universities were encouraged to seek non-government income through international education, continuing education and commercial research and consultancy (Marginson, 1997).

The major attraction of early studies in online learning was the claimed cost effectiveness of distance education and new technology in Australian higher education (Taylor and White, 1991: ;Cochrane *et al.*, 1993). The Federal Government played a significant role in funding a series of investigations into alternative modes of educational delivery as part of its review of Australian higher education following the Dawkin's reforms (Baldwin, 1991: ;National Board of Employment Education and Training, 1992: ;Caladine, 1993: ;Hamer, 1993: ;Senate Employment Education and Training References Committee, 1994: ;1995). All but two of these early studies (Caladine, 1993: ;Cochrane *et al.*, 1993) were strongly supportive of the cost benefits of using this technology. There is strong evidence to suggest that these investigations were primarily driven by a desire for greater efficiency in the higher education sector.

The government believes that recent developments in communications and information technologies have the potential to improve both the quality and efficiency of higher education provision…To pursue this further, the Government has decided to fund a comprehensive review of modes of delivery in higher education. (Baldwin, 1991: 46)

The majority of government funded research after this review continued to emphasise cost efficiencies of this newer form of technology (Hesketh *et al.*, 1996: ;Taylor,Lopez and Quadrelli, 1996: ;Tinkler,Lepani and Mitchell, 1996: ;Yetton, 1997: ;McCann *et al.*, 1998: ;West,Banks,Baume,Chipman,Clark,Doherty and Dow, 1998). In addition to funding commissioned research, the Commonwealth Government also provided additional funding to universities to establish state of the art technology (McCann *et al.*, 1998: 14). Further, 79% of grants from the Committee for Advancement of University Teaching (CAUT) in 1996, set up to promote good teaching, learning, assessment practice and to foster innovation, went to projects with an IT base, mostly ICT related (McCann *et al.*, 1998: 16). It was claimed by some that technology was framed as a cheaper, more efficient replacement for university teachers at a time when institutions competed for additional students while maintaining the same or smaller faculties (Tapsall and Ryan, 1999: ;Brabazon, 2002a: 7).

STRATEGIC MANAGEMENT

Strategy came into commerce through competition and had a similar meaning as something unique used to win or establish legitimacy. For practitioners, it was seen as the principle aim of activities, although it has also been described as a discourse and mechanism of power (Whipp, 1996: 262). The area draws heavily on neo-classical economic roots and is based on functionalist assumptions of rational, profit-maximising behaviour in an environment of perfect information (Barney and Hesterly, 1996: ;Whipp, 1996). The environment of the firm, future forecasting, adjusted internal structures and resources, 'core businesses' (Porter, 1980), culture, generic and global strategies have all been the subject of various strategy studies (Whipp, 1996).

In the higher education literature, it is claimed that "the state itself is having to act more and more like a market player, that shapes its policies to promote, control and maximise returns from market forces in an international setting" (Yeatman, 1993: ;Slaughter and Leslie, 1997: 3). The government has funded a number of reports for the national competitiveness of its higher education sector (National Board of Employment Education and Training, 1992: ;Lundin, 1993: ;Cunningham,Tapsall,Ryan,Stedman,Bagdon and Flew, 1998: ;West *et al.*, 1998: ;Cunningham,Ryan,Stedman,Tapsall,Bagdon,Flew and Coaldrake, 2000).

> *Singapore is establishing a distance university and Malaysia is investigating similar posibilities, with a view to becoing international centres of educational leadership and provision. Australia has the proverbial window of opportunity, for a quite limited time, to build on the position of advantage we currently hold. If this opportunity is not developed, by conscious policy in a coordinated way, quite quickly, it will be lost to us.* (National Board of Employment Education and Training, 1992: 22)

At the institutional level, Yetton (1997) claimed that the effective harnessing of IT in Australian universities could help universities implement one of three generic strategies to achieve greater organisational resources: the 'old' university, 'divisional' university and 'new' university (Yetton, 1997: xii); the online business environment had few barriers to entry (Porter, 1980: ;Cassidy, 2002: 145). Yetton's oft cited report, like others who have argued for the benefits of online learning for the satisfaction of a range of institutional objectives (James and Beattie, 1995: ;Hesketh *et al.*, 1996: ;McCann *et al.*, 1998: ;Berg, 2002: ;Nelson, 2002a: ;2002b), were disseminated and backed by government despite their own admissions that there was little evidence of formal evaluation of IT investments to support claims of improved quality and reduced costs in teaching and administration (Yetton, 1997). It is claimed that because these strategies generated income, break from the old and have global potential, they are therefore encouraged by the current government (Marginson and Considine, 2001).

INSTITUTIONAL THEORY

Institutional Theory is a body of knowledge in organization studies that attempts to explain the diffusion of similar institutional structures (or ways of organizing) across industries and structures,

defined in the literature as isomorphism (Meyer and Rowan, 1977: ;DiMaggio and Powell, 1983). It is argued that as a result of organizations being embedded in networks of social relations (Granovetter, 1985), strong isomorphic pressures towards conformity (DiMaggio and Powell, 1983) can lead organizations to adopt structures that are against the interests of efficiency (Meyer and Rowan, 1977) and rationality (Selznick, 1996: 275) and often lead to increased legitimacy (Meyer and Rowan, 1977: ;DiMaggio and Powell, 1983: ;Suchman, 1995).

It is argued that the government encourages isomorphism across the sector through their data requirements, relative funding models, research quantums and standardised quality rankings (Marginson and Considine, 2001). Yet at the same time, differential capacities to compete lead to greater vertical diversity within the higher education system (Marginson and Considine, 2001). The oldest universities have accumulated significant political power and social status creating significant 'positional' advantage that increases over time. Academic standards at these oldest institutions become universal standards that produce academic and managerial professionals to carry the dominant norms (Marginson and Considine, 2001). Less prestigious institutions seek legitimation by copying the more successful institutions while minimising the risks of uncertainty (Marginson and Considine, 2001).

> *In a market, emulation, rather than originality, is the quicker route to legitimacy and to a limited kind of success…the need for short term returns renders problematic those institutional experiments that require a longer time to come to fruition. (Marginson and Considine, 2001: 217)*

The first adoption of new technology by a small number of organisations may be made on the basis of technical or economic viability (Tolbert and Zucker, 1996), for example, the "New Universities" and "Regional Universities" with their distance education expertise and identities (Tapsall and Ryan, 1999: ;Marginson and Considine, 2001: 225). Other university decision makers would arrive at some consensus on the value of these technologies, either on the basis of evidence from primary or published sources or they may have regard to the decisions of other universities on the same matter, sometimes influencing their own independent judgement.

> *The more organizations that have adopted the structure, the more likely will decision-makers perceive the relative balance of costs and benefits to be favourable…the more widespread a choice becomes, the more likely are individuals to view it as an optimal choice, and the less influential will be the decision maker's independent judgements of the value of the choice"* (Tolbert and Zucker, 1996).

This stage may also be accompanied by the emergence of various interest groups who generate public recognition of a consistent pattern of organisational failure and to promote this new technology as an appropriate solution or treatment (Tolbert and Zucker, 1996), such as the government, as already discussed, other self-interested 'experts' (e.g. (1999)) and cautious academics (e.g. Noble (1997) and Scott and Alexander (Scott and Alexander, 2000: ;Berg, 2002)). The process ends when the technology spreads to all organisations and perpetuates itself over time (Tolbert and Zucker, 1996).

POWER

Hardy and Clegg (1996) note that the early definitions of power as 'getting others to do what you want' was a negative concept of power that didn't acknowledge the way power was structured into the organisational design (Hardy and Clegg, 1996). Power could not only be used to influence conflict, but could be used to shape decision agendas and even influence people's perceptions, cognitions and preferences(Ranson,Hinings and Greenwood, 1980: ;Hardy and Clegg, 1996). Power can therefore be embedded in the routine aspects of organisations and the fibre and fabric of everyday life, affecting individuals at the collective level (Hardy and Clegg, 1996).

The strategies of the Australian governments, both Labour and Coalition (Welch, 1996), used a range of incentives and sanctions to shape the behaviour of public sector mangers as agents of modernisation and marketisation (Marginson, 1997). "Self Management" was introduced that increased the responsibility on universities for areas not formerly controlled. Yet power was kept with the state, pushing the risk of failure down to universities (Welch, 1996). "Academic Capitalism" or market like behaviours on the part of faculty and institutions, was encouraged by government policy (Slaughter and Leslie, 1997), leading to the rise of the Enterprise University. The myth of self managing institutions is that they must still work within the economic and political macro-context

shaped by the state (Welch, 1996: ;Marginson, 1997). Educational profiling ,competitive bidding based on compliance, standardised quality assurance schemes and published performance rankings of competing institutions allowed the state to 'steer from a distance' (Marginson, 1997). Competition for success was closely tied to performance indicators that measure conformity against program goals of the state (Welch, 1996).

> *The point of devolution, it can be argued, is to shift responsibility (particularly for failure) away from the centre to the local level, while retaining ever tighter control of the reins: the mechanisms of control over system policy and governance (Welch, 1996: 11: 11).*

The role of the Commonwealth government in funding the adoption and research for online learning and cannot be overstated. A review of decisions in Australian higher education from a power perspective would be well supported in the higher education literature (Welch, 1996: ;Marginson, 1997: ;Slaughter and Leslie, 1997: ;Marginson and Considine, 2001).

> *Theorists need to ask more useful questions, rather than allow applications to mask politics. A significant query, for example, explores who is using this digital material and why. ..the internet can be considered as an interrelated system of power relationships, rather than as a politcally neutral carrier of knowledge. Obviously, this politicised network provides a volatile setting for education.(Brabazon, 2002a: 24)*

CONCLUSION

The introduction of Online Learning in Australian higher education has been accompanied by poor evaluation evidence, leading some universities to commit expensive mistakes. It has been argued that decision making theory can provide a useful theoretical lens from which to draw to investigate the rational and non-rational components associated with the adoption of online learning technologies, drawing on the work of organisational economics, strategy and institutional theory. Each of the explanations discussed has shed unique insights on the area and can be justified in the literature. Read together, it is anticipated that these findings will assist further empirical research in this area.

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