

BEYOND THE JUNGLE Strategic Information Systems Theory in ‘Low –Competitive’ Contexts

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ABSTRACT: The dominant line of thought in strategic management was spawned by Michael Porter’s books on competitive advantage. Commencing in the mid-1980s, Porter’s thinking was applied to information technology. A theory of strategic information system (SIS) emerged and quickly gained popularity. This paper considers the applicability of SIS theory to circumstances in which competition does not exist, or is constrained. There different perspectives are adopted. One leads to questions as to whether “low –competitive contexts ‘really exist. The second results in the conclusion, that conventional SIS theory is inapplicable to at least those government agencies whose primary mission is policy formulation or implementation. The third doubts whether there is any instrumentalist ‘value in the models that conventional SIS theory provides.

I.INTRODUCTION

Strategic information systems (SIS) theory is a recent, but highly influential, body of thought. Its origins are emphatically within the competitive market sector, and this paper seeks to test the theory’s applicability to organizations which are subject to market forces to only a limited extent.

The approach adopted is to pursue arguments in the terms used by accredited experts in the field, but who adopt significantly different perspectives. The format might be described as a set of pseudo-interviews, or dialectic. Some passages are paraphrases of materials provided by, or verbal statements made by, the experts concerned. Responsibility for the compilation, and for the statements and implications it contains, rests entirely with the author, and views should be attributed to the experts concerned only where not context directly implies that they hold that view.

The initial sections provide background to SIS theory and to what this paper refers to as ‘low – competitive contexts’. Successive arguments are then pursued, to the effect that SIS theory is applicable to such contexts (associated with Michael Vitale, of the University of Melbourne), that it is not applicable (associated with Ignace Snellen, of Erasmus University, Rotterdam), and that it is of little or no use anyway (associated with Charles Wiseman, These us Institute, France). A brief summary is provided.

Background:

In 1980 and 1985, Michael Porter published two highly influential books entitled ‘Competitive Strategy’ and ‘Competitive Advantage’. These expressed a theory, derived from industry economics, which purports to explain the processes whereby corporations gain competitive advantage, and, in some cases, sustain it.

The theory is claimed to have explanatory power, such that existing instances of successful corporate behavior can be described, and the causal links between strategic choices and outcomes established. Implicitly, it also has predictive power, enabling the outcomes of strategic measures to be anticipated, and contingent upon environmental and competitive factors. This implies that where competitive factors are not dominant, the theory can have normative power, in the sense that it can lead executives to the selection of appropriate alternatives.

Porter’s theory is built on a number of key models. The foundation is the ‘five competitive forces’ which define the setting within which a corporation establishes and maintains its strategy. These are the corporation’s existing direct competitors, its customers, its suppliers, new entrants to the sector, and organizations that offer good or services that may substitute for those of the corporation.

As Michael Vitale expresses it, the model identifies the scope for manipulation, and reduction in the bargaining power, of these competitors. Particularly common approaches are the locking-in of customers and the raising of barriers to entry. Additional elements of the theory are a set of ‘generic strategies’, and the concept of the value chain,’ both within the corporation, and along the industry sector.

Commencing in the mid-1980s, a series of papers applied Porter’s thoughts to information technology – see in particular Porter & Millar (1985). Many of these were written by people associated with the Harvard Business

School, and published in the management-oriented Harvard Business Review and Sloan Management Review. The line of thought was, in conventional Harvard style, accompanied and articulated by a lavish assortment of cases. During the 1980s, these were seldom more substantial than anecdote; but the 1990s has seen a considerable tightening and deepening of the material publicly available about many of the leading cases.

Between 1983 and 1988, Charles Wiseman published a series of articles and books which expressed a theory of strategic information systems, and critically assessed the Porter theses – see in particular Rack off, Wisemen & Ullrich (1985) and Wiseman (1988). Distinctive elements contributed SIS opportunities referred to as the strategic option generator.

By the late 1989s, researchers from a wide range of institutions were working with and extending the theory, and publications were appearing with increasing regularity in academic journals. In 1991, a specialist journal was established in the area. Progressively, refinements, extensions and qualifications appeared, and in due course counter-proposals. Depictions of the intellectual and historical development of SIS theory are to be found in Clarke (1994) and Neumann (1994, Chapter 3).

II. ‘LOW – COMPETITIVE’ CONTEXTS

SIS theory, associated as it is with the economics and organizational dynamics of industrial organization, is oriented towards private sector corporations that are subject to competition. Moreover, the tendency during recent has been to deny government agencies some of their long-standing protections. The following succession of initiatives and proposals can be readily identified.

- The ‘out-sourcing’ movement, which involves the contracting of services which it is argued will be more efficiently performed by private sector corporations which have competed for the business;
- The breaking down of regulated monopolies, particularly in the telecommunication arena, but also in other areas previously regarded as ‘natural monopolies’, such as electricity and water;
- The privatization movement, which posits that profit-oriented shareholders will bring greater resource-usage efficiency from an organization than can public ownership; and
- Voucher schemes designed to create market conditions in relation to such services as education and health.

Vitale concludes that this evidence supports the contention that competition-based SIS theory does indeed have considerable relevance to public sector agencies which have been subjected to the white heat of market forces. By implication, other kinds of organizations which operate in nominally ‘low-competitive’ contexts are also likely to be well served by conventional SIS theory.

III. SIS IN PUBLIC ADMINISTRATION

Government agencies inhabit a rather different world from private sector corporations. Igance Snellen has described them as being “pegged between different rationalities”. By ‘rationalities’ he means closed sets of criteria used to judge the appropriateness of their actions. The professional or technical rationality demands the application of proven theories and models delivered by the management sciences. The legal rationality demands conformity with un-written yet well-understood meta-principles; in many countries these might be depicted as security, equality before the law, and protection from arbitrary action. The economic rationality requires efficiency and responsiveness in the mean whereby resource-distribution is affected.

Perhaps the most influential of the rationalities, however, is the political. The political process is the means whereby unequal distribution is performed in the face of equal claims. Political discussion is based on precepts orthogonal to those of each of the other rationalities. Existing political power needs to be maintained, subject to the constraints that problems be solved (at least symbolically), and that the integrity of the social frame work within which the power is exercised not be jeopardized.

Snellen observes that these rationalities are incommensurable; that is to say that arguments expressed within one framework are incapable of expression in logical form in another – computing science or linguistics parlance, they do not ‘map’. Proponents of viewpoints who are operating within each rationality find each other’s lines of attack incomprehensible; so there can be no ‘meeting of the minds; and each is unable to ‘know where the other one is coming from’. As a result, each rationality has a tendency to imperialize, to declare the others irrational, and to seek domination over them.

The term ‘low –competitive contexts’ is used in this paper to refer to organization that are subject to market forces to a markedly lesser extent than corporations in competitive marketplaces. Such organizations may experience a lower intensity in their relationships with their business partners; or they may be fully subject to

competition in respect of some aspects of their operations (e.g. charities actively compete for the support of scarce donors), but to only a very limited extent in relation to other aspects. (e.g. charities seldom compete for people who need their help, because there are usually insufficient charity resources to help all of the people in need).

A wide range of organization can be argued to fit into the category. Common examples include at least some kinds of government agencies, charities, and professional, industry and consumer associations. The term 'not-for-profits' is conventionally used in the United States to refer to some of these kinds of organizations. A listing of organizational types is to be found on the web at:

IV. THE DENIAL OF LOW –COMPETITIVE CONTEXTS

It is only natural that experienced theoreticians and practitioners of SIS theory perceive it to be applicable beyond the kinds of organizations for which it was originally devised. It is important to establish, however, whether this wider applicability is justifiable, or whether it is a case of 'when you have a hammer in your hand, everything looks like a nail'.

SIS theory enables researchers to describe and explain phenomena in the domain of information technology applications with strategic significance for corporations. It is also claimed to support the development and prioritization of ideas about the use of information technology to support corporate strategy. Michael Vitale cautions, however, that it is a guiding tool like a compass, rather than a precise mechanism like a set of ballistic tables.

Superficially, competition is a feature of relatively free markets; and hence organizations which operate in situations remote from markets seem not to be subject to Porter's competitive forces. On the other hand, the concept of 'competition' can be applied to much more than just traded goods and services. Access by new university graduates to professional occupations in, for example, medicine and the law, may be analysed using the tools, as can access by service organizations and charities to disaster areas and to prisoners-of-war.

Vitale argues that analysis based on market forces can be valuable in purely public service contexts as well. For example, he accepts that Fire Brigades are not subject to much competition when it comes to fighting fires, but points out that they compete with a wide range of other groups when it comes to access to funds. Moreover, they can re-conceptualize themselves as producers of, say, 'fire safety' (in which case they are in competition with suppliers of fire extinguishers, safety consultants and risk analysts), or permission to hold events (in which case they are in competition with such organizations as the sections of local government which license dance-halls and open-air concerts). Even policy-oriented agencies are confronted by market-forces, in their Endeavour's to have their ideas accepted and implemented.

V. THE INTRACTABILITY OF STRATEGIC DECISION-MAKING

This author's interpretation of Charles Wiseman's mid-1990s views of SIS theory is that they are deeply skeptical. Little evidence exists that strategically significant systems have been consciously conceived, invented and engineered. Almost all of the cases that have been reported have been accidental, either completely so (e.g. an operational system that turned out to have strategic consequences), or organizationally so (e.g. an individual who was not in a position of power squeezed through an initiative that 'seemed like a good idea at the time', but which would have been unlikely to have gained formal organizational approval).

Rather than being a tractable problem, strategic management may be akin to the Minoan labyrinth, after whose hero, Theseus, Wiseman's host-Institute is named. A path through the labyrinth simply cannot be found from within – solubility by the application of rational processes is a chimera or a holy grail. Nor can such problems be solved by brute force methods (the Theseus legend lacks a suitable metaphor, but it is exemplified by the approach in the game Doom, whereby every threat can be overcome by blasting away using the ever-present-reloadable firearm).

Ariadne's thread, whereby Theseus found his way out of the labyrinth, represented lateral thought, or to mix metaphors yet further, it 'came out of left field'. Wiseman asserts that the limits to human rationality ensure that, in the complex domains addressed by strategic decision-makers, models are inherently over-simplistic. Theories can have very limited power. Even contingency theories cannot cope with the enormous richness of environmental variables. If this interpretation of Wiseman's message seems extreme, it needs to be placed alongside an argument of Snellen's: that the rate and scale of change in public administration is so great that it is impossible to grasp quickly enough the new framework of governance; and hence modeling is fraught with dangers.

Does this extreme position represent an a-theoretic conclusion- that theory is impossible? In part, yes: it denies the feasibility of an instrumentalist / utilitarian theory that can provide reliable guidance for action, or even predict the outcomes of particular strategies. But in part, no: even a retrospective, historiographic, descriptive theory

may have value: and at least in some contexts, it may be feasible, a posteriori, to establish causality, and hence explain the process whereby a particular constellation of strategic – variable settings and environment – variable values determined the outcome.

Moreover, this line of thought does not suggest that all is lost, and the human intellect so limited that executives are doomed forever to merely arbitrary behavior. The argument is only that it is unreasonable to depend on rational decision processes and criteria of choice. Wiseman recommends dependence on what might be termed organizational learning and even self-discovery.

Some corporations permit ‘bricolage’ – the term popularized by Ciborra (1991) for the process whereby ideas ‘trickle through’ an organization, rather than being engineered. Those organizations whose processes combine permissiveness of idea-emergence, with testing and filtering of their efficacy, are able to benefit from them. Wiseman argues, at the strategic level, for more breaking of rules and bureaucratic rationality, the loosening of corporate mind-sets, and more active innovation through openness to the invention, diffusion and osmosis of ideas.

Associated with this complexity is the fact that government agencies are best by the need to reflect a far richer set of values than those coped with by private sector corporations. In most cases, they are required to fulfill a function formally defined in long-standing legislation that is seldom re-visited by the relevant legislature. Those functions are (at least according to some perspectives) socially desirable. To a corporation, the delivery of goods or services to a client is a means to an end; to a public body it is an end in itself.

An important corollary of this value-laden aspect of public administration is the need for a far more careful analysis of stakeholders and their interest. The range of players involved in Porter’s competitive theory is, appropriately for its intended context, quite limited. In government, a larger number of distinct players are involved, and they have far more interactions among themselves than are depicted in models of industry sector dynamics.

Those players’ perspectives are very different, conflicting and (each within its own particular frame of reference) morally justifiable. Snellen argues that the breadth of perspectives that need to be accommodated is strikingly different from the relatively simple calculus of corporate strategy formation. Moreover, the perspectives are not mediated by a relatively integrated and stable ‘corporate ethos’. The chances seem remote of any feasible strategy actually satisfying the management science criterion of Pareto optimality.

Snellen draws attention to a further complication for many government agencies implementation of policy measures is commonly undertaken not directly by the agency itself, but through many different intermediaries, and at times through chains of them. These intermediaries include other agencies at the same level of government, agencies at other levels of government, private sector corporations, and community associations. The relationships between the agency intermediaries are often based not on formal legal authority, or even enforceable contracts, but merely on trust and the power of the purse.

Taking these considerations into account, the SIS-theoretic approach to government agencies appears to be very limited in its applicability. The examples that are provided of successful applications of SIS theory to government agencies relate almost exclusively to service-providers.

Some service-oriented agencies and business units may very well be displaced into the private sector, on the grounds that their activities need be subject to very few public interest constraints and the associated willful inefficiencies. There remain many community services, however, which are likely to be subject to significant intervention, and whose efficiency will be regarded as less important than their contribution to, for example, social equity or affirmative action.

Beyond the service sector, the efficacy of applying Porter-Wiseman SIS theory to the strategies of regulatory and policy-formation agencies seems to be in serious doubt. By implication, similar lines of argument can be pursued in relation to many organizations which lie outside the corporate and the government sectors.

He notes that scare-stories such as failures of competitors and down –sizing of moribund business units motivate adaption. He argues that formal case research may founder because the past and present are no guide to the discontinuous future; but story-telling, metaphor and rhetoric may still leads to insight and understanding. Rather than believing in the possibility of intentional, planned SIS, Wiseman argues that executives must make active use of myths, legends, archetypes and examples; but that they must recognize them for what they are, rather than glorifying them as formal cases and proto –theories.

VI.CLOSING OBSERVATIONS

This paper has taken the form of dialectic rather than a reasoned argument; and it is accordingly inappropriate to reach conclusions. However a number of observations are feasible. They are mutually inconsistent; but then that is the nature of dialectic. It is once again emphasized that these interpretations are those of this author, and not necessarily of the experts on whose work they are based.

1. Many circumstances which at first sight might be interpreted as being 'low-competitive' in nature are susceptible to SIS theory based on the theory of completion. This is variously because.
 - They are only uncompetitive because of inhibitions inherent in existing institutions or process, and the removal of the undesirable features will make them competitive (e.g. through outsourcing, or the destruction of artificial monopoly);
 - They are capable of being made artificially competitive through appropriately contrived interventions, and/or
 - They are partially competitive (e.g. relation to supply alone);
2. Many 'low –competitive contexts' exists, which are not amenable to competition-based SIS theory. Important examples include government agencies whose missions are primary concerned with regulation or policy. The processes of policy development and implementation are subject to multiple, inconsistent and mutually non-comprehending 'rationalities'. Moreover, there are many stakeholders whose interests must be recognized, and many players through whom the policy must be articulated and implemented.
3. In complex domains, it is misguided to imagine that any humably-created and humanly-comprehensible body of theory could have normative capacity, or even predictive power. The best that theories can achieve in the area of strategic IS is to describe, and perhaps to retrospectively explain. Executives should be guided by the theory and practice of organizational development and learning, rather than by SIS theory; they should encourage looseness in their strategy development process through such means as the use of metaphor and rhetoric; and they should recognize that the real value of stories is as legends and archetypes, rather than as formal cases.

REFERENCES

1. Ciborna C.U. (1991) 'From Thinking to Tinkering: The Grassroots of Strategic Information Systems' Proc. 12th Int'l Conf. Sys. New York, December 1991, DeGross J.I. et al (Eds)., Association for Computing Machinery, New York. Revised version republished in The Information Society 8, 4 (Oct-Dec 1992) 297-309.
2. Clarke (1994) The Path of Development of Strategic Information Systems Theory Working Paper available from the author, Australian National University, and at: <http://www.anu.edu.au/people/Roger.Clarke/SOS/Start>
3. ISTh.
4. Neumann S. (1994) 'Strategic Information Systems: Competition through Technologies' Macmillan, 1994.
5. Porter M.E. (1980) 'Competitive Strategic' The Free Press, New York, 1980.
6. Porter M.E. (1985) 'Competitive Advantage' The Free Press, New York, 1985.
7. Porter M.E. & Millar V.E. (1985) 'How Information Gives You Competitive Advantage' Harvard Business Review 63,4 (1985) 149-160.
8. Rackoff N. , Wiseman C. & Ullrich W.A. (1985) 'Information Systems for Competitive Advantage: Implementation of a Planning Process' MIS only 9.4 (December 1985) 285-294.
9. Wiseman C. (1988) 'Strategic Information Systems' Irwin, 1988.