Organizational Controls as Enablers and Constraints in Successful Knowledge Management Systems Implementation

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ABSTRACT

Many current implementations of organizational knowledge management, although based on the most advanced information technologies, are hobbled by the pervading organizational controls. Such information systems related organizational controls could spell the success or failure of organizational management initiatives despite application of latest groupware and collaboration software. Often, such failures of knowledge management systems implementations arise from incorrect understanding and misapplication of the notion of 'controls.' Hence, it is critical to develop a better understanding of information systems related organizational controls so that they can facilitate the success of knowledge management systems implementations. This paper fills the critical void of incomplete and often incorrect interpretations of organizational controls by developing a better theoretical and conceptual understanding of organizational controls and their pragmatic implications. The paper also proposes an organic model of organizational controls for design of knowledge management systems that can effectively enable creation of new knowledge, renewal of existing knowledge and knowledge sharing.

1. INTRODUCTION

Despite advanced information systems that support 'rich' information exchange and collaboration within the members of groups or organizations, many current implementations of knowledge management systems have shown limited success. Often the problems may not be with the design of such knowledge management systems, but their appropriation and effective utilization by the members of the organizations. The key argument of this article is that information systems, when applied to knowledge management, are limited in their success by the pervading organizational controls. Often the notion of *knowledge management* is confused with the notion of *controlling the members' knowledge sharing behavior*. A review of the literature on organizational controls suggests that this may be a dangerous and fallacious premise that may hobble the success of knowledge management systems implementations. In fact, a better understanding of organizational controls would suggest that *to mange* is not *to control*. In other words, success of knowledge management systems could often result from propagating and nurturing the autonomy and self-control of organization members instead of exerting external influences to modify or manipulate their knowledge creating and knowledge sharing behavior. More importantly, in most cases, despite good design of information technology based architecture of knowledge management systems, attempting to modify or manipulate creating and knowledge sharing behavior may have result in the failure of knowledge management systems.

Section 2 provides a literature review about the concept of 'organizational controls.' Section 3 discusses the limitations inherent in the mainstream model of knowledge management. Discussion in this section also expounds how inadequate understanding and application of organizational controls may often lead to failure of knowledge management implementations. Section 4 proposes and illustrates an organic model of organizational controls that is better suited to creation of new knowledge, renewal of existing knowledge and sharing of knowledge between the organizational members. Based on the preceding discussion, section 5 underscores that 'knowledge management' is as much of an oxymoron as any other related notions such as information systems

management, human resource management, business management and so forth.

2. LITERATURE REVIEW ON ORGANIZATIONAL CONTROLS

Despite lack of a commonly accepted framework or typology of organizational controls (Merchant and Simon 1986, Green & Welsh 1988, Simons 1990), invariably, most authors (cf.: Eisenhardt 1989, Flamholtz et al. 1985, Henderson & Lee 1992, Kirsch 1996, Lawler 1976, Orlikowski 1991b, Tannenbaum 1962) have interpreted control in terms of the *influence* exerted on the subordinates to seek their *compliance* with organizational goals. Most such interpretations have used the thermostat analogy of the control system (cf.: Anthony 1988, Grant & Higgins 1991, Lawler & Rhode 1976). In most such 'thermostat' models, performance level of the subordinate is measured and compared with a *pre-set* standard and the subordinate acts on the feedback received from the superior to decrease the variance between the measured performance and the pre-defined standard. It has been assumed that the controller seeks compliance by exerting control, say in terms of pre-specified performance criteria, and the desired organizational outcomes are achieved through compliance of the controllee. In addition, it has also been assumed that organizational outcomes resulting from the enforcement of compliance are generally favorable to the organizational well-being.

In most existing research and practice on knowledge management, such manipulation of behavior and actions of organizational actors is treated in the context of utilization, processing, creation, dissemination and sharing of knowledge. Increasing awareness about the tacit or intrinsic knowledge of organization members (cf: Davenport and Prusak, 1997; *CIO Enterprise* 1999; Malhotra 1997, 1999e) has resulted in the premise that knowledge cannot be managed, i.e.,'knowledge management is an oxymoron' (cf: *Information Week* 1999, *Computerworld* 1998, *Wall Street Journal* 1998, Sveiby 1998). In addition, operational measures often recommended for facilitating knowledge management have included bonuses and incentives (cf: Davenport and Prusak, 1997) or other means of modifying or manipulating knowledge sharing

behavior. The dominant model of knowledge management based on *control by compliance* assumes that such operational measures would have a positive influence on knowledge creation and knowledge sharing behavior. However, a deeper understanding of organizational controls developed in this article suggests otherwise.

3. CONTROLS THAT CONSTRAIN KNOWLEDGE MANAGEMENT

Several conceptualizations of organizational control have assumed alteration of the controllee's behavior (regulation) to be a direct consequence of the communication (feedback) from the controller. However, Giddens' (1984) notion of agency, known as the *dialectic of control*, recognizes that: "All forms of dependence offer some resources whereby those who are subordinate can influence the activities of their superiors." In other words, assumption of the passive and compliant knowledge workers is inaccurate given that the controllee can "choose to do otherwise" (Giddens 1979, 1984, Orlikowski 1991a), despite attempts to manipulate or control one's knowledge sharing behavior. Manz et al. (1987, p. 5) recognize controllee's choice between compliance and non-compliance in that observation that: "Persons may exercise self-control even when they choose to acquiesce to external demands, as acquiescence still implies choice." The active role of controllee in choosing between compliance and non-compliance has also received empirical support from more recent field studies conducted by Malhotra and Kirsch (1996) and Malhotra (1999a, 1999b).

It is a different matter that in the "world of re-everything" (Arthur 1996), passive compliance to the status quo may be detrimental to the competitive health of the organization. Traditionally, organizational controls have been "built, *a priori*, on the principal of closure" (Landau & Stout 1979, p. 150) to seek compliance to, and convergence of, the organizational decision-making processes (Flamholtz et al. 1985). The fundamental assumption underlying such controls is that goals have been pre-decided, *recipes* for achieving those goals have been pre-decided and translated into procedural guidelines that need to be *followed* by the employees. Such organizational control systems were designed to reinforce stability and maintain the status quo. However, the cycle of doing "more of the same" tends to result in locked-in behavior patterns that eventually sacrifice organizational performance at the altar of the organizational "death spiral" (Nadler & Shaw 1995, p. 12-13). Hence, although knowledge management systems based on compliance may *ensure* conformity by enforcing task definition, measurement and control, yet they may *inhibit* creativity and initiative (Bartlett & Ghoshal 1995). Emphasis on the obedience of rules at the cost of correction of errors (Landau & Stout 1979) constrains creation of *new* knowledge and renewal of existing knowledge.

The problem is compounded by incorrect assumptions about human knowledge underlying the currently popular notion of knowledge management systems that are supposedly expected to "find useful knowledge, bottle it, and pass it around" (Hildebrand 1995; Stewart & Kaufman 1995). Such representations often assume away the *proactive* role that knowledge workers need to play in the success of such systems (Newcombe 1999). Knowledge needs to be understood as the *potential for action* that doesn't only depend upon the stored information but also on the individual interacting with it.

The dominant conception of IS-based organizational knowledge systems is constrained by the very nature of the knowledge creation processes: it ignores the dynamic and continuously evolving nature of knowledge; it ignores the tacit and explicit dimensions of knowledge creation; it ignores the subjective, interpreta-

tive and meaning making bases of knowledge construction; it ignores the constructive nature of knowledge creation; and it ignores the social interactive basis of knowledge creation (Malhotra *in press*). The model of organizational control embedded in such systems is also overwhelmed by the intense information flows required for (Bartlett & Ghoshal 1995):

a) keeping the centralized knowledge base and its custodians (managers) *continuously* current with the *discontinuously changing* external environment,

b) continually updating the employees on the latest changes in their outputs (goals) and changes in procedures to achieve those outputs.

Under conditions of ambiguity, of loose coupling, and of uncertainty that characterizes the new business environment, measurement of knowledge worker's performance with reliability and with precision is not possible. A control system based on such measurements is likely to systematically reward a narrow range of maladaptive behavior, leading ultimately to organizational decline. The new business environments require new models of knowledge management and related organizational controls conducive to sustainable competitive advantage in the face of radical and unpredictable change (Malhotra 1998b, 1998c, 1999c). The knowledge management model enabled by self-control is discussed in the next section as one such model.

4. CONTROLS THAT ENABLE KNOWLEDGE MANAGEMENT

Organizations in dynamically changing environments need to behave experimentally. Since they will come across few lasting optima, they ought to gear themselves to impermanency and plan as if their decisions were temporary and probably imperfect solutions to changing problems. Accordingly, knowledge management systems need to encourage experimentation and be easy to re-arrange and adapt with changing business environment. Such dynamically adaptive knowledge management processes and systems need to be driven by self-evaluation and self-design (Hedberg et al. 1976).

Successful implementation of knowledge management systems is driven by the simultaneously processes of ongoing learning and unlearning that have been characterized elsewhere as *loose-tight systems* as illustrated in Figure 1. Such systems are *loose* in the sense that they allow for continuous re-examination of the assumptions underlying best practices and reinterpretation of this information. Such systems are *tight* in the sense that they also allow for efficiencies based on propagation and dissemination of the best practices. Such *loose-tight knowledge management systems* (Malhotra 1998a, 1999d) would need to provide not only for identification and dissemination of best practices, but also for continuous re-examination of such practices. Specifically, they would need to also include a simultaneous process that continuously examines the best practices for their currency given the changing assumptions about the business environment. Such systems would need to contain *both* learning and unlearning processes. These simultaneous processes are needed for assuring the efficiency-oriented optimization based on the current best practices while ensuring that such practices are continuously re-examined for their currency.

The proposed organizational control model "actually exploits benefits hidden within properties that designers have generally regarded as liabilities" (Hedberg & Jonsson 1978, p. 45). This observation seems important given that unclear objectives and ambiguous work roles have been suggested by some management scholars (cf: Burns and Stalker 1961) as *desirable* properties of
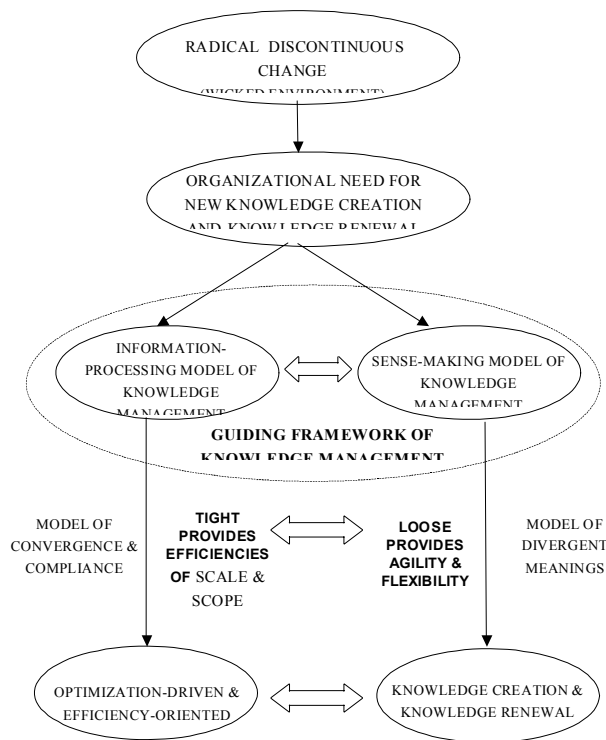
Figure 1. *Loose Tight* Knowledge Management Systems

organismic organizations for thriving in dynamic environments. Design of knowledge management systems thus needs to take into consideration ambiguity, inconsistency, multiple perspectives, and impermanency of existing information. Such systems need to be designed along the principles of *semi-confusing information systems* (Hedberg and Jonsson 1978) that facilitate exploitation of previous experiences and detected causalities, but ensure that experience of past doesn't hinder ongoing adaptation for the discontinuous future.

As illustrated in Figure 2, the proposed model of organizational control recognizes self-control as the driver of human actors' behavior and actions across all organizational decision and task processes and acknowledges that control over employees is ultimately self-imposed. Instead of emphasizing unquestioning adherence to pre-specified goals or procedures, it encourages the use of intuition through 'playfulness' (Cooper et al. 1981, p. 179). The model of knowledge management through self-control also facilitates error detection and error correction (Stout 1980, p. 90) instead of compliance with pre-specified rules and procedures. Instead of emphasizing 'best practices,' it encourages development of a large repertoire of responses to suggest not only alternative (complementary and contradictory) solutions, but also different approaches for executing those solutions. In the emerging business world (Wheatley 1994, p. 151): "solutions...are a temporary event, specific to a context, developed through the relationship of persons and circumstances." The proposed

model is based on the premise that (Landau & Stout 1979, p. 152): "solutions to problems cannot be commanded...[they] must be discovered: found on the basis of imagination, analysis, experiment, and criticism."

These observations illustrated in the schematic highlight the contrast between the traditional organizational environment characterized by predictability and emphasis on 'forecasts' and the emergent 'wicked' environment characterized by unpredictability and emphasis on 'anticipation of surprise.' As the world economies transition from the traditional model of 'workers' to the new model of autonomous 'free agents' and 'knowledge intrapreneurs' (Malhotra 1998a), the distinctions made in this article achieve greater significance. In the emergent organizations, managers will need to nurture self-leadership and self-regulation as emphasis shifts from utilization of 'canned knowledge' to continual creation of new knowledge and renewal of existing knowledge. Previous models of 'canned knowledge' resident in organizational intranets and best practice databases will be increasingly vulnerable as their underlying premises need to be questioned on a daily basis by those making decisions and taking actions in the field. The key challenge for managers in the forthcoming turbulent environments will be to cultivate commitment to the organizational visions. As it becomes increasingly difficult to specify long-term goals and objectives, such commitment would facilitate real-time strategizing in accord with the organizational vision and its implementation in the field. Knowledge workers would need to take autonomous roles of self-leadership and self-regulation as they would be best posi-
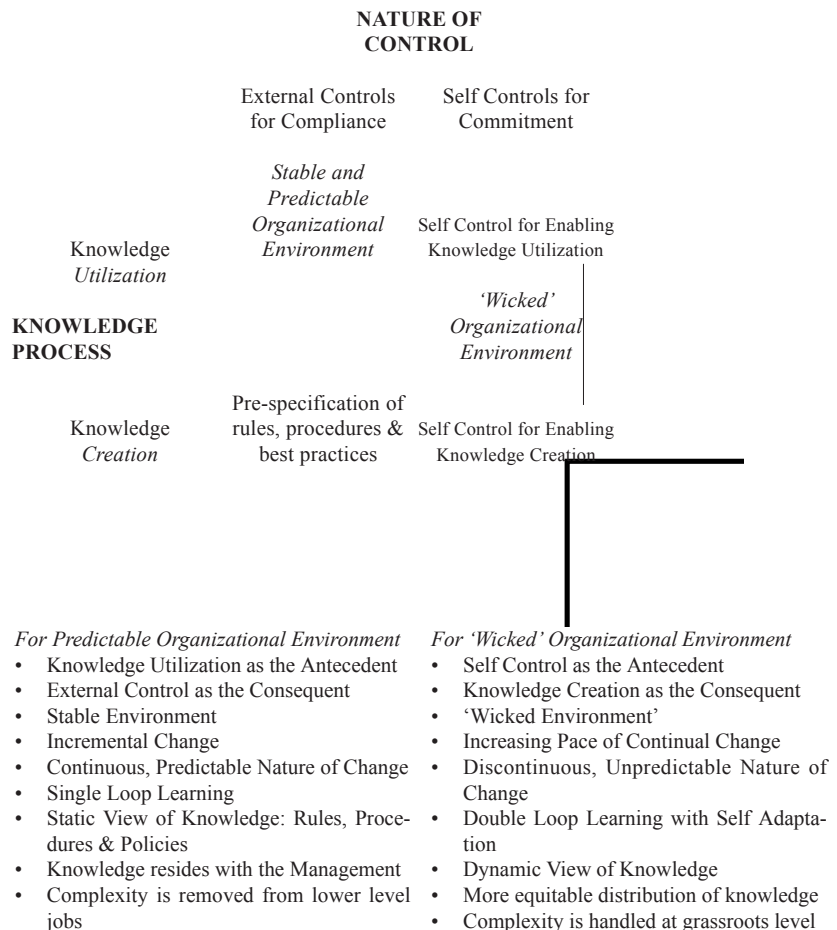
NATURE OF CONTROL

	External Controls for Compliance	Self Controls for Commitment
	Stable and Predictable Organizational Environment	
Knowledge *Utilization*		Self Control for Enabling Knowledge Utilization
		'Wicked' Organizational Environment
KNOWLEDGE PROCESS		
Knowledge *Creation*	Pre-specification of rules, procedures & best practices	Self Control for Enabling Knowledge Creation

For Predictable Organizational Environment
- Knowledge Utilization as the Antecedent
- External Control as the Consequent
- Stable Environment
- Incremental Change
- Continuous, Predictable Nature of Change
- Single Loop Learning
- Static View of Knowledge: Rules, Procedures & Policies
- Knowledge resides with the Management
- Complexity is removed from lower level jobs

For 'Wicked' Organizational Environment
- Self Control as the Antecedent
- Knowledge Creation as the Consequent
- 'Wicked Environment'
- Increasing Pace of Continual Change
- Discontinuous, Unpredictable Nature of Change
- Double Loop Learning with Self Adaptation
- Dynamic View of Knowledge
- More equitable distribution of knowledge
- Complexity is handled at grassroots level

Figure 2. Success Factors for Knowledge Management: Contrasting Stable and 'Wicked' Environments

tioned to take into consideration the dynamic changes in the business environment. Compliance will loose its effectiveness as the managerial tool of control as managers removed from the field have lesser and lesser knowledge needed for enforcing such compliance. In absence of more and more incomplete knowledge of the situation at hand, forcing compliance may not even be the last resort. Managers would need to facilitate confidence of knowledge workers in acting on incomplete information, trusting their own judgments and taking decisive actions for capturing increasingly shorter windows of opportunity. In the new world of business, the *control over employees will be ultimately self-imposed*, and that managerial controls would need to seek proactive self-control (Malhotra and Kirsch 1996, Hopwood 1974, Manz et al. 1987). Argyris (1990) has referred to the transition from traditional external control mechanisms to the paradigm of self-control as "the current revolution in management theory."

6. CONCLUSION

This article was motivated by increasing recognition of critical relevance of 'organizational controls' in successful knowledge management implementation. A review of existing research and practice of knowledge management suggests that such controls are often incorrectly understood and applied. Specifically, it was observed that the concept of 'management' has been interested in very narrow terms of *control by compliance* which may not be very effective for facilitating knowledge utilization, new knowledge creation, knowledge dissemination and knowledge sharing by knowledge actors. Better understanding of 'management' in terms of 'self-control' seems pertinent for remedying this fallacy that could have dire implications for new business environments. The framework of knowledge management based on self-controls discussed in this paper advances the model of commitment based knowledge management that is more conducive for effective knowledge performance in the new business environments.

This paper has attempted to address the critical issue of organizational controls as they are relevant to the success of knowledge management systems in new business environments. However, many important questions need to be addressed for actualization of such systems. Some such questions include: How to design and implement 'loose tight' knowledge management systems proposed in this article? How can knowledge management systems design and implementation enable self-regulation and self-control of users without sacrificing performance? How to design and implement systems that can better integrate the organismic model of knowledge management needed for new organizational environments? It is anticipated that the theoretical and conceptual contributions made by this paper would facilitate design of more robust knowledge management systems that can withstand the impact of radical and discontinuous changes in the business environment.

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