Sustainable Development In A Learning Organizations: A New Insight

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Abstract
Organizations are required to implement sustainable development. Similar to technologies, organizational systems are also in need of development for a sustainable future. Learning systems for organizations are required to enable a sustainable future, whereby adaptive organizational structures emerge to operationalize adapting sustainable technological developments. A general introduction to theoretical principles of a learning system meta-structure is the main aim of the paper. Adaptive environmental management and human resource management both contribute to these theoretical principles. The meta-structure that has emerged is driven by the need for life-enhancing creative co-evolution with the total (ecological, social, economic and cultural) environment of the organization. There are vertical and horizontal dimensions to this. The vertical dimension is concerned with strategic adaptability to balance the needs of the multiple stakeholders constituting the total environment. The horizontal dimension is the requirement for facilitation of innovative synergistic teams to achieve the continually adapting strategic goals of the organization in its co-evolutionary trajectory.
Keywords: *Sustainable development, Learning organizations, Learning systems, Double loop learning, Triple loop learning.*

I. Introduction

Sustainable development is generally recognized as involving three or four facets, namely, environmental, social and economic, and often also cultural aspects. The challenge is how to integrate the various facets. This is a well-known issue in the discipline of human ecology attempting to develop rigorous analytics for sustainable development (Bandari et al., 2022; Roorda, 2020; Morrison & Singh 2009; Dernbach, 2003). The approach taken here is a realist one of considering the interactions and processes known to involve and to occur between the various facets. It is therefore an interdisciplinary approach. It is however an inter-disciplinary approach from a particular entry point, which is that of the role of organizations in attempts to implement sustainable development agendas (McGuire, 2010). Due to this particular inter-disciplinary flavor, a particular trans-disciplinary framework has been developed with which to analyze the ways in which the integration of the multiple facets occurs. The framework is based on the trans-disciplinary frameworks utilized within management theory.

Management is itself a broad discipline covering all three facets of the environment, the social and the economic through the fields of environmental management and human resource management, with both the fields of management also showing interest in considering the role of culture. Here in this research, the focus has been on human resource management (HRM) approaches, with cross reference to environmental management, mainly through the use of the same trans-disciplinary learning-system theories.

The research approach taken has not only assumed the need for greater sophistication in how the integration of the various facets of sustainable development is conceptualized. The approach has also assumed that there is a need to base the development of more sophisticated conceptualizations on empirical study of what is being learnt by organizations actually already charged with the implementation of sustainable development. Given that conceptual and theoretical frameworks are already involved to guide attempts by organizations through their HRM to achieve the goals of sustainable development, attention to what has been learnt, or at least adaptations that have emerged, are potentially informative.

This research has attempted to take up both research prongs and has done so by considering how a major resource user and provider has developed, as it has sought to achieve sustainable development.

II. Literature Review

An inter-disciplinary research framework was synthesized from research literature in the fields of HRM and environmental management. The strong inter-disciplinary nature of environmental management was exploited to include concepts initiating from political science and human ecology. A summary of the key features found necessary to be incorporated into an adequate framework are outlined below. The first three features are derived directly from literature, and the latter three are logical consequences derived from the first three features.

- *Balance* is required between *configurational* strategic performance management (PM) systems on the one hand, and trust along with autonomy on the other hand (Delaney & Huselid, 1996; Guest, 1997; Lillis, 2002; Bouckaert & Peters, 2002; Larkin et al., 2010; Platts & Sobotka, 2010).
- The balance is gained from attentiveness to the needs of people and the environment (Doyle, 1994; Johnston, 2004; Brough et al., 2008; Bhanugopan & Fish, 2008; Xiao & Cooke, 2012).
- The environment is however also influenced by the organization, with the two forming a *recursive* relationship, and so proactive intent to enhance the *emergent civil society* of the environment provides an overarching goal for management of an organization (Denizen & Mishara, 1995; Barr, 1999; Gardner & Scheuerhorn, 2004; Mazulis & Slawinski, 2008; Ramfall, 2008; Ketola, 2010).
- The principles through which a management strategy needs to be developed and continually adapted, including for PM, are therefore based on how to maintain the conditions for civil society.
- The guiding principles for management, in particular performance management (PM), are therefore measures of how to best provide the conditions for the appropriate processes of civil society, rather than output-income ratios (efficiencies).
- The optimal configurations of the PM system particular to the organization are therefore found through attentiveness to the cultural reality of the civil society the organization participates in.

The notion of *balance* is found in the PM literature in the development of the Balanced Scorecard, where non-financial aspects are attempted to be balanced with financial aspects (Delery & Doty, 1996; Otley, 2001; Chen & Gurd, 2003; Sharif, 2002). *Configurational* strategic management refers to the need for innovation by the organizational members so that the organization has strategic flexibility. It recognizes that there are multiple ways in which an organization can configure itself to achieve strategic goals and that because different configurations can better achieve different strategies, attentiveness to configuration is important for optimal strategic adaptation (Delery & Doty, 1996).

System-based rather than individualized PM emphasize the *recursive* relationship between managers, employees and customers (Dobbins et. al.,1991; Delery & Doty, 1996; Chen & Gurd, 2003). They influence each other. The influences are never however in equilibrium, but rather a dynamic process of continual reevaluation, and so a continual co-evolution and adaptation by both the organization and the environment. The process is one of continual learning about how to adapt to an ever-changing environment, named double-loop learning (Argyris & Schon, 1978; Senge 1990; Flood & Rom, 1996; Gunderson & Holling, 2002; Chen & Gurd, 2003; Keen & Mahanty, 2006; Morrison & Singh, 2009).

As well as double loop learning by an organization to adapt to its environment, there is triple-loop learning, which refers to the internalization of authority to provide inspiration or "transformational' leadership (Flood & Rom, 1996; Delaney, 1996; Luthans & Somner, 2005; Keen & Mahanty, 2006; Morrison & Singh, 2009). Triple-loop learning is associated with social capital, which in turn is associated recursively with civil society. They support each other. Civil society has been defined as the arena between markets and government where culture operates (Cohen & Arato, 1992; Edwards, 2004; Gellner, 1996; Foley & Edwards, 1998; Putnam, 2000; Heinrich 2010). Social capital and hence triple-loop learning and transformational leadership are maintained by culture (Haddenius & Uggla, 1996). The difference between a particular culture and civil society and why civil society is relevant for study of organizations and sustainable development is that civil society is intercultural. Triple-loop learning in organizations is enhanced by inter-cultural activity. This is however also recognized in the study of living (sustainable adapting) traditional cultures, which are similarly also always adapting with their environments. The ability to hybridize is a recognized feature of indigenous knowledge (Morrison & Singh, 2009). What this means for attempt to integrate the facets of sustainable development is that it is only authentically able to do so if organizations focus on providing services for civil society, whilst simultaneously providing a supportive work place for employees so that the workplace is also part of civil society. This overcomes the issue of what is real bottom-line when attempting to aggregate incommensurable data pertaining to the triple or quadruple bottom lines of sustainable development. It is solved by the realization that the most successful strategy is not to become too strategic, but rather to focus on what is truly best for civil society – for those who are being served. Similarly, it means that employees perform best when they are trusted and authentically valued as persons as part of civil society, and not merely as means to an end for the organization.

According to Peter Senge's (1990) definition in The Fifth Discipline, a learning organization is one that encourages ongoing education and information exchange at all levels. It is distinguished by:

- Systems Thinking – Considering the company as a cohesive whole.
- Personal Mastery – Promoting personal development and learning.
- Mental Models – Embracing fresh viewpoints and questioning long-held beliefs.
- Shared Vision – Coordinating sustainability with organizational objectives.
- Team Learning – Innovation and cooperative problem-solving.

Learning organizations can adopt sustainability as a fundamental strategic objective instead of an external duty by incorporating these ideas.

Figure 1 synthesizes models of PM and of the environment constituting civil society, to represent the research framework used in the research. The proposed framework is an attempt to define what needs to be explicitly incorporated into an adequately balanced PM system for electricity generation organizations. It refers to what has been deductively configured as the general features and relationships, which for each particular organization and context/environment will have unique and co-evolving expression. The research framework can be considered a deductive critical extension and synthesis of various PM system models.

There are two key and unique features of the research framework. One is the explicit reference to the need for vertical integration with all the stakeholders making up civil society, and that this requires double-loop learning. This is recognized as especially pertinent for providers of public goods like electricity (Brignall & Modell, 2000; Boland & Fowler, 2000; Kloot & Martin, 2000; Heinrich, 2002; Johnston, 2004). The second is the explicit point that the necessary double-loop learning and consequent strategic adaptation also requires triple-loop learning to enhance social capital, which is only provided by explicit appreciation of the role of culture (personal, organizational and national).

Figure 1 Proposed Research Framework
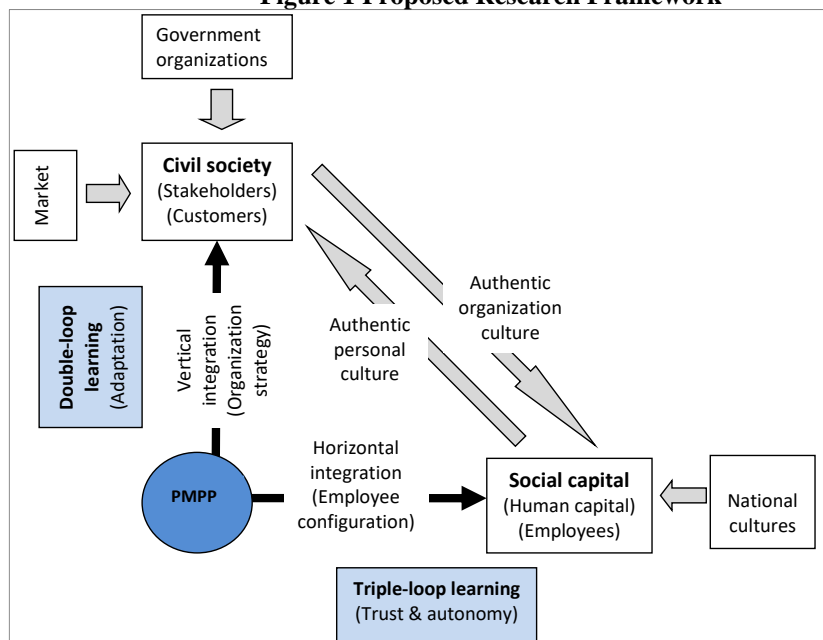
There is intrinsic tension between the notion of triple-loop learning and performance management which is especially relevant to the role of culture PM and HRM. It is that triple-loop learning is the process of internalization of authority or leadership. This provides "transformational leadership" capability through providing inspirational and motivational role model behavior, but it is at odds with the quantification of the performance of others, which standard in PM (Barr, 1999; Gardner & Scheuerhorn, 2004; Mazulis & Slawinski, 2008). So, there is tension between facilitating team-building that is creative and innovative, and evaluation by PM (Otley, 2001). Recognition of this has led to the redefinition of HRM as a subset of human resource development (HRD), rather than the traditional reverse definition (Lee, 2007). From this new perspective, human resource development (HRD), namely learning, has priority, with triple-loop learning the highest capability. The same paradigm change toward learning has occurred in environmental management (Plummer & Armitage, 2007; Rammel et al., 2007; Armitage et al., 2008; Cundil & Fabricius, 2009; Pahl-Wostl, 2009). HRM is therefore a lower-level derived activity with the function of facilitating learning. PM is a further subset of HRM and is applicable only when objectification of performance is warranted and helpful, namely only at early stages of individual HRD, and also at a corporate level of analysis of the achievement of objectives.

III. Methodology

The content of learning, ideas, are structured by discourse in a community. This is why discourse analysis is pertinent for the research of an organization. A 'discourse community' creates discourse representing the particular knowledge, interests, goals, cultural belief systems, trust and norms of the civil institution. In this research the 'discourse community' is an electricity generator company. The understanding of the discourse however depends on different cultures, and can depend on whether the discourse benefits or disadvantages the people. A discourse analysis approach examines how discourse is constructed in the 'discourse community'. Such an approach provides a critical and rigorous analysis of the role of the social and cultural facets of sustainable development, particularly relevant for the study of organizations, whilst able to incorporate the environmental, economic facets as particular discourses. Thus, a discourse analysis approach is in keeping with the entry point to the inter-disciplinary approach adopted by this research.

Fairclough (1992) provides a summary of the three dimensions of analysis used in the practices of discourse analysis. The three dimensions are:

1) Discourse Practice at the macro-level looks at the relationship between texts and the relationship between discourses in terms of interpretation;

2) Text at the micro-aspect is the analysis of individual texts in terms of description;

3) Social Practice is the analysis of the situation in which the discourse is embedded or set in terms of the interpretation of both of the above dimensions.

For the purpose of introducing this new insight, the three dimensions are used.

IV. Discussions And Findings

The application of the discourse in practice critically challenges the research framework and also extends it. It critically challenges it by pointing out that the framework is merely an ideal representing the potential relationships and processes involved, which by themselves do not represent the actual process of adaptation carried out by an organization seeking to progress sustainable development. The research framework models the learning within the organization but not the process of how an organization enters into the process of learning some or all of the relationships outlined by the model. The incoherency and tensions in the case study are instructive as to what the process of sustainable development implemented by organizations actually involves. The situation can be summarised as an intrinsic lack of authenticity. The questions that are raised are: why is this so, and what can be done about it?

V. Conclusion

In educational institutions, sustainable development is a revolutionary strategy for tackling social and environmental issues. In contrast to conventional sustainability initiatives that prioritize adherence to regulations, learning organizations incorporate sustainability into their core values, promoting ongoing innovation, flexibility, and information exchange. This essay presents a novel idea: sustainability cannot be a static goal but rather a dynamic learning process. Businesses that embrace innovation, employee empowerment, and systems thinking can improve their sustainability initiatives and obtain a competitive edge in the global economy. Organizations may lead the way in a future where social responsibility, environmental stewardship, and economic success coexist by putting the suggested framework into practice.

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