

Creating Actionable Knowledge within the Organization to Achieve a Competitive Advantage

Presented at:
The Academy of Management Annual Conference in 2004

By:

Keith K. Morgan

Stevens Institute of Technology

35 River Bend Road

Clinton, NJ 08809

Telephone: 908-268-5886

Fax: 908-735-0049

Email: keith@morgan.org

Joseph Morabito

Stevens Institute of Technology

Castle Point on Hudson

Hoboken, NJ 07030

Donald N. Merino

Stevens Institute of Technology

Castle Point on Hudson

Hoboken, NJ 07030

Abstract

For a management consultant to successfully assist an organization in creating new actionable knowledge (knowledge that is used to create value) for the organization, the consultant must be aware of a knowledge dimension called Coalescent knowledge. The process for creating actionable knowledge in this dimension is a dialogue process. The process is applied to an issue/opportunity that has been identified by research into the Classic Management Process. An analysis of this opportunity finds that there is an identifiable flaw in the management process as it operates today. A proposed solution is developed and an implementation framework is established. The solution facilitates the creation of actionable knowledge in an operational group environment. As this actionable knowledge is used, it becomes new operational group competencies that provide value to the customers. With these new competencies, the operational groups will experience an increase in productivity, which will reduce cost and create a sustainable competitive advantage per Porter's requirements.

Introduction

For a management consultant to successfully assist an organization in creating new actionable knowledge (knowledge that is used to create value) for the organization, the consultant must be aware of a new knowledge dimension called Coalescent knowledge (Morgan, Morabito, Merino, Reilly, 2001). Knowledge in the Coalescent dimension has the following attributes:

- Created via a Dialogue process
- The knowledge is Visible, Expressible, Shared and Virtual
- Can be private or public knowledge
- Can be used to create a sustainable competitive advantage
- Facilitates the opportunity for groups to act as if they have one mind to accomplish organizational objectives
- Scalable from 2 to many people.

Morgan, Morabito, Merino, and Reilly (2001) updated the knowledge creation theory documented by Nonaka and Takkeuchi, (1995) to the following:

Changes to the Nonaka and Takkeuchi (NK) Knowledge Creation Theory

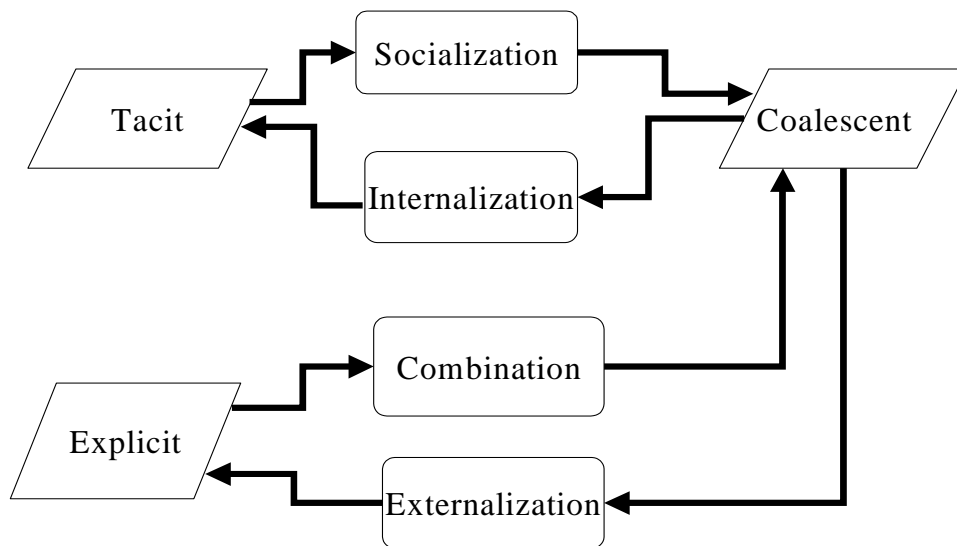
<u>Process</u>	<u>NK Knowledge Transition Form</u>	<u>New Knowledge Transition Form</u>
Socialization	Tacit-to-Tacit	Tacit to Coalescent
Externalization	Tacit to Explicit	Coalescent to Explicit
Combination	Explicit to Explicit	Explicit to Coalescent
Internalization	Explicit to Tacit	Coalescent to Tacit

Table 1

Morgan, Morabito, Merino, and Reilly (2001) provide the following explanation of the creation of knowledge in the Coalescent knowledge dimension: “The first process in creating knowledge is the socialization. In this process, an individual shares his or her tacit knowledge with another individual or a group via some form of dialogue and/or observation (Nonaka and Takkeuchi, 1995), (Morabito, Sack, and Bhate, 1999). In any dialogue and/or observation, each individual brings his or her tacit knowledge and references/links to explicit knowledge. For this analysis, we will assume that the exchange of knowledge will be via dialogue. During the dialogue process, the first individual tries to define his/her tacit knowledge for the second person(s). This process requires the use of fields of interaction. The second person(s) then links their knowledge base to the knowledge being communicated. This is a repetitive action until the first and second

person(s) agree on a common set of constructs, which defines the knowledge being communicated. The process has now created a shared virtual knowledge, which only exists between the individuals involved in the dialogue. This knowledge is shared and not codified, so it does not fall within the definition of tacit or explicit knowledge.”

The consultant can use the knowledge creation process flow that is depicted at a high level in Figure 1 (Morgan, Morabito, Merino, Reilly, 2001) to analyze the organization potential for creating knowledge in the coalescent dimension.

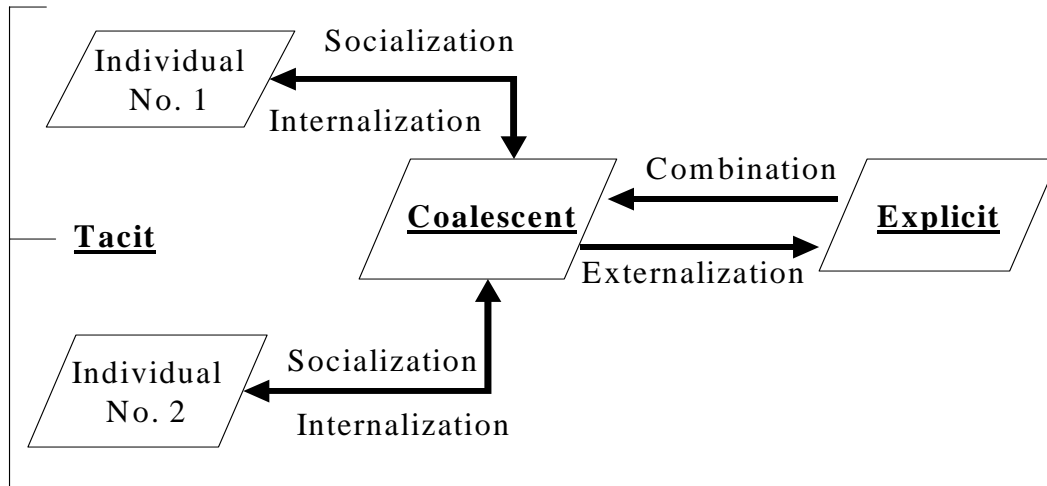


Updated Knowledge Creation Process Flow - High Level

Figure 1

Figure 2 shows the knowledge creation process at a level that includes the interaction of people in the organization. Coalescent knowledge can **NOT** be created without two individuals (one

could be virtual) involved in the knowledge creation process (Morgan, Morabito, Merino, Reilly, 2001).



Updated Knowledge Creation Process Flow - Detail Level

Figure 2

Morgan, Morabito, Merino, and Reilly (2001) provide the following explanation of Figure 2. “In this process flow, you can see that the creation of new tacit knowledge does not require the inclusion of explicit knowledge. As Coalescent knowledge matures it can be externalized via codification to become explicit knowledge – private or public. If we only had one individual in the diagram, then that individual would have both Tacit and Coalescent knowledge. If that individual were to internalize some explicit knowledge, then the explicit knowledge would be converted to Coalescent knowledge. The Coalescent knowledge is shared between the individual and the creators of the explicit knowledge. Although the creators are not actively participating in

the dialogue, the individual doing the internalization assigns them a virtual role. Think of Explicit knowledge as the mass storage dimension for knowledge created by the interaction between the knowledge in the Coalescent and Tacit dimensions.”

Knowledge that is shared by two or more individuals can be considered communal knowledge (J.C. Spender, 1993). Based on the Morgan, Morabito, Merino, and Reilly (2001) knowledge creation model and the definition of Tacit knowledge, communal knowledge can only exist in the coalescent or explicit knowledge dimension. On the surface, there may appear to be shared tacit, but Baumard’s (1996) investigation found that given a shared event/ learning experience, each person involved had different tacit knowledge regarding it. The true knowledge created by the shared event/ learning experience required the mining of tacit knowledge from each person. These mined knowledge segments were then merged together to obtain the actual knowledge of the event. The application of the Coalescent knowledge creation theory will create the knowledge that Spender (1993) described as the means of creating a competitive advantage.

The Opportunity

The classic management process is comprised of four sub-processes: Planning, Organizing, Leading, and Controlling (PLOC) (Freeman and Stoner, 1989). The controlling and planning sub-processes are connected with a feedback loop to ensure that the objectives of the plan are being met. The controlling function compares performance to the standards set in the planning process. If deviations are detected, the information is fed back to the planning process for changes in the plan that will cause the standards to be met. During the controlling and/or

planning processes, an evaluation should be performed to determine why there was a deviation from standards.

Classic Management Process

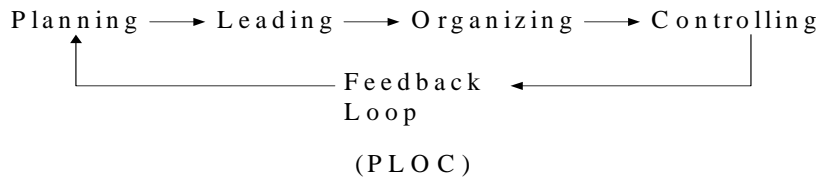


Figure 3

This evaluation should be a reflection, since it reviews the present and the past to determine what corrective action should be taken. Baumard (1996) states that reflection is a method that could be used to build tacit knowledge. As an individual reflects on a completed (something that was done) or in progress (something being done) activity, they review what did and didn't work, based on their knowledge of the activity, and then create different ways to complete the activity more successfully in the future. The reflection is a mental practice/exercise that restructures how activities should have occurred to meet measurements of success. Management has used the concept of reflection in quality management's lessons learned and project post mortem reviews, as well as communities of practice forums. Powell's (1998) research into the use of reflective practice in organizations, found that management's utilization of reflection in lesson learned, project post mortem reviews, etc was mostly a single loop learning experience and that the same

lessons were learned multiple times. Reflection on action was virtually nonexistent. He also found that post-mortems and reflection were rarely used in conducting daily management of the business.

Analysis of the Opportunity

If management is not using reflective practice in the daily management process, then what are they using?

Murdoch University in Australia in their “Handbook for Learning-centered Evaluation of Computer-facilitated Learning Projects in Higher Education” (Phillips, Bain, McNaught, Rice, & Tripp; 1999) provides insight into what management is using. They state that reflective practice is one form of action inquiry. Action inquiry is a family of different methods, which are similar in that they share the same basic cycle of activities (Plan, Act, Describe, Review, and Feedback to Plan). Most people are familiar with this cycle, since this is the process that they use when they act thoughtfully and not automatically. The authors state that “while thoughtful action may contain elements of planning, acting, and reviewing, these are not consciously employed as a cycle”. They further state that “thoughtful action is not automatic thinking about what one is doing, and it does not change into reflective practice”. “On the other hand, we do act thoughtfully through the reflective practice. Therefore, reflective practice incorporates thoughtful action. The following table shows a comparison between thoughtful action and reflective practice.

Thoughtful Action vs Reflective Practice

(Phillips, Bain, McNaught, Rice, & Tripp; 1999)

<u>Thoughtful Action</u>	<u>Reflective Practice</u>
It is instantaneous – one decides what to do next, thinking about it only a split second.	It requires one to take time out to reflect. It involves a conscious attempt to plan, describe, and reflect on the process and outcomes of the action.
There is no cycle of clearly defined separate phases. It is an unpredictable sequence because one responds to events in the situation itself.	It is a clear cycle of separate moments in which one engages in completely different activities.
There is no describing moment, because one is engaged in acting.	As reflection occurs after action, one creates an observational record and describes the results of the action.
One is not aiming at an improvement to the practice. One is thinking about how best to do what one always does.	The major aim is to produce an improvement to the practice.
There is no element of inquiry and one is not deliberately setting out to learn something from experience.	One designs and uses inquiry strategies to find out more about one’s practice.

Table 2

Reflective practice has been used to think about and analyze individual actions with the intent of improving their practice (Kpttkamp, 1990; Osterman, 1990; Peters, 1991). Imel (1992) suggested

that the use of reflective practice requires the individual to assume the perspective of an external observer. The basis for reflective practice was established in the works of Dewey, Lewin and Piaget (Imel, 1992). In a group setting, reflective practice could be used as a methodology to socialize tacit knowledge and create knowledge in the coalescent knowledge dimension. To ensure that the reflective practice not only meets but also exceeds measures of success, the reflective practice should always be exercised from a critical point of view.

What is Critical Reflective Practice?

Van Aswegen (1998) defines the building blocks of critical reflective practice, which is presented in the following figure and associated descriptions:

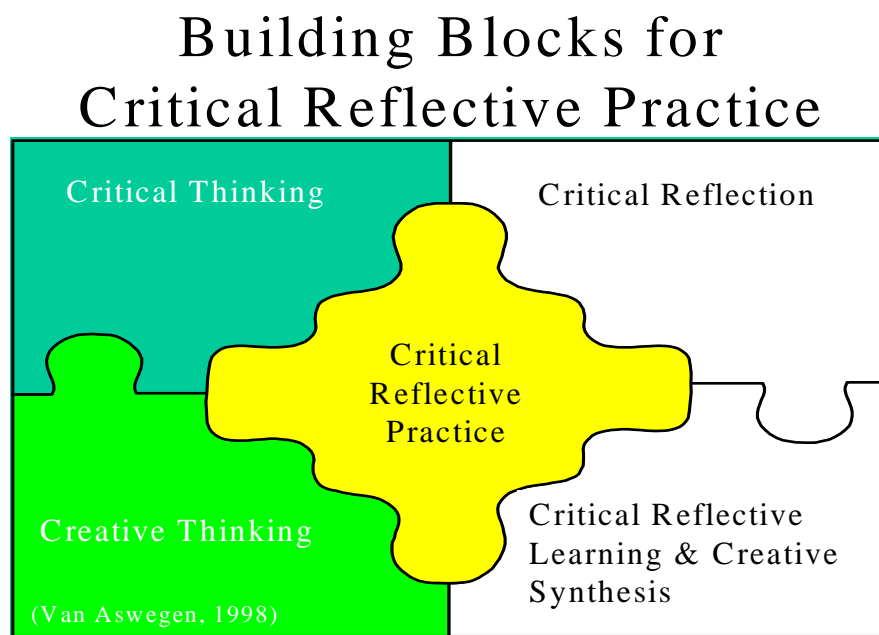


Figure 4

The first building block is critical thinking. Van Aswegen (1998) defines the ideal critical thinker as “Habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal bias, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in selection of criteria, focused in inquiry, persistent in seeking results that are as precise as the subject and the circumstances of inquiry permit.”

The second building block is critical reflection. Van Aswegen (1998) states that “the thinker involved in critical reflection challenges the validity of previous learning; questions the premises on which problems are posed or defined; is not concerned with the how or the how to of actions but the why; examines the realities of practice as experienced while assuming that much is unknown; accepts that there is more than one equally acceptable response or answer; goes beneath the surface structure of the situation in order to reveal the underlying assumptions constraining open discourse as well as autonomous and responsible actions. The critical reflective thinker is willing to take risks; to challenge the status quo to obtain a new perspective on existing knowledge.”

The third building block is creative thinking. Van Aswegen (1998) states this block provides for the creativity in “sensing gaps or problems within known information; ability to see many relationships between the elements; flexibility in thinking and reorganization of understanding to produce innovative ideas and solutions; testing ideas and modifying those ideas in a unique way; and communicating the results.”

The fourth building block is critical reflective learning and creative synthesis. Van Aswegen (1998) defines this block as “the process of making a new or revised interpretation of the meaning of an experience to guide subsequent understanding, appreciation, and action. It involves critical analysis and interpretation of an experience; openness to new information, acceptance of self-reality; a change in meaning, structure, and resolution; review of past values in relation to the changed perspective and examination of the implications for the future behavior and others. Critical reflective learning often results in new knowledge or a new perspective on existing knowledge, which is relevant to improving standards”. Van Aswegen (1998) further states “learning results in creative synthesis (consistency in thought and action). The individual decides the worth, accuracy, and validity of new ways of thinking and practices, then integrates these into their planning and operating practices.”

Proposed Solution

By adopting the critical reflective practice principals as defined by Van Aswegen (1998) to an open group dialogue format, management consultants could focus the organization’s management on creating new actionable knowledge associated with the processes that are used to create value for the business. Within this framework, the use of critical reflective practice by management in operational group processes (how work gets done in the organization) will create new actionable knowledge in the coalescent knowledge dimension. The effect of doing this will change the classical management process from four sub-processes to five: Planning, Organizing, Leading, Controlling, Critical Reflective Practice, and then Feedback to the Planning process.

Modified Classic Management Process

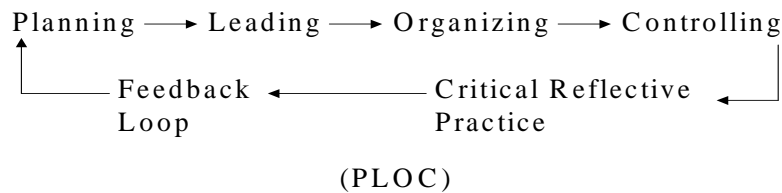


Figure 5

The management consultant will have to identify operational group processes (how work gets done in the organization) in the target organization. Accurately identifying these operational group processes may not be a trivial task. The formal organization is a management information and span of control structure and is not the communication path that actually accomplishes providing the valued products/services to the customer. These communication paths can be found by using the Social Network Analysis tools. The application of these tools in the past has shown that communications to accomplish work in an organization are a matrix structure, which crosses many boundaries of the formal organization (Stephenson, 2002; Krebs, Valdis, 1998; The Advisory Board Company, 1996).

By using the open group dialogue format with critical reflective practice being used to evaluate results and determine the changes to the operational group processes, new actionable knowledge would be created. This knowledge would have the following attributes:

- Visible, Expressible, and Shared by operational group members
- Private group knowledge
- Facilitates the opportunity for groups to act as if they have one mind in delivering goods and services to the customer (increase efficiency)
- Provides the foundation for creating new competencies
- Resides in the Coalescent knowledge dimension

The Impact of the Proposed Solution on the Organization's Competitive Advantage

The proposed solution would create actionable knowledge at the operational group level in the organization. This actionable knowledge would be private. As the knowledge is used, it will develop into new group competencies. With private competencies providing value to the customer, the organization meets Porter's requirements for both achieving a competitive advantage and sustaining it. (Porter (1996) stated that the fit of activities used in providing service/products to customers, that are different than those of competitors, drives both a competitive advantage and its sustainability.). Also, the solution would decrease the cost of providing goods/services to the customer. In a study by McGrath, MacMillian, and Verkataraman (1995), they found that deft groups ("Groups that act as one mind") are more effective, at statistical correlation of 0.41 with a significance level of 0.0001, at creating

emerging competencies (actionable) and at a lower cost to the organization than other groups being measured. It should be noted that “deftness” does not imply that groups worked together, nor does it necessarily imply absence of conflict, high job satisfaction or high moral. Deftness represents the extent to which the process by which a group solves problems is effortless, effective, and well honed. Therefore, a group that is acting as one mind to create new competencies (from actionable knowledge) must have a shared knowledge base (the Coalescent dimension) that they are working from. Also, the knowledge must not be public, since other groups in the experiment did not show the same characteristics.

The understanding of how knowledge in the Coalescent dimension is created and used by groups to create new competencies, from actionable knowledge, will facilitate a competitive advantage in the marketplace. Unlike physical assets, competencies do not deteriorate as they are applied and shared; they grow (Hamel & Prahalad, 1990). An underlining thread that links many strategic management experts together is the need to construct a strategy that will not only win in the marketplace but can be communicated to employees implementing the strategy so that they can act with One Mind (Porter 1996), (Hamel & Prahalad 1989), (Pearce & Robinson, 1997), (Collin & Porras, 1996), (Pascale, Millieman, & Grogaja, 1997). Creating actionable knowledge in the Coalescent knowledge dimension facilitates the organization in acting as “ONE MIND” in the implementation of the organization’s strategy.

Summary

By using the Coalescent knowledge dimension theory and the modified classic management process, management consultants can assist organizations in creating actionable knowledge. The actual creation of the knowledge can be focused on the standard organization structure or on the operational group process. The operational group focus could provide additional benefits to the organization in the areas of increased productivity, new competencies, and sustainable competitive advantage.

Future research in this area will look at expanding details for identifying operational groups in the organization, creating an open group dialogue format using the modified Classic Management Process, measuring productivity before and after change, and defining control variables to insure that productivity variables accurately reflect any changes in results.

References:

Baumard, Philippe, 1996, *Tacit Knowledge in Organizations*. Sage Publications, Inc., Thousand Oaks, CA.

Colins, James C. and Porras, Jerry L., Building Your Company Vision. Harvard Business Review, September-October 1996, pp. 65-77.

Freeman, R.E., and Stoner, J.A.F., 1989, *Management*. Prentice Hall, Englewood Cliffs, NJ, 4th Edition.

Hamel, Gary and Prahalad, C.K., 1989, *Strategic Intent*. Harvard Business Review, May-June, 63-76.

Hamel, Gary and Prahalad, C.K., 1990, *The Core Competence of the Corporation*. Harvard Business Review, May-June, 63-76.

Imel, Susan, 1992, *Reflective Practice in Adult Education*. ERIC Digest No. 122, ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio.

Krebs, Valdis, 1998, *Knowledge Networks - Mapping and Measuring Knowledge Creation and Re-Use*, (www.orgnet.com/IHRIM.html).

Kottkamp, R.B., 1990, *Means for Facilitating Reflection*, Education and Urban Society, February, 182-203.

McGrath, Rita Gunther, MacMillian, Ian C., and Venkataraman, S., 1995, *Defining and Developing Competence: A Strategic Process Paradigm*. Strategic Management Journal, 16, 251-275.

Morgan, Morabito, Merino, and Reilly, 2001, *Defining Coalescent Knowledge: A Revision of Knowledge Creation Theory*, Paper presented at the First International Conference on Knowledge Management, co-sponsored by Academy of Management, ISEOR, University Lumiere Lyon 2, and HEC School of Management, Lyons France, 125-131.

Morabito, Joseph, Sack, Ira, and Bhate, Anilkumar, 1999, *Organization Modeling – Innovate Architectures for the 21st Century*. Prentice-Hall, Inc., Upper Saddle River, NJ.

Nonaka, Ikujiro and Takeuchi, 1995, *The Knowledge Creating Company*, Oxford University Press, New York, NY.

Osterman, K.F., 1990, *Reflective Practice: A New Agenda for Education*, Education and Urban Society, February, 133-152.

Pascale, Richard, Millemann, Mark, and Gogoja, Linda, 1997, Changing *THE WAY We Change*, Harvard Business Review, November-December, 127-139.

Peters, J., 1991, *Strategies for Reflective Practice*, In Brockett, R. (Editor), *Professional Development for Educators of Adults*, Jossey-Bass, San Francisco, CA.

Pearce, John A. and Robinson, Richard B, 1997, *Formulation, Implementation, Control of Competitive Strategy*. Six Edition, Richard D. Irwin, Inc., Chicago, IL.

Phillips, Bain, McNaught, Rice, and Tripp, 1999, *Handbook for Learning-centered Evaluation of Computer-facilitated Learning Projects in Higher Education*, Murdoch University, Perth, Western, Australia, (www.tlc.murdoch.edu.au/archive/cutsd99/handbook/handbook.html).

Porter, Michael E., 1996. *What is Strategy?*. Harvard Business Review, November-December, 61-78.

Powell, Karan Hinman, 1998, *The Practice and Understanding of Reflection: A Case Study from an Organization as a Whole Perspective*, Dissertation, George Mason University, VA.

Spender, J.C., 1993 *Competitive Advantage from Tacit Knowledge?: Unpacking the Concept and Its Strategic Implications*. Academy of Management Best Paper Proceedings, 37-41.

Stephenson, Karen Anne, April 8, 2002, *A Theoretical and Practical Guide to Understanding Human Networks*, Paper presented at the Stevens Institute of Technology's Center for Technology Management Research Colloquia Seminar, (Also, www.netform.com).

The Advisory Board Company, 1996, *Managing Core Competencies of the Corporation*, Chapter 4, (www.orgnet.com/orgnetmap.pdf),

Van Aswegen, Elsie Johanna, 1998, *Critical Reflective Practice: Conceptual Exploration and Model construction (Emancipatory Learning, Naturalistic Inquiry)*, Dissertation, University of South Africa, South Africa.