CHAPTER 4
Learning & Self-Organization:
Organization As Brains

1380-12-11
Presented By: Babak Lotfalie
Key Words:

- Self-Organization
- Learning Organization
- Holographic Organization
- Learning Loops
- Cybernetics
- Information Systems
- I.T.
We are going to discuss:

- Introduction
- Organization as Learning Brains
- Create Learning Organizations
- Cybernetics, Learn to Learn, OP Norms
- Limits, Design
- Organizations as Holographic Brains
- Principles
- Strength & Limitations
Introduction

What if we think about Organizations as brain?

An excellent phenomenon!
Images Of The Brain

• Brain As Information System

• Brain As Holographic System:
  A hologram’s part can work as whole
The PARADOX of being holographic and specialized:

“Parallel processing”

“All over the place” character

Brain is specialized too!
Images Of The Brain

• Specialization & distributed functions?
• Coordinated intelligence has no explicit design?
• Redundancy provides efficiency?

Genghis (a mobile robot “mobot” with no brain)
Images Of The Brain

View Organizations By 3 Interconnected Ways:

• As information processing brain
• As complex learning system
• As holographic system
Organization As Information Processing Brain

Organizations: Decision Making Systems, Information Systems

• I.T. (virtual organizations)
• J.I.T.
• E-Commerce
• Electronics
How can one design systems capable of learning in a brainlike way?

Cybernetics: An interdisciplinary science focusing on the study of information, communication, control

Negative feedback produces self-regulation
Creating Learning Organizations

Early Cybernetics Theory

4 Capabilities

Life Cycle

Modern Cybernetics Theory
Single-loop Learning

Double-loop Learning

1

2

3

1

2

3

2A
Creating Learning Organizations
Can Organizations Learn To Learn

Important Questions for Modern Organization:

• Are they able to learn in an ongoing way?

• Is this single loop learning or double loop?
Creating Learning Organizations

Pioneers: C. Argyris and D. Schon

In U.S.:”Learning Organization” P. Senge

In Europe:”action learning” R. Revan

Modern cybernetics
Creating Learning Organizations

Barriers to double-loop learning

1- Budgets and other management controls

2- Bureaucratization

3- Process of bureaucratic accountability and other systems for rewarding or punishing employees
Creating Learning Organizations

Guide lines for creating “learning organizations”

1-Scanning and anticipating environmental change(Apple computers, CNN, Canon)
Creating Learning Organizations

Guide lines for creating “learning organizations”

2-Questioning, challenging (Double-loop learning guides us):

Understand norms by questions:
Creating Learning Organizations

Guide lines for creating “learning organizations”

3-Encouraging “emergent” organization:

Case : An interview with Japanese bank by W. Ouchi

a Japanese manager and his American vice presidents
Creating Learning Organizations

Guide lines for creating “learning organizations”

4-Fostering an ability to challenge norms

5-The importance of limits

6-Evolving design for double loop learning
Organizations as Holographic Brains

Promoting self-organization through principles of holographic design:

1- Build the “whole” into the “part”
2- The importance of redundancy
3- Requisite variety
4- Minimum specs
5- Learn to learn
Strength And Limitations

Strength:

1-The metaphor gives clear guidelines for creating learning organizations

2-We learn how I.T. can support intelligence evolution
Strength And Limitations

Strength:

3-We gain a new theory of management based on principles of self-organization

4-We recognize the importance of dealing with paradox
Strength And Limitations

Limitations

1-There may be conflict between the requirements of organizational learning and realities of power and control

2-learning for the sake of learning can become just another ideology
GOOD LUCK