

Chaotic Notes on Managing at the New Frontier of Business

Notes from the February 20, 1997 Innovation Salon:

Chaos and Complexity Theory

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Managing at the New Frontier of Business is a reflective inquiry that explores the field of Chaos and Complexity as it applies to organizations.

Concepts discussed at the February 1997 Salon included: Systemic Approaches to management, Managing at the Edge of Chaos, New Perspectives on Managing Complexity. Gain insights into strategic planning for an unknown future, innovation and creativity, and organizational learning and renewal.

The Santa Fe institute seems to be where a lot of this thinking is coming from (3 Nobel prize winning scientists, one physicist and one chemist).

Some of the ideas presented in point form:

Order in the universe is free. Chaos is order without predictability

Existing management schemes cannot adapt fast enough. Newtonian organizations in a Quantum Age

Organizations are NOT machines, therefore they can't be "re-engineered"

There exist two organizations, the formal and the shadow. Shadow organizations know how to get things done faster

Organizations are networks of two subsystems, one ideally but in practice non-linear to some extent, and the other definitively non-linear

Overall "grand plan" may not be needed. People in a city hit by a snowstorm still find food. There is no one big plan that says what has to happen in that event. The Internet is an example of a self-organizing system.

The emergent principal: water molecules have properties, but when they are put together there becomes some emergent properties like reflection, transparency and buoyancy

Linear thinking makes you analyze things into components

TQM and Business Process Reengineering failed because there is no pre-packaged solution

No such thing as "best practice", you just need to analyze what a good company does and do it better

An organization is a life form. Organizations are complex adaptive systems, they have to react to environment and change. Organizations that peak get complacent.

The butterfly factor: since many things affect the weather, perhaps a butterfly flicking its wings in Japan can explain a hurricane in the Caribbean

At the edge of chaos, innovation and creativity take place. You can't go into chaos, you have to stay at edge

The network is emerging as the signature form of organization in the Information Age, just as bureaucracy stamped the Industrial Age, hierarchy controlled the Agricultural Era and the small group roamed in the Nomadic Era.

Nomadic societies were comprised of small groups and used spoken communications, Agricultural societies were hierarchical, and used written communication, Industrial times saw bureaucracy formed and printed communication, Information age uses networks and electronic communications.

Fire station uses nomadic for fire prevention (small groups teaching), hierarchical for fighting fires, bureaucracy for setting policy like fire and building codes, and networks to set up the "fire family" in case of problems or big fires.

Chaos theory is the science of complexity, instability and disorder. Chaos is the essence of order it is sensitive to little changes.

Fractals are a visual expression of the dynamics of chaos. Broccoli is a fractal

Systemic Change Models:

Deterministic - know

Equilibrium - adapt

Dissipative - let entropy out (people) and in (information, money, people)

Transformational Change:

Disequilibrium

Symmetry Breaking

Experimentation

Reformulation

Destabilize island of stability because they prevent change

Working with (not against) resistance implies a total change in perspective. Resistance to change is a threat to an organization's identity. Not survival.

How can information be introduced so that equilibrium is not achieved?

Information = Corporate DNA

organize by information not by function

provoke counter cultures

discover the shadow organization

build a learning organization

understand chaos through variation

determine its strange attractor

a tool used is space-phase diagrams.