

Complexity

Complexity thinking claims to explain what apparently disparate phenomena like traffic jams, stock market crashes, and wars have in common and show that complexity lies at the very heart of the universe itself. Can complexity thinking deliver on these grandiose aspirations?

There is certainly demand from managers for help in dealing with complexity. Managers today often sense that their world is becoming more complex, with increasing uncertainty and a lack of predictability beyond a short time horizon. The proliferation of communication networks have increased the interconnectedness of the world, thus increasing complexity exponentially.

Even more important, the shift in power in the marketplace from seller to buyer means that uni-directional pushing of products at passive customers is less and less a viable business model. Instead, firms need to be delighting their customers: multi-directional relationships are required for survival. Linear transactions have become complex interactions.

Moreover with greater scale, the consequences of failing to cope with complexity have become more severe. This is partly due to the capability and propensity of the human race over the last century to create large systems that are inherently fragile and apt to collapse. In the past, the consequences for the failure to deal with complexity have been local. Now they can be global, e.g. the 2008 global financial meltdown, and large nuclear accidents.

Management is still anchored in linear thinking

Yet as the world has become more complex, management thinking is still largely anchored in linear thinking where command and control and linear cause-effect thinking are dominant. Managers have often treated organizations as machines (complicated but predictable) rather than organisms (complex, with limited predictability).

Successful managers were often seen as those who appeared able to turn their organizations into predictable machines, even as predictability became harder and harder to find. Periods of apparent predictability such as the famous clockwork-like quarterly returns of General Electric [GE] from 1981 to 2001 under the management of Jack Welch were followed by periods of abrupt declines, thus suggesting that much of the predictability had been generated by the machinations of GE Capital, rather than the underlying business.

Efforts to impose linear thinking on complex situations have often led have the opposite of what was intended. As a result, the principle of obliquity becomes relevant. Where explicit articulation of a goal will result in the complex environment pushing back in the opposite direction, oblique goals will often be more effective, e.g. the goal of delighting customers [may make more money](#) than an explicit goal of making money.

The consequences of actions based on linear thinking in a complex, interactive world are devastating losses of both efficiency and effectiveness.