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Complexity and Strategy

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Abstract: This article presents an overview of the link between Complexity and Strategy, illustrated using the example of how complexity is impacting China's five-year strategic cycles. The connection between complexity and strategy is profound, and for this reason Complexity and Strategy formed a major theme for presentations at the 2014 EMCSR, as outlined in the final part of the article.

Keywords: Complexity; strategy

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The theme of *complexity and strategy* raises important questions, beginning with the relationships between the two concepts. Strategy has been considered an important function in organizations of many kinds for centuries. It proposes the means by which a group would achieve common goals. Complexity is a more recent term, at least in the extent of its common usage. Most generally, it seems to imply something about *too much*. For instance, there is too much data to be analyzed, or too many connections between entities to easily comprehend, or too many too many ways of understanding a situation to arrive at a clear answer.

Each concept poses challenges on its own. What, for instance, is adequate strategy, and how can it be accomplished – especially from a systemic perspective? How do we deal with growing complexity in most areas of social life? When combined, is our traditional understanding of strategy still adequate in the context of great complexity?

Mintzberg and Lampel (1999) described ten different schools of strategy formation, each connected to some degree with a different theoretical base:

1. Design School: A Process of Conception - loosely tied to architecture
2. Planning School: A Formal Process – with links to urban development, systems theory, and cybernetics
3. Positioning School: An Analytical Process – from economics and military history
4. Entrepreneurial School: A Visionary Process – tied to early writings from economists
5. Cognitive School: A Mental Process – from cognitive psychology
6. Learning School: An Emergent Process – loosely linked to learning theory and chaos theory
7. Power School: A Process of Negotiation – from political science
8. Cultural School: A Social Process – from anthropology
9. Environmental School: A Reactive Process – from biology
10. Configuration School: A Process of Transformation – from history

Of the ten approaches, the Planning School is the only one explicitly tied in any way with systems theories or cybernetics. Its foundation comes from the work of Igor Ansoff, with a background in physics and applied mathematics, and his 1965 book, *Corporate Strategy*. As noted, most of the other approaches are connected with specific disciplines, as applied to organizations and larger systems.

More recently, the value of a traditional approach to strategy has come into serious question. One of the challenges comes from Rita Gunther McGrath (2013), a professor at the Columbia University Business School. As she summarizes from her book:

“In short, strategy is stuck. Most leaders are using frameworks that were designed for a different era of business and based on a single dominant idea—that the purpose of strategy is to achieve a sustainable competitive advantage. Once the premise on which all strategies were built, this idea is increasingly irrelevant...Instead, organizations need to forge a new path to winning: capturing opportunities fast, exploiting them decisively, and moving on even before they are exhausted.” (<http://ritamcgrath.com/books/the-end-of-competitive-advantage/>)

These views about strategy come primarily from a corporate or business orientation. McGrath’s work hints at the connection with complexity. The world is moving too quickly for traditional planning to work. These views come from a perspective in which individual organizations have to adapt to changes in their environments, including markets, as well as



economic, social, and political systems. What about much larger examples of strategy, though?

China is nearing the end of its twelfth five-year plan. The first was created in 1953, with the goal of bringing China into the modern world economic system. Since then, the Central Committee of the Communist Party of China has produced a new plan every five years, as summarized in Table 1.

Plan	Years	Description
First	1953-57	Stalinist Central Plan
Second	1958-62	Great Leap Forward
Third	1966-70	Agricultural Push
Fourth	1971-75	Cultural Revolution
Fifth	1976-80	Post-Mao Reforms
Sixth	1981-85	Readjustment / Recovery
Seventh	1986-90	Socialism with Chinese Characteristics
Eighth	1991-95	Technical Development
Ninth	1996-00	SOE Reforms
Tenth	2001-05	Strategic Restructuring
Eleventh	2006-10	Rebalancing Alert
Twelfth	2011-2015	Pro-Consumption

Tabel 1: A summary of China's Five-Year Plans (Roach, 2011).

Chow (2011) divides these twelve plans into two eras. The first used a centralized planning function the direction of the State Planning Commission. This involved a Soviet-style process of production primarily through state-owned enterprises. Beginning in 1978, the system started moving towards a market-driven economy. (As Chow explains, though, a great deal of the organizational structure, the staff, and the work habits remained in place.)

The twelfth five-year plan is focused on creating more consumption by Chinese customers and less reliance on exports, with an emphasis on the development of service industries. It also added two dimensions in particular, as described by Chow (2011, p. 3):

“The new parts are part 8, People’s livelihood and welfare and part 9, Strengthening management of society. These new parts suggest that there is an increase in the concern on the part of the Communist Party and the Chinese government with the livelihood and welfare of the people, and with the stability of the society. The latter may be due to the increasing complexity in managing the society in the course of rapid economic development. The complexity has resulted partly from the global recession beginning in 2008 and partly from the recent political instability in the Middle East and North Africa.”

Tracing back to its military roots, strategy was a means for gaining advantage over one’s opponents – the vestiges of which still exist in concepts of strategy today. From a business view, this was interpreted as competitive advantage. At an organizational level, strategy mostly involved an attempt to predict future behavior or conditions, in order to prepare for it. It is what makes the gathering of military and corporate intelligence so valuable.

In the example of China, strategy might be seen more as an attempt to create rather than adapt to an environment. Five years at a time, it was simply going to make a new economy in its own image. As noted in the quotation from Chow (2011), however, the



issues that affect strategic planning just seem to keep expanding. In a word, they are becoming more complex.

As is evident from this discussion, the link between strategy and complexity is profound, and for this reason it formed a major theme for papers at the 2014 European Meeting on Cybernetics and Systems Research. The presentations and discussions about complexity strategy were organized into sessions as follows:

Applications

- III.A.1. Systemic consulting - chaired by Louis Klein
- III.A.2. Systemic project management - chaired by Martina Huemann and Louis Klein
- III.A.3. Country development in a time of globalization - chaired by Paul Balonoff, Tatiana Medvedeva, and Stuart Umpleby
- III.A.4. Risks in supply chain networks - chaired by Johannes Goellner, Gerald Quirchmayr, Manfred Gronalt and Thomas Wallner
- III.A.5. Social and technical “volatility”: Commonly shared reference problem of interdisciplinary research on the energy system - chaired by Christian Büscher and Jens Schippl

Bridge

- III.B. Professional Systemics - chaired by Nikitas Assimakopoulos and Dimitrios Varsos

Concepts

- III.C.1. Unity through diversity: Learning in a complex world - chaired by José María Díaz Nafria and Rainer E. Zimmermann
- III.C.2. Transdisciplinary responses to global challenges - chaired by Søren Brier and Liqian Zhou
- III.C.3. Crossroads of civilization from a synergetic point of view - chaired by Iryna Dobronravova

Extended abstracts for each of these sessions and the papers presented in them is available in the EMCSR 2014 Abstracts Book, available here: <http://emcsr.net/wp-content/uploads/2014/04/BoA-EMCSR-2014.pdf>.

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