Systems Thinking

The Missing Link in Management Education?

Systems thinking approaches have not been as prominent as they deserve to be in most senior-level executive development programs, but it is high time that both companies and educational institutions took them seriously; otherwise they may be missing a very important trick.

Effective executive development is a process that cannot be left to chance; if conducted well, it is a crucial aspect of building sustainable competitive advantage. Every year corporations make large investments in executive education programs to propel their promising managers to become effective strategic leaders. When high levels of customization are involved, a growing trend, the procurement process can take several months and go through multiple iterations of progressive refinement. Yet, the pedagogic methods used for executive development often contain less than an ideal mix between relevance and rigor, and the outcomes are sometimes less promising than expected.

The dominant traditional means of developing people in certain functional areas of management, the "management science" approach involving such domains as operational research, financial analysis and optimization studies, is highly rigorous and indeed "scientific", but is more suitable for narrow, circumscribed problems with tightly defined parameters; not the messy, unstructured problems that senior executives face. On the other hand, the case study method as developed at the Harvard Business School is by far

the dominant method employed in senior executive development programs. It is useful and effective in fostering debate on vexing strategic issues in a holistic and integrative manner, but unless robust systems thinking is involved, it can be weaker in eliciting understanding of complex interrelationships among interacting issues and illustrating how one part of the system can affect others.

Somewhere between management science and the case study

method lie strategic thinking frameworks such as scenario planning and industry analysis, often used in the context of the case study method or in their own right when applied to participants' own company challenges. They are not as strictly defined as management science, and not as integrative as the case study method, but can effectively direct attention in a structured manner to important strategic issues such as "what are the key trends in our environment?"; "which trends are most crucial to our business and most likely to follow the trajectory we think they will?"; and "what should we, therefore, do to win in markets of the future?" What such frameworks lack, however, is an ability to elicit and define complex interrelationships in a manner that is both integrative as well as robust. Exhibit I positions these various learning methodologies with regard to their integrative capacity and level of structure and precision.

Systems thinking is an analytical mindset concerned with interrelationships, virtuous and vicious circles, positive and negative feedback, and whole systems rather than isolated parts. Even though not quite as "scientific" as man-
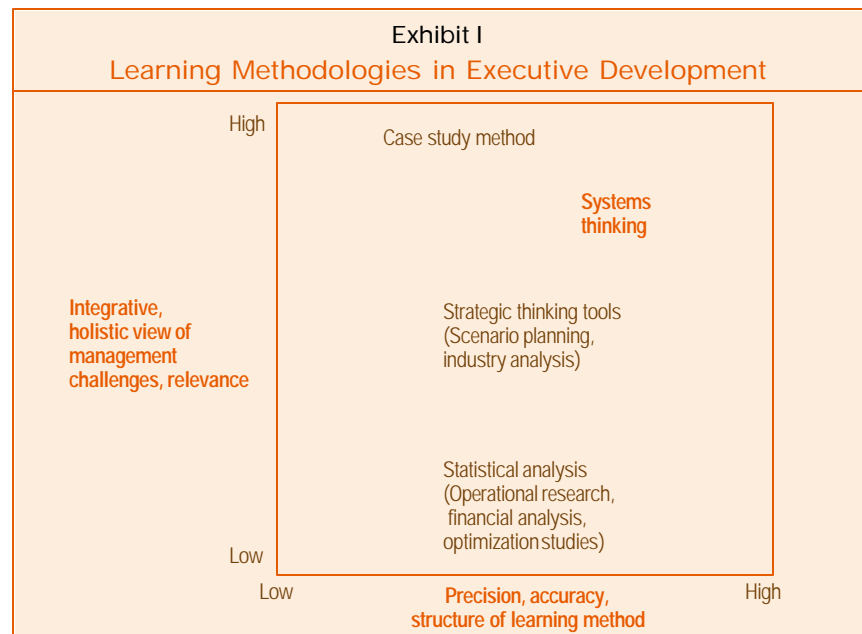
Exhibit I
Learning Methodologies in Executive Development

Case study method

Systems thinking

Strategic thinking tools (Scenario planning, industry analysis)

Statistical analysis (Operational research, financial analysis, optimization studies)

Integrative, holistic view of management challenges, relevance

High / Low

Low — High

Precision, accuracy, structure of learning method

Exhibit II
Systemic Metaphorical Structure Representing Relationship between a Bank and its Clients

Source: Jacobs & Heracleous, 2006

among elements of the organization and its environment in a systemic fashion[1]. Exhibit II shows an example of such a design portraying managers' understanding of the relationship of their bank to its clients. The orange circle represents the client's domain and needs, and the white and red circle the bank's domain, where the bank is represented as a complicated machine. The intersection is where the bank and client meet, and their heads are shown as connected to represent the importance of understanding the client's needs and matching these with the bank's offerings. This construction is in effect a complex, metaphorical systemic structure portraying interrelated elements that together represent managers' understanding of a specific issue, in this case their organization's relationship with its clients[2].

agement science, as science is traditionally understood in a positivist sense, it is able to address causal interrelationships in a more structured manner and to a higher degree than both case studies and most strategic thinking tools. It is a mode of thinking where the map attempts to be consistent with the complexity of the territory when vexed strategic issues are involved. Systems thinking lends itself to a variety of specific learning methods.

One example is projective psychological techniques involving drawing, sculpture or toy construction materials, where managers build representations of their organization and its environment and then interpret and debate what they have built through guided facilitation. The resulting constructions are complex systemic structures, tangible cognitive maps that display complex interrelationships

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[1]   See, e.g. Heracleous, L. & Jacobs, C. 2005. The serious business of play. *MIT Sloan Management Review*, Fall: 19-20; Jacobs, C. and Heracleous, L. 2007. Strategizing through playful design. *Journal of Business Strategy*, 28 (4): 75-80.

[2]   Jacobs C. and Heracleous L. 2006. Constructing shared understanding – the role of embodied metaphors in organization development. *Journal of Applied Behavioral Science*, 24 (2): 207-226.

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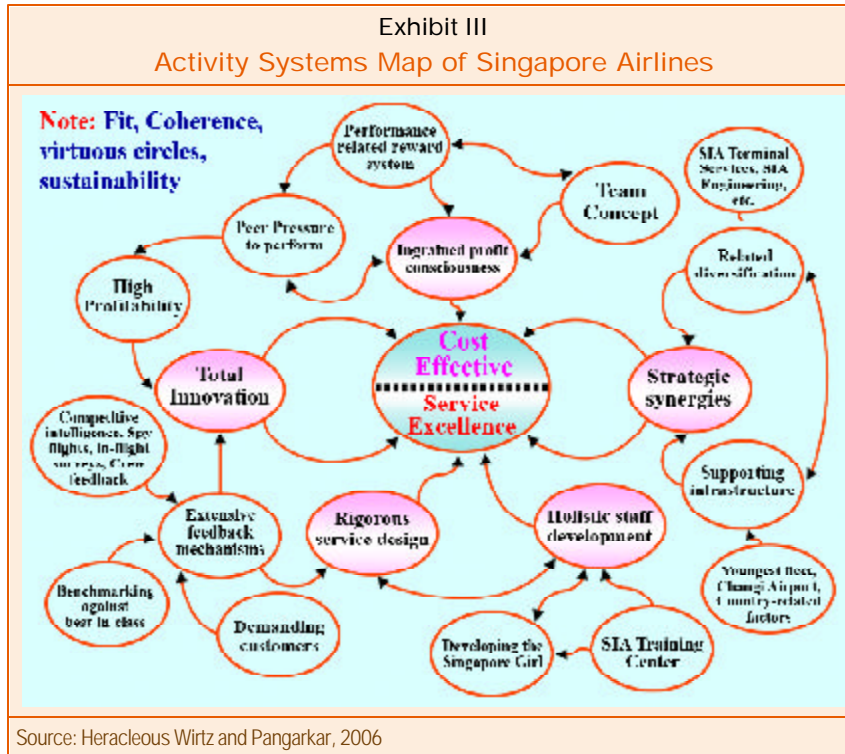
Loizos earned his Ph.D. at the University of Cambridge. He conducts research and teaching in the areas of strategy and organization, organization change and development, and organizational discourse. He has authored S*trategy and Organization*: *Realizing Strategic Management; Business Strategy in Asia*: A Casebook; Discourse, Interpretation, Organization; and Flying high in a competitive industry: Cost-effective service excellence at Singapore Airlines. He serves on the editorial boards of leading management journals and his research has been published in over 45 research papers in journals such as the *Academy of Management Journal, Harvard Business Review, MIT Sloan Management Review, Journal of Management Studies, Human Relations, and Journal of Applied Behavioral Science*. His research was honored by three Best Paper Awards from the US Academy of Management in 1999 (on globalization), 2004 (on organization development), and 2006 (on corporate governance). Loizos has been listed in the Marquis Who's Who in the World since 2003.

In addition to Cyprus where he was born, Loizos has lived and worked in the UK, Ireland, Hong Kong, and Singapore. He has developed and delivered several executive development programs in areas such as strategic thinking and planning, leading transformational change, fostering strategic innovation, developing core competencies and strategic alignment, dealing with dilemmas of corporate governance, developing corporate social responsibility, diagnosing and managing organizational culture, and organizing for the future. He served as Director of the Strategic Management Executive Program at the National University of Singapore from 2001 to 2003 and has trained company directors in Singapore on corporate governance on behalf of the Singapore Institute of Directors from 1999-2004. In recent years, Loizos has trained or advised senior executives from several organizations in both the private and public sectors. Loizos can be reached at loizos.heracleous@wbs.ac.uk

Exhibit III
Activity Systems Map of Singapore Airlines

Note: Fit, Coherence, virtuous circles, sustainability

Source: Heracleous Wirtz and Pangarkar, 2006

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Another systemic approach involves constructing "activity systems maps" that can be usefully employed to understand key interactions in domains ranging from the broad corporate level down to the more circumscribed group level. We have recently conducted research to answer the simple question of how a company in a hyper-competitive industry, such as Singapore Airlines, can have sustainable competitive advantage, outperforming its industry year after year for decades. The question is simple, but the answer is complex, and we found that part of the answer can be effectively represented through a vehicle that embraces complexity and multiple interrelations, an activity systems map[3]. The map suggests that the core competence of the airline is a combination that most companies find difficult to achieve, service excellence in a cost-effective manner; and that this is supported by five "pillars", key processes that are themselves supported and operationalized by several other sub-processes and relationships.

Exhibit III effectively concentrates at the level of strategy implementation, and reinforces the view that business-level strategy is realized at the organizational level, involving such issues as human resource development, service development and refinement processes, as well as organizational culture and design. In our experience senior executives find systems-oriented development approaches exciting and engaging. The activity of building representations of one's organization and environment with tangible building materials, or of trying to develop detailed activity systems maps are not only involving, relevant but also enlightening undertakings, helping to both surface managerial assumptions about key elements and interrelationships, as well as lead to productive de-

bate about strategic issues. Systems thinking approaches have not been as prominent as they deserve to be in most senior-level executive development programs, but it is high time that both companies and educational institutions took them seriously; otherwise they may be missing a very important trick. ▶

3   Heracleous L, Wirtz J and Pangarkar N, 2006. *Flying high in a competitive industry: Cost effective service excellence at Singapore Airlines,* McGraw-Hill.