

Systems Thinking in Management Education



Dr Loizos Heracleous



Every year corporations make large investments on executive education programmes to propel their promising managers into becoming effective strategic leaders. The procurement process can take several months and go through multiple iterations of progressive refinement.



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, and integral to strategic HRM; linking competencies at the individual level to the competencies needed to effectively carry out the company strategy.



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Every year corporations make large investments on executive education programmes to propel their promising managers into becoming effective strategic leaders. When high levels of customization are involved, a growing trend around the world, 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 rigour, and the outcomes are sometimes less promising than expected.

Often issues arise in terms of insufficient investment in understanding the company's strategic challenges, tailoring appropriate pedagogical approaches to these challenges, matching strategic issues of the company with appropriate executive faculty, or transferring learning back to the work environment.

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" in terms of the accepted use of this term, but is more suitable for narrow, circumscribed problems with tightly defined parameters. This approach is less applicable to the messy, unstructured problems that senior executives face, for example issues to do with market development in markets with imperfect and opaque information availability, or growth through mergers and acquisitions with all the attendant risks this approach entails.



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 programmes. It is useful and effective in fostering debate on vexing strategic issues in a holistic and integrative manner. However, too often case analyses develop as laundry lists of relevant issues, with no obvious connection across lists, rather than in a big-picture, interlinked fashion. This kind of case analysis can thus be weaker in eliciting understanding of complex interrelationships among interacting issues and illustrating how one part of the system can affect others, as can be the case when robust systems thinking is involved.

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.

These approaches are not as strictly defined as management science, and often 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 can be weaker at, however, is an ability to elicit and define complex interrelationships in a manner that is integrative, relevant and robust. Figure 1 below positions these various learning methodologies with regard to their usual integrative capacity and level of structure and precision.

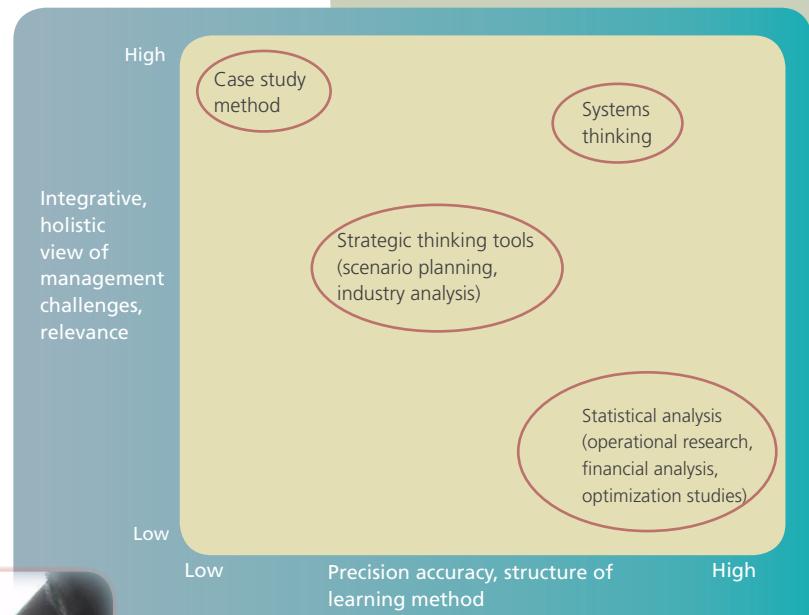


Figure 1: Learning methodologies in executive development

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 management 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 many strategic thinking tools. It is a mode of thinking where the map attempts to be consistent with key patterns in a complex territory when vexed strategic issues are involved. Systems thinking lends itself to a variety of specific learning methods.

The resulting constructions are complex systemic structures, tangible cognitive maps that display complex interrelationships among elements of the organization and its environment in a systemic fashion



One example is projective psychological techniques involving drawing, sculpture or toy construction materials, where managers build representations of their organisation 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 among elements of the organization and its environment in a systemic fashion (for examples and further discussion see Heracleous & Jacobs 2008, and Jacobs & Heracleous 2006).

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 individual businesses and even the level of departments or teams. We have recently conducted research to gain insights into the simple question of how a company in a hyper-competitive industry, such as Singapore Airlines, can have sustainable competitive advantage, outperforming its industry and its strategic group of competitors year after year for decades.

In our experience senior executives find systems-oriented learning and development approaches exciting and engaging. One reason may be that such approaches can more effectively capture the complexity of the field, offering executives the tools to render this experience more intelligible and recognize important patterns.

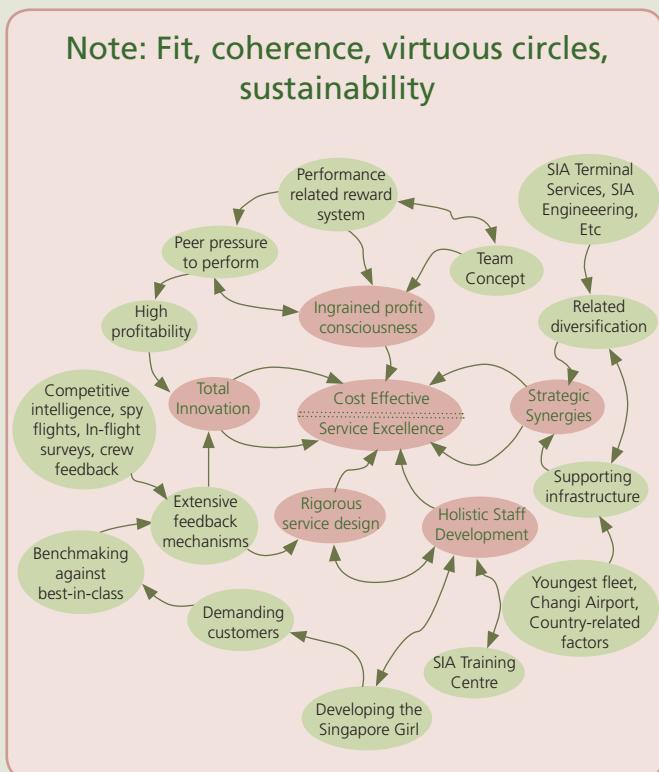


Figure 2: Activity systems map of Singapore Airlines (Source: Heracleous, Wirtz & Pangarkar, 2006).

As with most strategic questions, the question itself is simple, but the answer is complex. We found that part of the answer can be effectively represented through a vehicle that embraces complexity and multiple interrelations, an activity systems map. The map suggests that the core competence of the airline is a combination that most companies find difficult to achieve, offering 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 subprocesses and relationships.

The above diagram 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 organization culture and design. More importantly, however, it helps us gain insights into one of the key questions of strategy; sustainability of competitive advantage. SIA's activity systems map illustrates the virtuous circles that can result from interconnected activities that build on each other in a systemic fashion, and are much harder to copy by competitors than individual elements of the system, therefore lending the crucial element of sustainability.

In our experience senior executives find systems-oriented learning and development approaches exciting and engaging. One reason may be that such approaches can more effectively capture the complexity of the field, offering executives the tools to render this experience more intelligible and recognize important patterns. Engaging in systemic approaches such as building representations of one's organisation and environment with tangible building materials, or of attempting 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 debate about pressing strategic issues. Systems thinking approaches have not been as prominent as they deserve to be in most senior-level executive development programmes, but it is high time that both companies and educational institutions took them seriously; otherwise they may be missing a very important trick.



Further reading

This article draws from Heracleous, L. & AK Rao, 2008. *Systems thinking: The missing link in management education? Effective Executive*, January: 47-49.

Heracleous, L. & Jacobs, C. 2008. *Crafting strategy: The role of embodied metaphors*. Forthcoming, *Long Range Planning*, 41, 3.

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

Jacobs, C. and Heracleous, L. 2006. Constructing shared understanding – the role of embodied metaphors in organization development. *Journal of Applied Behavioral Science*, 42 (2): 207-226.

Loizos Heracleous is a Director of Strategic Concepts International.

For further information contact:
enquiries@strategic-concepts.com
heracleous@strategic-concepts.com
 or visit
www.strategic-concepts.com