



Applying Agent Based Simulation to Strategy

Gideon Malherbe

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The theory of corporate strategy really started in the 1960s with the breakthrough idea to align all departments under some unifying strategy. This simple concept removed a lot of internal friction and thus delivered better returns. To make this work however, a long term view had to be adopted and managers were taught to “see the bigger picture”. Being efficient organizationally and having a long view in turn sparked the insight that internal capabilities should be matched with external opportunities, and the popular strategic practice of SWOT analyses was formulated.

Drucker enhanced strategy by introducing his “manage by objectives” theory. But rapid corporate expansion led to the analyses and definition of growth. Growth strategies sought to define the relative advantages of horizontal integration, vertical integration, diversification, franchises, M&A, joint ventures and organic growth.

The next step in strategy making theory looked at the optimization of portfolio theory which eventually showed that portfolio components are mostly better performers if they are independent operators. This in turn led to an era of divestures, spin-offs and radical decentralized organization structures.

Soon thereafter, McKinsey’s 7S model became the strategic tool for executives and specifically helped American corporations to become more systemic and less technical in their thinking. C.K. Prahalad and Gary Hamel then quite smartly brought strategy making back to the boardroom by asking the executive team to identify and leverage their core competencies and not waste resources in trying to overcome their weakness.

Around this time Al Rees introduced his seminal “Focus” strategy theory explaining how the generation of free cash flow (through leveraging a company’s strengths and applying it to further enhance that core capabilities) leads to superior long term returns. After Porter’s industry model (Porter’s Five Forces) and Keys’ value-add constructs including the value stream analyses, the focus again shifted to an external view and the positioning of a company in the eyes of the stakeholders became the hot topic.

Modern strategy making reached its pinnacle with De Geus and others defining scenario planning as a better methodology to map the future. It presented executives with a tool that clearly avoids linear thinking during the strategy process and thus neatly diverts away from the inevitable failure of dogmatic predictions. Scenario planning quickly became supported by complexity theory, systems theory, swarm theory and the development of eco-systemic maps – a kind of Darwinian way of looking at a free market system.

Kaplan brought the analytically inclined executives some peace of mind by introducing the now popular balanced score card – even if it was only to pretend to get some control back from the all the chaos related babble.

From this colorful and often wayward history, VCI is attempting to enhance strategy making through leveraging new software developments in simulation and technical processing breakthroughs.

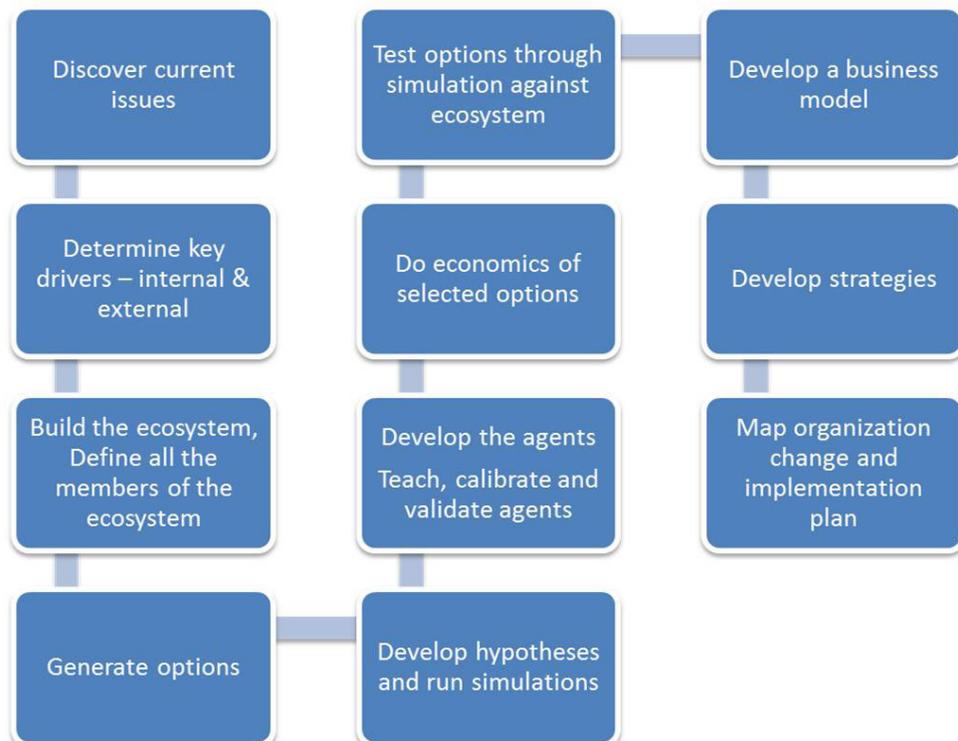
Combining the breadth of scenario planning with the absolute advances in mathematical and behavioral modeling, VCI designed a strategic planning methodology that impacts three hurdles every executive faces today:

- The collaborative involvement of the executive team in discerning and driving strategy into the marketplace
- The complexity of the current industry dynamics
- The speed demanded by the stakeholders to get the company to a more stable and profitable position

These objectives can only be achieved by involving the executive team in the development of the company's eco-system, (and thus draw the best wisdom and insights to the strategy formulation process), by using advanced technology to cope with large numbers of variables manifested in today's global competitive environment; and by framing the analytics within the bounds of a systems model that allows for fast cycle times and flexible strategy management.

We utilize advanced simulation modeling for many strategic decision projects. Simulation is powerful because it ties experience with systems-level knowledge that enable our executive teams to identify possible outcomes that are outside the range of typical thinking.

The VCI simulation model process



Showing the connections between system components allows executives to investigate possible interactions and test possible interventions. It can also show the executive team how the emergent connections between system components produce new and different outcomes. The simulation thus expands strategy making by revealing otherwise unanticipated potential outcomes that allows the executives to make better informed decisions.

To learn more about agent based simulation and how VCI can assist your organization with strategic decision making, please contact any one of us and we can discuss the relevance of this process to your situation.

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