Intersections of Strategic Planning and Futures Studies: Methodological Complementarities

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Abstract

Two apparently independent management disciplines – Strategic Planning and Futures Studies --are converging through joint application in practice and their literatures. The two disciplines enhance each other; yet, in the academic community, they remain largely detached and ignorant of each other. The primary purpose of this article is to acknowledge and explore the methodological intersections and complementarities of Strategic Planning and Futures Studies.

In the academy, Strategic Planning was the predecessor of contemporary Strategic Management. But, Strategic Planning was essentially abandoned by the academy in the 1980s. Subsequently, a new community of strategic planning methodologists – comprised largely of futurists – emerged.

Futures studies have enabled strategists to use planning models more productively by clarifying vital issues such as impending and potential changes in economic, industry and market structures; drivers of rivalry; technology; and supply/demand balances. Concurrently, the strategic planning model provides a structure for integrating and organizing the many methods and techniques that are used by futurists. Thus, Futures Studies and Strategic Planning are highly complementary. A second purpose of this article therefore is to stimulate a more productive conversation between these two disciplines and to encourage their collaboration in the academy.

Keywords: strategic planning, futures studies, futures research, strategic management, methodology

Two apparently independent disciplines of vital importance to Management are converging. Those two disciplines are: Strategic Planning and Futures Studies. The two disciplines inform and enhance each other in practice, as well as their literatures. Yet, in the academic community, they remain largely detached and ignorant of each other. Although these two disciplines may be detached in the academy, their intersections in practice are growing more frequent (Vecchiato & Roveda,

2010). The purpose of this article therefore is to acknowledge, describe and explore the implications of Strategic Planning-Futures Studies intersections.

Modern Strategic Management

The meaning of "strategic management" has evolved considerably since its first modern manifestations after World War II. (Cummings & Dallenbach, 2009) Thus, to understand the nature of strategic management, both in theory and practice, an historic perspective is helpful.[1] From such a perspective, readers will appreciate that "Strategic Management," as that term currently is used in the Management Academy, has little or no correspondence to its academic precursor, "Strategic Planning." Indeed, the Management Academy essentially abandoned Strategic Planning in the 1980s. Fortunately, Futures Studies subsequently adopted it.

Prior to World War II

Beginning in 1866, Henri Fayol developed strategic planning principles and practiced them with great success in his French mining companies. He developed a system of interrelated long-range, mid-term and short-term planning procedures, and published his principles in 1916. His methods were so revolutionary that Fayol received a prize from the French Academy of Sciences for his contributions to French industry.

Alfred Chandler (1962) reported that the Pennsylvania Railroad Company assembled a strategic plan in 1860 and that DuPont did so in 1903. Thus, by the turn-of-the-century, principles of comprehensive corporate planning existed. But, application of those principles must have been the exception rather than the rule during the first half of the 20th century. Modern notions of comprehensive industrial planning did not become widespread until the 1950s when Drucker began to write extensively on business planning, among other management practices, in *The Concept of the Corporation (1946)* and *The Practice of Management (1954)* which may have been the first of his works to prescribe modern planning functions. Later in *Managing for Results* (1964) and *Management: Tasks, Responsibilities, Practices* (1973), Drucker reiterated and elaborated those concepts.

After World War II

It is generally believed that many modern forms of business planning took their genesis from military methods developed during World War II. After the war, planning techniques were transferred to business organizations by retiring military officers and technicians. An early post-war practitioner of planning principles in industry was Igor Ansof, a Russian scientist who began his industrial career at the recently formed RAND Corporation. Ansoff became a vice president for planning at Lockheed Aircraft Corporation in 1957. Subsequently, he was the first dean of the business school at Vanderbilt University where he conducted groundbreaking research on relationships between strategic planning and firms' financial performance (Ansoff, Avner, Brandenburg, Portner, & Radosevich, 1970). Ansoff's texts on classic strategic man-

agement methodology (Ansoff, 1965; Ansoff & McDonnell, 1984) made intensive use of systems concepts to demonstrate the integration and inter-dependencies of multiple functions in strategic planning.

The first of several post-war books to codify comprehensive planning methodology was Melville Branch's *The Corporate Planning Process*, published in 1962. Ansoff's first book appeared in 1965. George Steiner published a monumental three-volume collection of corporate planning principles in 1969: an abbreviated version was published in 1971 by the Planning Executives Institute. Also in 1971, Kenneth Andrews' often-cited *The Concept of Corporate Planning* appeared. Ewing's (1972) *Long Range Planning* and Hussey's (1974) *Corporate Planning Theory & Practice* soon followed. By the late 1970s, a generally accepted model of the "strategic" planning process might have resembled the one depicted in Figure 1.

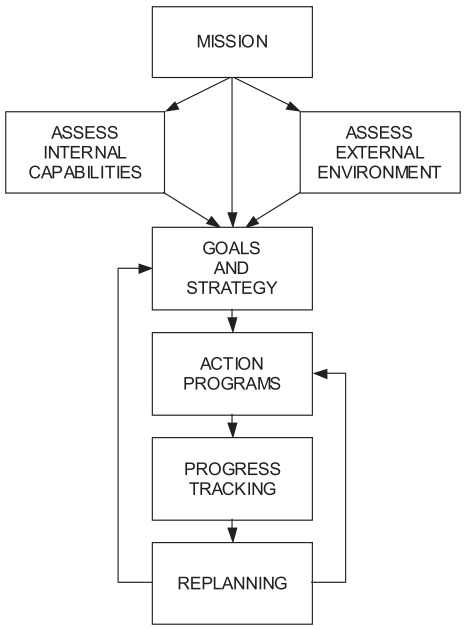


Figure 1. The strategic planning process (Generally Accepted Model)

Surveys over the years have demonstrated that comprehensive strategic planning enjoyed considerable popularity among large corporations – from about 75% of large corporations surveyed by the Conference Board in 1955 (Baker & Thompson, 1956) to 88% in 1996 (Roney, 2001) and 88% again in 2000 (Rigby, 2001). In part, this trend probably reflected results of several empirical investigations reporting favorable relationships between planning and financial performance first conducted by Ansoff et al. (1970), Thune and House (1970), and Karger and Malik (1975). Those studies were replicated often – typically, with positive findings (Boyd, 1991; Capon, Farley & Hulbert. 1987; Miller & Cardinal, 1995; Roney, 2001). However, not all studies con-

firmed a positive relationship (Fulmer & Rue, 1973; Herold, 1972; Whitehead & Gup, 1985). Regardless of these studies' findings – favorable and unfavorable – acceptance of strategic planning by the Management Academy came to an abrupt end with the deep recession of 1980-1982, for reasons explained below.

Abandonment of Strategic Planning

In the 1980s, the practice of strategic planning underwent a series of dramatic transformations. A decade earlier, the Vietnam War had occurred during 1964-1973, followed by the Arab Oil Crisis during 1974 and 1975. US economic recessions occurred in 1982-83, and 1990-91. The United States stock market crashed in 1987. In the light of such discontinuities, many observers questioned the usefulness of strategic planning since formal strategies and plans could be, and often were, invalidated by socio-economic shocks. (Keichel, 1982 & 1989)

In 1982, *Fortune* magazine published a critical article entitled "corporate strategists under fire" (Keichel, 1982) which found strategic planning ineffective and unable to deal with prevailing environmental turbulence. At the same time, Peters and Waterman (1982), in their book, In *Search of Excellence*, proposed that executives who employed eclectic styles – such as "management by walking around" – were more successful than those who employed deliberate foresight and strategic planning. Peters & Waterman did not conduct a statistically sound study; and their project eventually was discredited. (Business Week, 1984; Byrne, 2001; Caroll, 1983; Clayman, 1987; Marks, 2004) Nevertheless, conventional wisdom of the 1980s converged on a proposition that the hard work of strategic planning was, essentially, a waste of time. The *coup de grace* was delivered by Mintzberg in his famous volume, *The Rise and Fall of Strategic Planning* (1994, p.321). Mintzberg declared that "strategic planning" was an oxymoron. Strategy and planning, he declared, were mutually exclusive. From then on, classic strategic planning methodology has been largely irrelevant and inconsequential, in the Academy of Management's Business Policy & Strategy Division.

Of course, corporations continue to develop and implement strategy using foresighted procedures that are called, collectively, "strategic planning." Indeed, it would be a rare (and probably unwise) chief executive who openly declared to his or her board members or shareholders that he or she really did not have a strategic plan and preferred to manage more eclectically e.g., by "walking around" the enterprise and forming directions extemporaneously. Nevertheless, in the academy, strategic planning still suffers from the stigma imposed by Mintzberg, Peters and Waterman, and those Fortune magazine articles that appeared over a two decades ago.

Microeconomics as Strategic Management

After the recessions of 1982-1983 and 1990-1991, strategic management academicians searched for new sources of theoretic legitimacy – and found them, in microeconomics. One economist, in particular, demonstrated that if competitive advantage[2] was the ultimate objective of strategy, then the structure of an industry's organization provided a map on which the path to objectives' achievement could be charted. That

economist was Michael Porter (1979, 1980, 1985, 1991, & 1996). His emphasis on the economic "forces" of industry structure and a firm's position in its industry gave managers guidelines for finding competitive opportunities and avoiding competitive threats. Thus, competitive advantage emerged from firms' market positions. Rivals could realize competitive advantage by holding or capturing positions of either: 1) the lowest costs in their industries; &/or 2) differentiation of their products or services based on added value for which buyers would be willing to pay premium prices. Strategic planners made extensive use of Porter's models which became, and remain, fundamental elements of generally accepted strategic planning principles. During the early 1980s, practicing managers still felt a sense of identity with strategy in the Management Academy, largely due to the applicability of competitive positioning models such as Porter's.

Later, questions arose regarding the legitimacy of industry positions as explanations for firms' competitive advantage. Research by Rummelt (1974, 1984, & 1991) and others (McGahan, 1999; McGahan & Porter, 1997; Schmalansee, 1985) appeared to demonstrate that inter-firm differences often explained larger portions of profit variances than did inter-industry differences. Firms' competences and capabilities ultimately were viewed as the sources of their most potent competitive advantages. That view ignited an explosion of microeconomic theorizing about the nature of competitive advantage, i.e., the "resource based view." (Penrose, 1995; Wernerfelt, 1984) So, in the mid-1980s, management academicians looked increasingly to intra-firm sources for explanations of competitive advantage, rather than market-positions.

The Management Academy clearly was ready to embrace a resource-based view of competitive advantage by the late 1980s. Widely cited articles by Barney (1986 & 1991) and Dierickx and Cool (1989) further established the theoretic position that resources are the wherewithal of competitive advantage. Further elaborations on the dynamic nature of resource-based competitive advantage were advanced by Peteraf (1993); Teece, Pisano and Shuen (1997); and Helfat and Peteraf (2003). One author even proclaimed that a new theory of the firm might have been born (Conner, 1991).

Readers should note that, by about 1990, the Management Academy had lost most of its prior interest in the methodology by which managers rationally select standards for success or, "goals"; form strategy as deliberate goal-oriented activity; implement their strategies; and regularly pre-plan. For the most part, the academy's interest had shifted to the *nature of competitive advantage* from *how* managers actually form plans deliberately to create and exploit advantage.

As time passed, criticisms of the resource-based view arose.[3] One problem was the difficulty of performing empirical research to confirm the impacts of resources on competitive advantage since the most valuable resources, intellectual assets, were intangible and path-dependent. (Dierickx & Cool, 1989) Moreover, for resources' potential to be fully realized, various conditions had to be met. For example, the notion of "asset specificity" held that active, intellectual assets and passive tangible assets cannot be sources of competitive advantage by themselves, even if they are superior. Instead, they must be well suited to each other. Thus, imperfectly suited superior *assets* might not combine to produce powerful *resources*. (Constantin &

Lusch, 1994; Dierickx & Cool, 1989; Peteraf, 1993; Teece, 1984) Of course, testing such hypotheses empirically might be especially difficult, if not impossible.

If asset specificity and path dependency were difficult to examine empirically, another objection referred to the static nature of resources as originally conceived. Resources were believed to decay over time; yet some firms' competitive successes were sustained over long terms. So, how could such resources be the basis for "sustained competitive advantage?" An answer to that question was supplied by the concept of "dynamic resources," i.e. the capability of a firm to adapt by reinventing its resources. (Eisenhart & Martin, 2000; Helfat, 1997; Helfat & Peteraf, 2003; Makadok, 2001; Teece, Pisano & Shuen, 1997; Winter, 2003).[4] The notion of dynamic capabilities helped academicians (micro-economists, mainly) better explain the retention of industrial firms' competences and competitive advantages. However, the very abstract nature of dynamic resources made it even more difficult for empirical research to advance resource-based theories of competitive advantage into methodology. Therefore, the gap between theory and practice of strategic management widened.

Strategic Management Adrift: Searching for New Foundations

As the first decade of this century drew to a close, Strategic Management again was searching for a new foundation. The resource-based view had enlightened Strategic Management theories of competitive advantage and provided "the other side" of the market positioning view, as Wernerfelt (1984) stated. But, as Porter (1991, pp.107-109) asserted, the resource based view, although elegant, is not the only viable theory of competitive advantage; and it is not a theory of strategy.

Observing the past four annual meetings of the Academy of Management, it has become increasingly apparent that members of the Business Policy and Strategy Division are growing anxious about irrelevance of recent theoretic inquiry to the practice of management. A two-hour session on this issue – entitled, "What Is Strategy's Distinctive Competence?" – was held at the Academy's 2007 Conference in Philadelphia (Schulze, 2007).

Speaking at the Academy's 2009 Annual Conference, Gary Hamel, a widely noted strategist and consultant, inquired, "What is Management's next Big Thing?" In his remarks, he observed that the community of research engineers has a (figurative) "big project list," on which will be found socially significant issues (often studied by futurists) such as solar energy, fusion energy, new medicine, depletion of water resources, carbon sequestration, brain reverse engineering, and enhanced personal learning capacity. He then asked the Business Policy and Strategy Division, "What's ours?" As Hamel observed, current subjects of strategic management inquiry within the Academy appear far less relevant to the future of Industry than those engineering issues that he mentioned.

Whereas, Hamel's engineering issues are focused squarely on the future, the majority of micro-economists who publish papers on strategy in academic journals do not seem to have much of a perspective on the future. It is if they are looking at firms like small organisms or bits of matter, frozen, under a microscope. Thus, strategy theorists in the academy mainly appear to inquire about the *nature of competitive advan-*

tage in the same way that chemists or physicists try to understand relationships of essential elements. Such inquiries may be intellectually interesting; but, they are not very important to practicing managers.

Regrettably, strategic management methodology, as a means of enabling managers to pursue and achieve mission accomplishment (and, yes; competitive advantage), appears no longer to have a place in the academy, or its literature. Since so much academic inquiry into strategic management now seems to be focused on microscopic &/or impractical issues, it is not surprising that managers of industrial concerns have looked elsewhere for solutions to their strategic planning problems. Consequently, a new community of methodologists has emerged to fill the void left by strategic management academicians. That new community is discussed in the next section.

A New Community of Strategic Planning Methodologists Is Emerging

As a gap between theory and practice of strategic management widened in the Management Academy, a new group of methodologists began to address many of the planning problems still faced by strategy managers. This is the profession of "futurists." Without a great deal of publicity, these professionals now conduct strategic planning services throughout government and many industrial organizations – usually in the final stages of futures studies. Even in academic institutions, projects such as a research program conducted by the Association for the Study of Higher Education (Morrison, Renfro, & Boucher, 1984) have explored methods for combining futures research and strategic planning. The University of Arizona also explored this approach in the late 1980s (Whiteley, Porter, Morrison, & Moore, 1990).

Scope & Approach of Futures Studies

Theoretical foundations of futures studies may include systems, economics, political science, sociology, architecture, medicine, biology, chemistry, and physics. However, western futurists in particular, tend to be more interested in technology (i.e. applied science and engineering) than theoretical research. They are methodologists. Futures researchers develop and use techniques for applying physical and social sciences to frame and solve strategic planning problems. In industry, such problems include prospective changes in the firm's external environment (economy, markets and industry); impacts of emerging technology on the firm's future capabilities requirements; changing success standards ("goals"); difficult selections from alternative strategies to achieve goals; selecting paths to strategic objectives' achievement; and monitoring external environments. Thus, futures studies focus on a wide variety of issues that have vital strategic implications. Such issues may include demographic shifts, very long human life spans, shifts in multi-national economic and military power balances, depletion of natural resources, alternative energy sources, emerging technology, "artificial intelligence," biological engineering and problems posed by inadequate infrastructures, including transportation systems.[5] In recent years futures

studies appear to have focused more sharply on relatively specific issues. For example, studies recently have focused on evolving technologies (e.g., Halal, 2008; Kurzweil, 2005); terrorism (Cetron & Davis, 2007); economic/military power balances (Baker, 2005; Bushnell, 2001; Haffa et al, 2009); cancer research prospects (DuBois & Trump, 1987; Hogue, Parnes, Stefanek, Heymatch, Brown, & Lippman, 2007); and energy alternatives (Bushnell, 2007), among many other specialized topics. The focused nature of such inquiries makes their findings especially useful for strategic planning. Indeed futures studies frequently are commissioned to gather evidence for strategic planning.

For strategic planning purposes, the variety of techniques that futurists use may be just as important as the highly consequential nature of issues that they study. Indeed, futures researchers are developing the methodology of "long-range planning" that was abandoned by the Management Academy many years ago. With the aid of modern computing tools and a variety of innovative techniques, futurists are advancing the state of planners' arts in modeling and simulation, forecasting, scenario construction, contingency planning, and decision-making. Although futures researchers may produce forecasts of most-likely outcomes, they prefer to define and address the realistic range of alternative futures and their possible consequences. They often develop "scenarios" for this purpose. Thus, they are quite comfortable with contingency planning, an advanced form of strategic planning which many industrial planners are attempting to employ.[6]

Table 1 summarizes eight categories of futures studies methods that are used in strategic planning. Note that methods in Table I may be applied throughout the conventional strategic planning process portrayed in Figure 1.

Table 1.
Scope of futures study methodologies used in strategic planning

	Mission & Vision	Environmental Assessment Economies	Markets	Industry	Internal Capabilities Analysis	Decisions Goals	Strategy	Implementation
Historic Analogy	Δ			X	X		Δ	
Systems Analysis		X	X	X	X			
Forecasting		Δ	Δ	Δ		X		
Simulation		X	X	X	Δ		X	Δ
Scenario Formation	X	X	X	X	X	X	Δ	X
Impact Analysis		X	X	X	X	Δ	X	X
Decision Making						Δ	Δ	
Monitoring & Scanning		Δ	Δ	Δ				Δ

Δ: Denotes a category that is used very frequently; **X**: Denotes a category that is used often

For additional methods detail, see Exhibit 1.

Glen (2009, p.4) distinguishes futures *research* from futures *studies* based on their purposes. Futures research, he says, "is decision oriented, i.e., it seeks to identify and describe current forces that should be understood in order to make more intelligent decisions... In contrast, futures studies are subject-or question-oriented..." With regard to strategic planning, Glen opines that "planners tend to look at change in one particular phenomenon or subject area... Futurists tend to look at change in a variety of areas and are more multidisciplinary. Planners' time horizons tend to be shorter than futurists'... Futurists' output can be or should be input to improve planners' work." (Glen, 2009, p.11) While that is Glen's opinion, other authorities on futures studies have included strategic planning more squarely within the scope of futures methodology or inextricably linked to Futures Studies. (Akhter, 2003; Bell, 2008; Fahey & Randall, 1998; Godet, 2000; Lindgren & Bandhold, 2009; Phelps, Chan & Kapsals, 2001; Ralston & Wilson, 2006; Schoemaker, 1993 & 1995; Wilson, 1994, 2003, & 2006).

Futures Methodology

Development and applications of methodology for use in futures studies is included in what Glen calls "futures research." However, that term is not consistent with the dictionary's definition of "research." (Indeed, "futures research" probably is an oxymoron!) Research certainly can be conducted to discover methods' prior effectiveness and thereby to develop new and improved methods. However, a new term clearly is needed; and "*futures methodology*," will be employed from here on instead of Glen's term, "*futures research*."

"Methodology," is the theory of practice. Social science methodologists perform a role similar to that of engineers who apply theories developed in the physical sciences in order to do work. Thus, strategic planners develop methods that apply strategic management theories *to do the work of planning*. Futures methodologists develop methods with which to conduct futures studies. They employ systems analysis to make models of phenomena under study; mathematics for manipulating and projecting data when using models; physical, biological and social sciences with which to create the architectures of models; and increasingly powerful computers to manage massive amounts of information that may be required to employ such models in simulation experiments.[7] (For a different perspective on the scope of futures methodology and its relationship to strategy, see Inayatullah's (2008) interesting paper.)

Futures methodology is highly inter-disciplinary. A list of methods used by futures researchers will be found in Exhibit A. Those methods may be divided into eight functions, as follows:

1. Discovery, design and analysis of systems,
2. Modeling and simulation,
3. Forecasting,
4. Environmental scanning & monitoring
5. Impact/likelihood analysis
6. Scenario construction & contingency analysis,
7. Decision making, and
8. Information systems to facilitate the above methods.

Exhibit A attempts to represent the broad scope of technical work performed in futures studies. It contains a list of methods inspired by Glen and Gordon (2009); Glen (2009, p.8), and Aaltonen (2007 & 2009, pp.28-32). To those authors' lists, Michael Porter's Five Forces (1985) and Industry Diamond (1990) models of industry structure and his "clusters" concept (1990, 1998, & 2000) have been added, along with the industry life cycle model (Polli & Cook, 1969; Schumpeter, 1939). With those additions, Exhibit A approximates the functional scope of Western futures methodology.

Methodological Complementarities

Futures Methodology is an increasingly important complement to the work of strategic planning. Strategists benefit particularly from futurists' skills in discovering true missions, forecasting, impact analysis, economic and market assessment, clarification of strategic alternatives, contingency planning and decision-making methods. Futures studies also enable strategists to use planning models more effectively by identifying possible changes in industry structure, arrivals or departures of industry participants, substitutes for present products, and shifts in supply/demand balances. At the same time, Strategic Planning provides Futures Methodology with greater relevance to the practice of Management by offering it a comprehensive model (Figure 1) with which to integrate and organize a voluminous bundle of techniques, as well as opportunities to use those techniques. Indeed, each discipline makes the other more relevant and responsive to the needs of Management. Thus, Futures Studies and Strategic Management are highly complementary to each other. Table 2 provides a summary of these two disciplines' methodological characteristics.

Table 2.
Intersections of strategic management, strategic planning and futures methodology

	Strategic Management	**Strategic Planning**	**Futures Study**
Purposes	To discover the nature & sources of competitive advantage	To increase the likelihood of mission accomplishment Application of strategic management theory, principles for practice	Discovery of possible & probable futures Foresight for policy decisions & planning
Approach	Social Science Extension of micro economic theory Hypothesis testing Theory building	Methodology: Generally accepted principles for mission selection, evidence collection, selection of goals and strategic objectives, strategy selection, & implementation	Applied science & technology Uniquely interdisciplinary and integrative; systems-oriented; Both issue studies and methodology
Strengths	Strong associations (AOM, SMS) and their journals; Occasional breakthroughs, e.g., resource-based view, generic strategy, value chain, five forces	Widely accepted by Management Tends to enhance performance Neoclassical methods benefit from IT. Business models & methods can be tested empirically.	Growing acceptance by Management WFS, three journals The Millennium Project (UN) Work products serve as input to strategic planning procedures.
Weaknesses	Largely detached from the practice of Management; focused on the nature of competitive advantage versus its realization; Hypotheses are largely un-testable	Disavowed by the Academy (Mintzberg, 1994); stigma of failures in the 1980s; impractical prior to the 1990s; failure of the American planning associations; unreliability of forecasts	Grossly under-represented in the Academy; no generally accepted principles; no formal theories or empirical hypothesis testing; methodological immaturity
Cutting Edge, State of the Art	Resource-based view Dynamic capabilities No "big thing"(Hamel, 2009)	Scenario/contingency planning Multinational strategy models Competitive rivalry IT systems for planning	Long-range planning Simulation-based studies Sustainable environment studies State of the future (SOF I) studies Artificial intelligence
Comments	Very little interest in practice, notwithstanding interest groups called "strategy as practice" or "strategy as process." Strategic management has lost contact with its roots, viz., Andrews, Ackoff, Ansoff, Branch, Drucker, Ewing, Steiner	Abandoned by AOM-BPS Need for a new supportive organization After demise of PEI, largely dependent on SPS (UK) Widely used by industrial, gvt. & NGO management	Very little interest in theory Futures study methodology has greatly strengthened Strategic Planning. There is need for a more formal structure of the profession based on generally accepted principles.

Applications of Futures Studies to Strategic Management

Recall that Glen (2009) proposed that futurists have been productive as *contributors* to the planning process rather than as *designers*. However, since the Management Academy has nearly abandoned strategic planning, futures methodologists actually may be making greater contributions than strategic management academicians to the state of the planning art. Indeed, contributions of futures methodology have been substantial at each stage of the classic strategic planning process, as the following paragraphs explain.

Mission selection & visioning

Long-range futures are used to clarify alternatives for the selection of missions, i.e. the performance of economic functions for stakeholders, and foresight into the requirements for mission accomplishment. To describe firms' missions completely, strategic planners must specify the market or segment of society to be served; unmet (or unsatisfactorily met) needs of that segment which the firm intends to serve; and the firm's present or intended distinctive competence to satisfy one or more unmet needs (Abell, 1980). While recognizing their importance, strategic management traditionally has struggled with these vital first steps in planning.[8]

Futures studies inform planners at this stage by providing foresight into markets' future unmet needs and the future abilities (or inabilities) of industries and rivals to meet markets' requirements. Futures studies also can provide planners with "vision" i.e. preconceptions of changes that will have occurred in the firm (or an entire industry) when its mission has been, or is being, accomplished.

Environmental assessment

This stage includes analysis and forecasting of the firm's relevant economy, markets and industry structure (Roney, 1999) Strategic planners are comfortable with structural industry and market analysis (Porter, 1980, 1985, & 1990). They have more difficulty with macro-economic analysis; and they often look to other professionals, including futurists, for long range forecasts and scenarios.

Futures studies enable managers to foresee probable and plausible changes in the environment that could affect firms' performance potentials, or even their survival. The strategic planning process model thus provides a framework of economies, markets and industries within which to organize environmental assessment methods:

- Macro economic forecasts and analyses of nations, regions and industries where the enterprise is located: econometric models, linked to input-output tables, may be especially useful at this stage;
- Market forecasts and analyses: Here, econometric models again may be used. Demographic forecasts often are employed and "expert forecasts" of shifts in future sources of demand may be employed;
- Industry structure forecasts and analyses: The likelihood and impacts of shifts in industry concentration or fragmentation, industry clusters, drivers of rivalry, new industry entrants and or departures, product/service substitutes, levels of production factors, supply/demand balances, regulatory trends, technology,

critical success factors, life-cycle stages, and structural evolution of industries all are important considerations that futures methodology is well suited to address.

Capabilities requirements analysis

This stage includes evaluation of present resources and capabilities, as well as future requirements for mission – success. Strategic planners are able to draw upon a large body of microeconomic theory regarding extant resources and competences, as explained earlier; but they lack methods with which to evaluate competences' future adequacy. Futurists can provide foresight with respect to prospective capability requirements – for example, by applying technology forecasting. In their widely distributed book, *Competing For the Future*, such capabilities were identified by Hamel & Prahalad (1994) as requisites for long-term competitive success.

Strategic planners attempt to identify the functional competences that will be required for future competitive advantage, i.e., "critical success factors." (Boynton and Zmud, 1984; Leidecker and Bruno, 1984) Combinations of such competences tend to be unique characteristics of each industry; but, they also tend to change over time. Futures study methods – including technology forecasting, science/technology road mapping, morphological analysis and substitution analysis – are well-suited to anticipate metamorphoses of industries' value chains and to benchmark firms' current competences against future requirements for success.

Selection from alternative goals

The scope of success criteria for industrial firms includes an acceptable level of risk, superior financial returns, a favorable market position and long term growth (Doyle, 1994; Ordonez, Schweitzer, Galinsky, & Bazerman, 2009; Roney, 2004, pp.193-198; Shetty, 1979). When the preceding three steps have been taken – mission confirmed, environment assessed, and capabilities analyzed – management should be able to select goals based on any or all of those four types of criteria. Futures methodology includes several decision-making heuristics and decision support devices – such as impact analysis techniques, decision modeling, robust decision making, simulation and scenarios – with which alternatives may be clarified to facilitate managers' selections of goals and more specific objectives of their strategies.

Strategic management theory and strategic planning methodology contain large voids in their approaches to defining future success standards (i.e., "goals") and selecting from alternative strategic objectives. For example, success standards ("goals") for hospitals and schools often are expressed in terms other than those employed by industrial enterprises – such as the rate of return on investment, economic value, long term growth, level of risk, or market share. Indeed, the paradiam of "competitive advantage" may be difficult to apply in some sectors, such as Public Services. Futurists' methods for clarification of alternatives (e.g., Inayatullah, 2008) and their decision-making heuristics provide opportunities for advancement of goal selection methodology. However, this is an area where the theory, practice and literature of both disciplines need to be developed substantially.

Selection from alternative strategies

After selecting goals, managers must select strategies for goals' achievement. Of course, this is the province of Strategic Management and Strategic Planning which, respectively, possess abundant theory and methodology for strategy formation. However, we know much more about the nature of strategy than how to select successfully from strategic alternatives. To make such selections, some of the devices mentioned above – including simulation, scenarios and impact analysis techniques – again will be helpful. For example, futures methodology offers many tools with which to identify new markets, new products or services, critical competences and industries where firms can, and cannot, invest resources advantageously.

Strategy implementation

This stage includes project and program management; monitoring of the post-planning environment, as well as the firm's performance; and re-planning. Strategic planners are quite accomplished in these functions. However, they need help in scanning and monitoring the post-planning environment – one of the futurists' basic skill sets – in order to implement contingency planning and re-planning procedures.

Continuous assessments of present and potential business environments and re-planning are required for long term success in an age of discontinuity (Druker's term, 1969). Contingency planning, likewise, must be ongoing. Thus, assessing feasibility of pending implementation programs may require environmental scanning, periodic updating of science/technology "road maps," and updating scenarios of shifts in the competitive environment. Those techniques all are included in futures methodology.

Conclusion

The foregoing paragraphs demonstrate that futures methodology can provide strategic planners with abundant opportunities to strengthen their practices. So, it is regrettable that the strategic management academy is generally unaware of futures methodology and, therefore, has been unable to benefit from it.

Taxonomy: Contributions of the Strategic Planning Process Model to Futures Methodology

At best, the taxonomy of futures methodology is fragmented; at worst, it is non-existent. All well-established methodologies have generally accepted taxonomies that both integrate and organize their elements according to functional concepts of their missions. Examples include hospital operating procedures, accounting principles, military tactics and commercial air traffic control procedures. With those examples in mind, it is easy to appreciate the considerable benefits of a functional taxonomy:

- It defines the scope of functions with common properties;
- It provides a uniform, generally understood language;
- It organizes functions, methods and procedures into hierarchical categories and provides a framework for recognizing broad categories and subcategories within which methods can be classified; and

- It guides practitioners so that they can make method-selections quickly and confidently.

Taxonomies comprised of physiology and operating procedures are required by surgeons; taxonomies of military tactics are required by field commanders; and taxonomies called "generally accepted accounting principles" are required by certified public accountants. In each of those cases, professional methodologies are organized and better understood by their taxonomies. Similarly, strategic planners and futures methodologists need formal taxonomies in order to realize the benefits of uniform, reliable practices. Yet, neither discipline has a formal taxonomy that is generally accepted. Roney (2004) proposed a framework of "generally accepted planning principles;" however, that framework is not yet well recognized. With respect to futures methodology, Glenn (2009, p.7) has opined as follows: "No agreement exists on the proper way to organize futures methods..."

Exhibit A contains a list of about 50 futures methods, organized on the basis of eight general functions of methods employed in futures studies that were summarized in Table II. While that list may be only a rudimentary "taxonomy," it does provide the four benefits mentioned earlier. Thanks to the efforts of Glenn and Gordon (2009), most of those methods have been collected and explained in a large, 39-chapter compilation. Glenn (2009, p.8) organized the 32 methods in that compilation into a two-dimension framework based on methods' qualitative/quantitative content and their normative versus exploratory outcomes. He also acknowledged and described Aaltonen's (2007 & 2009) taxonomy which is based on interactions of methods' analytic perspectives (external versus internal) and systemic limits (specific versus ambiguous). While Glenn's taxonomy does provide all four of the benefits specified earlier, Aaltonen's does not appear to guide practitioners in making selections of methods with any greater facility than they could, in its absence.

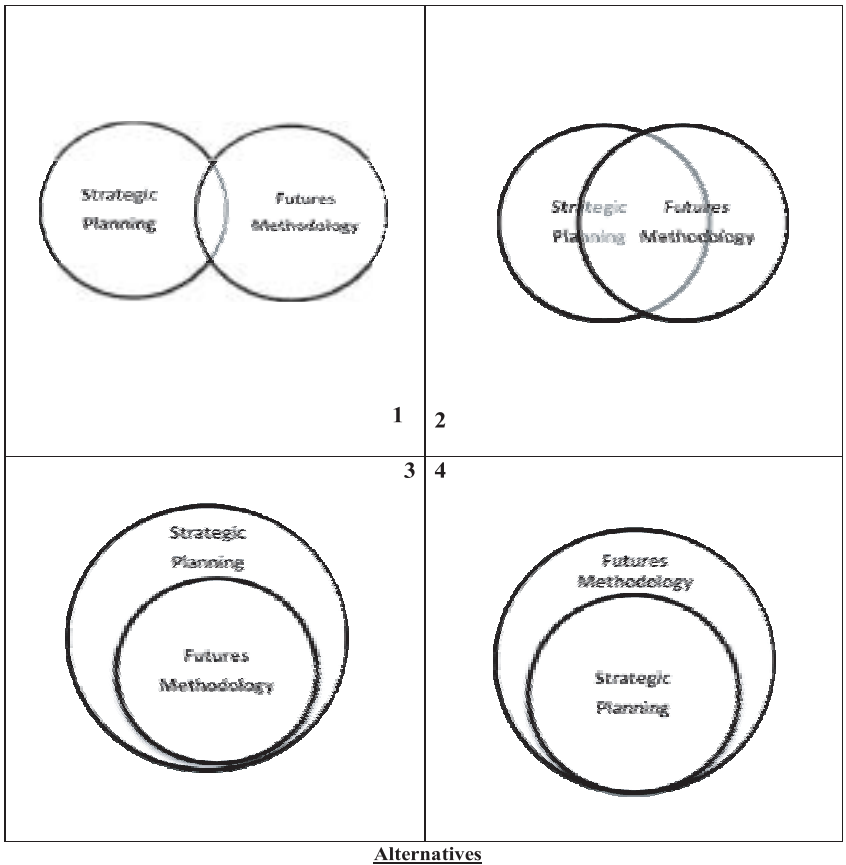
Now, consider the taxonomy implications of Exhibit B. As mentioned earlier, Exhibit A is organized according to methodological function, i.e. the operational results that methods are intended to accomplish. While that taxonomy does take a step toward parsimony by arranging many methods into a smaller number of functional categories, Exhibit B goes further by relating futures methods to the four-stage decision making process of strategic planning, as follows:

- Identification of a current or future mission for the enterprise under consideration;
- Collection of evidence to facilitate decisions regarding standards for future mission success ("goals") and alternative approaches to goals' achievement ("strategies");
- Making decisions to select goals and strategies from alternatives; and
- Forming and sustaining activities to implement strategies and re-plan.

Thus, the strategic planning process model (Figure 1) provides Futures Methodology with a functional framework for organizing and integrating its extensive collection of methods into a useful structure. More specifically, Exhibit B demonstrates that all futures studies methods can be used in strategic planning. It also suggests that most futures methods are appropriate for certain stages of the planning process, rather than others. (A few methods, such as simulation and scenario assess-

ment, can be used at multiple stages.) Thus, the strategic planning process model is appealing as a taxonomic framework because it can serve as a methodological guide for practitioners. Such a taxonomy should enable strategic planners to proceed more expeditiously in making selections of futures methods with which to do their work.

It is intriguing to wonder whether the strategic planning process model provides a taxonomic framework that is sufficiently comprehensive to embrace all futures studies methods. Some futures studies of course are not conducted for planning purposes, (For example, forecasts of the "singularity" probably are not found in long range strategic plans – although, they could be.) Yet, one might wonder just how many "futures studies" really are "planning studies" conducted by futurists. Conversely, one might ask if all strategic planning methods really comprise a subset of futures methodology. (Figure 2). A vigorous debate, with arguments from both directions, would be interesting.



1. The two methodologies overlap, but have very little in common.
2. The two methodologies overlap, and have many commonalities.
3. All of Futures Methodology falls within the domain of Strategic Planning.
4. All of Strategic Planning falls within the domain of Futures Methodology.

Figure 2. Taxonomy structure alternatives.

Conclusions: Complementary Intersections of Strategic Planning and Futures Studies

This exploration of the interrelationships between Strategic Planning and Futures Methodology has offered promising opportunities for each discipline to benefit from the other. While futurists probably would not want to limit their profession to strategic planning, most would agree that strategic planning provides Futures Studies with numerous opportunities to do very important work. Similarly, strategic planners might insist that futures methodology, alone, doesn't provide all of the methods and models that they need. Nevertheless, each community surely is much better off because the other exists.

Intersections of these two disciplines have become quite apparent in this examination. Strategic planners and futures methodologists both comprise communities of "engineers" who apply theory from the social and physical sciences in order to develop methods that aid management in making anticipatory decisions regarding resources' deployment. Methodologies of both disciplines have been advanced mainly by practitioners rather than academic theorists. Each discipline is grossly under-represented in the academy. However, each discipline also is in need of more formally documented and generally accepted principles. The academy could make a major contribution to Management by helping to satisfy those inter-related needs. Until it does so, professional organizations such as the World Futures Studies Federation and the World Future Society will have to accept the responsibility for facilitating an orderly confluence of Strategic Planning and Futures Methodology.

The futures profession has provided Management with a new community of strategists and some powerful approaches to long-range planning. Futurists have enriched, and are enrichening, strategic management at each stage of the planning process.

Futures Studies has advanced Strategic Planning's state of the art in one other important respect. Futures methodologists have rebutted a long-held objection of the Management Academy to strategic planning, viz. that the future cannot be known with sufficient certainty to plan confidently. Futurists agree with that objection; accordingly, they have developed contingency planning methods to prepare for the realistic range of alternative futures.

Strategic planners commonly focus on success criteria such as a superior rate of return on investment, economic value added by strategy, optimum market share, balanced growth and acceptable risk, when selecting goals and strategic objectives. Futures methodology is ambivalent to such measures: it can work with any of them. Without being rigidly bound to any core academic discipline (e.g., microeconomics) for a theoretical foundation, futures methodologists are free to articulate and examine concepts other than "competitive advantage" as criteria for organizations' success.

Futurists may describe economic success in terms much different from those commonly used by business planners. Industrial firms' success standards often include long-term growth (Doyle, 1994; Shetty, 1979). Yet, futurists have demonstrated that "limits to growth" of industrialized economies and global ecologies rapidly are being approached (Daly, 1996; Meadows, Meadows, Randers, & Behrens III, 1972;

Meadows, Randers, & Meadows, 1994). Consequently, the nature of industrial organizations' success standards also must adapt. One manifestation of such adaptation is the recent emergence of natural resource "sustainability" among the strategic objectives of industrial corporations. Similarly, strategic objectives of economic planners eventually may be expressed in the context of "development," rather than long term growth, as the global economy approaches its limits (Daly, 1996).

Discussion: Some Difficult Issues Still Must Be Resolved

As their disciplines converge, some difficult issues remain to be resolved by strategic planners and futurists. In particular, the following questions now must be answered.

Strategic planning issues

In its early years, strategic management provided a methodology aimed at defining goals and crafting strategies to reconcile internal capabilities to the external environment. (Andrews, 1971) Conceptually, strategy was comprised of all the work that management intended in order to achieve its goals, and its rationale for selecting the approach to be taken rather than alternatives. While such classic planning paradigms were in the original literature of strategic management, they do not exist in strategic management literature any longer. In the Management Academy, "strategic planning" is an oxymoron, as Mintzberg (1994, p.321) proclaimed; and Strategic Planning isn't "strategic" any longer. However, in the "real world" of practicing managers, the microeconomists' theories of competitive advantage really aren't strategic, and Strategic Management isn't "strategic" any longer!

One must ask whether Strategic Planning still has a place in the Management Academy. If Strategic Management now is about discovering the microeconomic nature of competitive advantage, and strategic planning is about process and methodology, strategic planning at least may not belong in the Business Policy and Strategy Division of the Academy of Management. Perhaps, instead, a new division, which explores and develops all of the methodologies discussed in this article, is needed.

Futures methodology: One major question

Futurists, both in practice and in the academy, have been asked one question more poignantly that any other: "Does Futures Methodology have a core competence?" Futures Studies are multidisciplinary and integrative – implying that the discipline of Futures Studies has no "core" competence of its own. As we have seen, it has no generally accepted taxonomy. However, we also have seen that Futures Methodology includes a unique and powerful *bundle* of methods. That bundle, in fact, may give Futures Methodology distinctive competence. Thus, persuasive arguments may be made on each side of this debate. Depending upon the debate's outcome, another question then may be asked: "Are Futures Studies a legitimate subject for academic inquiry?"

Complementarity issues

During a speech given to the Academy of Management in August, 2009 Prof. Gary Hamel observed that the strategic management academy has failed to address major issues of society that other disciplines are addressing (Hamel, 2009; Hamel & Birkinshaw, 2009). After discussing several such issues (most of which are under active examination by futures studies) Hamel inquired, "what is Strategic Management's next big thing?" As this article has shown, futurists well might suggest some answers to that question.

Issues studied by futurists today dwarf those currently studied by strategic management theorists in their importance to society. Futurists really do study "big things." Conversely, strategic management scholars recently have decided to study small things – unlike their forebears. Futurists have the breath of scope and skills that can aid strategy scholars in re-discovering, identifying and understanding really "big" things!

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Note:
Method descriptions are based largely on Glen & Gordon, 2009 (Chapter 1, pp.7-10), supplemented by Inayatullah's (2008 & 2009) Causal Layered Analysis, Porter's Five Forces model (1979 & 1980) and Porter's national diamond (1990). Many other authors' specific contributions to these methods have been omitted because they are well known and too numerous.

Notes

1. For a comprehensive history of Strategic Management see Rummelt, Schendel and Teece (1994a). For a comprehensive history of Strategic Planning see Roney (2004, pp.5-32) For a definitive history of "planning and its orientation to the future," see Connell (2009).
2. The assumption that "competitive advantage" is an ultimate objective of strategy has been widely accepted by microeconomic theorists. However, that concept differs from classic strategic planning notions of standards for firms' success or, "goals."
3. For a recent assessment of the resource based view of competitive advantage and criticisms of it, see Kraijenbrink, Spender and Green (2010)
4. For a recent summary of dynamic capabilities theory and research, see Barreto (2010)

5. Citations of authority for these various categories would be too numerous to be practical. Interested readers might consult prior issues of *The Futurist* magazine or the bound volumes of essays published by the World Future Society for distribution at is annual Conferences. (World Future Society; Bethesda, Md.)
6. For explanations of how scenarios and contingency planning can be applied to basic business planning, see Schoemaker (1993 & 1995) and Lindgren and Bandhold (2009).
7. The reviewers of this article observed that it reflects a view of futures studies which concentrates on empirical, rational approaches, and that it reflects American methodology more than European and Eastern methodologies which tend to emphasize culture, sociopolitics and epistemology to a much greater extent. These differences largely reflect histories of the regions where each approach emerged.

   Strategic planning necessarily is a rational discipline. In strategy-making, managers attempt to achieve agreement between: 1) internal capabilities and organizational behavior, on one hand; and 2) uncontrollable circumstances of the external environment (e.g., economies, markets and industries) on the other. The planning process is focused on making strategy selections that are intended to deliver future benefits or, goals, for stakeholders. However, on a deeper level, the nature of intended benefits, and the firm's purpose for delivering benefits to society (i.e., mission), may differ between cultures. Moreover, Daly (1996) has shown that goals formed in the future will not be as likely to emphasize extraordinary growth as they do today.

   Inayatullah (2008) proposes that there are six stages of reasoning (which he calls "pillars") in strategy formation. Those stages resemble (but are not identical to) the classic model in Figure 1. Inayatullah's process emphasizes clarification of, and selection from alternative futures; and that characteristic is consistent with the generally accepted methodology of strategic planning. Whereas, Inayatullah's approach contemplates preparing for multiple futures at four different causal levels – and, implicitly, multiple paths to goals – generally accepted methods of strategy formation attempt to select the "best" path by making rational decisions, albeit based on imperfect information, as explained above. However, the most advanced form of strategic planning's art currently seems to be contingency planning – i.e., developing a manageable number of scenarios regarding future environments that may depart from current forecasts and forming strategies for responding appropriately should such scenarios eventually grow more likely than forecasts in the prevailing plan. Thus, Inayatullah may have proposed a more comprehensive, and probing approach to the contingency planning process.
8. For a vivid example, see Drucker's (1946) early study of General Motors Corp. entitled, *The Concept of the Corporation.*

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Exhibit A

Futures Research Methods
Historic Examples & Analogies

1. Comparable capabilities & competences (benchmarks)
2. Prior events & processes in relevant environments
3. Prior competitive contests' outcomes
4. Prior attempts at comparable strategies: successes & failures
5. Substitution analysis (S-shaped curves)

System Analysis

1. Natural systems analysis
   - Sociological
   - Psychological
   - Economic
   - Biological
   - Chemical
   - Physical
2. System structure analysis
   - Agent (diffusion) modeling
   - Casual layered analysis
   - Field anomaly relaxation
   - Structural analysis
   - Morphological analysis
   - Industry cluster analysis
   - Five forces analysis
3. Sequential systems analysis
   - Technology & science sequence analysis/road-mapping
   - Environmental evolution analysis/projection
   - Competitive games: moves & counter-moves
   - Industry life cycles
4. Complexity analysis
   - Very complex, non linear systems
   - Chaos
5. System modeling & simulation

Forecasting

1. Simulation & projection IT systems
2. Quantitative approaches
   - Econometric models
   - Demographic projections
   - Logistic (S-shaped) model projections
   - Linear trend analysis & projection
   - Multivariate statistical approaches
   - Time series analysis & extension
3. Qualitative Approaches
   - Historic analogies – replication
   - Text mining/ trend analysis
   - War game simulation

4. Expert/polling approaches
   - Delphi
   - Genius forecasting
   - Prediction markets

Scenarios

1. Chain reactions
2. Back-tracking ("back casting")
3. Wild cards (low probability/high impact)
4. Quantitative vs. qualitative

Impact Analysis

1. Trend impact analysis
2. Cross impact analysis
3. Futures polygon
4. Futures wheel
5. Causal layered analysis

Decision making

1. Visioning
2. Relevance trees
3. Decision modeling and support systems
4. Robust decision making heuristics
5. Participatory vs. individual approaches
6. Causal layered analysis

Monitoring & Scanning

1. Prior to decisions
2. Post-decision
3. Weak signals

Method descriptions in this exhibit are based largely on Glen & Gordon, 2009 (Chapter 1, pp.7-10). However, Some additional methods have been added by the author of this article.

Exhibit B

Futures Research Methods for Strategic Planning

Mission & Vision

1. "Genius" forecasting
2. Long range scenarios
3. Visioning
4. Causal layered analysis

Environmental Assessment: Economy, Market, Industry

1. Specific Methods*
   a. Inductive
      Agent modeling (diffusion)
      Historic analogy
      Prediction markets
      Simulation
   b. Deductive
      Causal layer analysis
      Cross impact analysis
      Demographic forecasts
      Evolutionary models
      Field anomaly relaxation
      Five forces analysis
      Futures polygon
      Futures wheel
      Industry cluster analysis
      Life cycle analysis
      Morphological Analysis
      Statistical modeling (ex: econometrics)
      Structural Analysis
      Substitution models(S-curves)
      Technology sequence models
      Trend impact analysis & inference
2. Ambiguous Methods**
      Environmental scanning
      Expert methods (e.g., Delphi)
      Scenarios
      Text mining trend inference

* Specific: a defined system structure exists
** Ambiguous: a defined system structure does not exist.

Capabilities Requirements Analysis

1. Technological sequence analysis/benchmarking
2. Evolutionary process models
3. Substitution models(S-curves)
4. State-of-the art scenarios

Decisions: Selecting Goals & Strategy

1. Goal selection
    - Causal layered analysis
    - Decision modeling/ support systems
    - Deterministic vs. heuristic methods
    - Mathematical performance optimization models
    - Participatory vs. individual methods
    - Risk analysis
    - Robust decision making methods
2. Strategy selection
    - Causal layered analysis
    - Cross impact analysis
    - Decision modeling/support systems
    - Field anomaly relaxation
    - Futures polygon
    - Mathematical resource optimization models
    - Morphological analysis
    - Participatory vs. authoritarian methods
    - Relevance tree
    - Robust decision making
    - Scenarios & simulation experiments
    - Structural analysis
    - Technology sequencing

Strategy Implementation

1. System modeling
2. Scenarios & simulation experiments
3. Technology sequencing

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