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**The Strategy Dilemma:
Why Big Business Moves Seldom Pan Out as Planned**

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Abstract

This article looks at the complex dynamics that underlie organizational change and attempts to explain why, under present uncertain environmental conditions, it is not possible to determine in advance the results of strategic moves made by business and other types of organizations. It explores the practical applications of systems simulation and experimental methods to the management of change in today's highly interconnected and knowledge-driven world.

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Under the tumultuous and continually shifting conditions that prevail in today's business environment, it is impossible to determine well in advance the end results of strategic moves made by business organizations. Predicting outcomes is made even more difficult by the uncertain ways that the organization itself will react to those moves. This dual source of uncertainty leads to what we call the *strategy dilemma*, best described as a situation where any of a number of strategic choices made by organizational managers may lead to any of a number of results - *none of which is likely to be the intended one!*

This article looks closely at the complex dynamics that characterize both organizations and their environments that lead to this quandary. It concludes by exploring a practical approach in dealing with this predicament.

Introduction

Strategy, and by whatever other name it is known or associated with - strategic planning, change management, organizational transformation, business process re-engineering - is all about organizational change.

Traditionally, organizational change has been regarded as the logical outcome of rational analysis and deliberate choice. By convention, the responsibility for making strategic decisions rests on an elite group of professionally - trained and technically competent managers who are expected to make decisions that are based on facts and established management principles. This special breed of knowledgeable and experienced individuals serves as the major change agents in the modern business organization.

An alternative view sees organizational change primarily as a spontaneous adaptive response to changes in the environment, one that takes place largely without the benefit of purposeful human intervention. This emergent perspective is in keeping with an on-going development in the world of knowledge that views physical, biological and social phenomena as complex, self-organizing and evolving systems. From this perspective, business and other forms of human organizations have much in common with their counterparts in the biological and the physical worlds.

This article takes the position that all change processes in organizations have

elements of both purposefulness and spontaneity. It seeks to explore possible areas of convergence between these two contrasting perspectives.

The Place of Strategy in Business Management

In his landmark 1994 book, *The Rise and Fall of Strategic Planning*, Henry Mintzberg defined strategy simply as a means of “getting from here to there” (Mintzberg, 1994). By “here” is obviously meant a less-than-perfect situation where the organization is unable to achieve its objectives for any of a number of conceivable reasons. By “there” is meant a preferred situation where the organization is able to achieve a higher level of performance or to realize more fully its stated objectives. The means of achieving the desired change are a set of decisions and implementing procedures that are intended to modify or enhance the organization’s structure, its resource endowment, its production processes, its products and services, and its culture – all aimed at bringing about the desired long-run effects. The generally accepted ultimate goal of business strategy – at least in the Anglo-American system of corporate capitalism – is to maximize shareholder wealth.

Having a well-defined and carefully crafted strategy has long been regarded as a key element of business success. However, in a world that has become increasingly complex and unpredictable, this long-standing belief is increasingly being called to question. The many high-profile corporate failures in the aftermath of the “Great Recession” of 2008 gave further impetus to this growing suspicion about the importance of strategy to business success. In lieu of highly comprehensive and formal approaches to strategy of the type taught in business schools, the new thinking favors *institutional approaches* intended to develop the required built-in flexibility that enables organizations to adapt effortlessly and more spontaneously to a rapidly changing business environment (Teece, Pisano and Shuen, 1997; Eisenhardt, 2002; Dessein and Santos, 2006; Lawler and Worley, 2006; Montgomery, 2008; Prahalad, 2010).

Strategy: a Mixed Bag

U.S. corporate history is full of accounts of hugely successful business organizations. The long list of great companies includes such iconic names as IBM, GE, P&G and Google, to name but a few. Strategy textbooks cite these firms as exemplars of good strategic management. While it is easy to conclude from these examples that good strategies lead to corporate success, there appears to be little solid evidence of a direct causal relationship between strategy on the one hand and corporate performance on the other (Campbell, 2003; Besanko, et al, 2010).

Historically, the rate of corporate failure in the U.S. has even been much higher.

The number of well-known U.S. corporations that have gone under just in recent years is staggering. These include Enron Corporation, Bethlehem Steel, Arthur Andersen and Lehman Brothers, among countless others. Government rescue was needed to save once teetering companies like GM and AIG. These companies, too, have no doubt been guided in their business choices by elaborate and carefully laid out strategic plans. If anything, this observation goes to show that having a well-defined strategy in place is no sure-fire guarantee for business success. Neither, for that matter, can one conclude that success is unachievable without one! Indeed, one cannot be faulted for asking whether strategy makes any difference at all. Perhaps, as Mintzberg wryly puts it, “grabbing opportunities or coping with blows *as they arise* may make more sense.” (Mintzberg, 1994).

The issue of whether or not having a formal strategic plan is essential to business success has been the subject of current debates not only in academe, but also among practicing managers, many of whom are increasingly frustrated by their failure to achieve their strategic goals (Lazzari, 2001).

Why Strategies Fail

There are several reasons why strategies fail to yield their intended results. Many of these have to do with the inherent limitations of the conceptual models and the statistical procedures that typically serve as basis of strategy formulation and implementation.

As currently practiced, strategy formulation and implementation is basically a model building, problem solving exercise. It is, moreover, an approach to managerial decision making that implicitly assumes relative stability in the environment and access to all relevant information (or assumes that the needed information can be acquired with reasonable cost). The tacit assumption of certainty and predictability, while acceptable under the relatively placid conditions that prevailed up until the Sixties and Seventies, is patently unrealistic in a world that is characterized by rapid change and increasing complexity as it is today (Poblador, 2008).

I have earlier identified the following specific reasons why strategic plans fail to yield their intended outcomes (Poblador, 2006):

1. The strategy problem was **incorrectly** specified. This could be because the conceptual model used was based on faulty or erroneous data, or that the cause-effect relationships specified or implied in the model were invalid because they lacked empirical or scientific basis.
2. The strategy problem was **incompletely** specified because some key relationships

were overlooked, or that some important pieces of information were missing because they were either unavailable or too costly to acquire.

3. The forecasts on which the strategy was based were way off the mark, and the predicted economic, market and technological developments simply failed to materialize.

Even the most carefully designed strategies often fail to yield positive results due to major obstacles in their implementation. Foremost among these impediments is the strong resistance typically encountered from organizational members who feel that the planned changes are inimical to their own personal interests. These employees will tend to deploy their own defensive strategies for slowing down or disrupting the organization's action program. This resistance may be overcome through the implementation of appropriate control measures, or by putting in place incentive schemes intended to co-align the interests of organizational members with those of the organization.

Finally, strategies may fail to yield the desired results due to unexpected responses *from the organization itself*, as well as from key elements in its environment with which the organization directly interacts. These unforeseen reactions both from within and from without are the offshoot of the complex dynamics of formal organizations that are common to all forms of social systems, and to which we now turn.

Organizations as Complex Adaptive Systems

By long-standing tradition, business organizations have been viewed as formal structures consisting of fixed sets of procedures, strictly enforced control mechanisms, clearly defined authority relationships, and legally binding contractual relationships. They have been assumed to have well-defined goals, and to operate in relatively stable environments.

Increasingly, business organizations are being viewed as complex adaptive systems (Dussein and Santos, 2006; Fryer, 1999; Hilder, 1995). Just like their counterparts in the biological and physical worlds, business organizations and other forms of social institutions are seen as self-organizing entities that spontaneously and continuously adapt to changes in their environments. This emerging perspective applies Complexity Science principles to organizations change, which is viewed more as an evolutionary process rather than being the result of rational choice (Arthur, 1999; Boisot and McKelvey, 2010).

Complex systems are structures found in nature and in human societies that contain multiple, mutually inter-dependent elements that spontaneously adapt to the patterns that these very elements themselves create as they interact with one another and with those in their immediate environments (Arthur, 1999; Miller and Page, 2007).

Complex systems of all types have certain common characteristics. Foremost among these is their extreme sensitivity to their initial conditions (<http://serc.carleton.edu/NAGTWorkshops/complexsystems/introduction.html>; <http://www.imho.com/grae/chaos/chaos.html>). As a consequence of this attribute of complex systems, the manner in which they react to any form of external disturbance cannot be determined well in advance. Thus, any deliberate attempt to change organizations through the implementation of formal strategic plans based on the usual rationality norms – or what Vernon Smith calls “constructivist” form of rationality (Smith, 2008) – is bound to lead the system to any of a number of possible situations. It is highly unlikely that such strategic moves will bring the organization to a preferred, much less to its optimal state.

Routines and the Process of Organizational Change

The activities that take place in formal organizations are typically carried out through routines, which are standardized sets of procedures that are performed repetitively, perfunctorily, and synchronously among mutually interdependent individuals that comprise work groups in organizations. Routines reflect the accumulated tacit knowledge that accrues in infinitesimal increments over long stretches of time. This form of organizational knowledge is gained from the work experience and is deeply ingrained in the work processes themselves. Routines evolve through the work organization’s spontaneous adaptation to the changing work environment, a change process that takes place with a minimum of conscious and deliberate participation of the individual human actors that comprise the work teams. This is the process by which organizations as a whole adapt and evolve through time (Stoelhorst, 2007; Niman, 2004), a process better known as organizational learning.

In the process of their evolution, organizational routines, and the larger system of which they are integral parts, assume an intelligence of their own quite apart from the cognitive capabilities of the participants in the work process. As with all other forms of social systems, they display, in the words of Vernon Smith, “ecological” intelligence of the type exhibited by the survival skills of plant and animal species (Smith, 2008). For example, ant colonies consist of large numbers of individually unthinking ants but exhibit unique collective intelligence. By contrast, strategy is driven by intentionality and design and is purposeful in nature (Boisot and McKelvey, 2010; Hodgson, 2009).

Evolutionary change is painfully slow in the biological world. Nonetheless, most

plant and animal species managed to survive through the eons because their natural environments change at a very slow pace giving them ample time to gradually develop their survival skills. This is patently not the case, however, with thousands of species on the planet that are now ecologically threatened with extinction because they are unable to adapt fast enough to the threats to their survival - mostly man-made - posed by their increasingly hostile environments and fast disappearing habitats.

Essentially the same situation is faced by many social institutions, including business organizations. Business firms in many industries face the threat of losing their sustainability or competitiveness due to their failure to adapt fast enough to their rapidly changing markets and technologies. Many companies, particularly those that are operating in multiple environments, are finding it increasingly difficult to cope with the bewildering variety and complexity of the threats and challenges that they face. These organizations feel the need to incessantly implement immediate solutions to their perceived problems in order to establish a *strategic fit* with their environments. A well-thought strategy has to be put in place, so the current thinking goes, in order to hasten the adaptive process and to insure the organizations' profitability and long-run viability.

An Alternative View of Strategy

In the traditional view, the strategic planning exercise is essentially one of defining a desired state for the organization (in terms of market share, rate of return on invested capital, or some other measure of performance), specifying the conditions that are necessary to achieve these stated objectives, acquiring the needed resources to put the plan into effect, and putting in place the necessary implementing procedures. It is fundamentally a numerical approach to dealing with organizational problems, one that assumes a fixed set of relationships among the relevant variables, and where everything else remains constant. Many managers today continue to assume that strategic problems are solvable, and that finding the solutions is a matter of calculation - in many cases using elaborate mathematical models and sophisticated computer software.

In a world that is in a constant state of flux, this approach to strategy and the assumptions they presuppose are patently unrealistic. It is not surprising, therefore, that an increasing number of management gurus and practitioners alike are beginning to question the continued relevance of strategic planning in today's fast-paced business environment. There is now increasing agreement with Axon's observation that "strategic plans are of little use in times of great uncertainty and volatility" (Axon, 2010). I myself wrote, perhaps a bit too hastily, about the "demise of strategy" (Poblador, 2006).

The problem with conventional approaches to organizational change is that they forcibly impose constructivist rationality norms on systems that are largely governed by the rules of ecological wisdom. Due to the unique dynamics that are common to all

complex systems, this intrusion throws organizations out of kilter and causes them to react in unexpected ways, often moving indeterminately in directions that will most certainly deviate from their intended paths.

The phenomenal success of many of today's iconic businesses such as Intel, Google and IBM is not as much due to the seamless implementation of carefully laid-out strategic plans as it is to their uncanny abilities to adapt in a timely manner to largely unanticipated changes in their environments, seizing opportunities as they occur, evading threats as they appear. Sony and Samsung, major global players in consumer electronics, have begun to realize that corporate performance depends more on expert execution and dynamic leadership than on strategy (Chang, 2008). Like their counterparts in the biological world, successful business organizations have honed their survival instincts by developing what are commonly known as "dynamic capabilities" (Teece, Pisano and Shuen, 1997).

Organizations with dynamic capabilities pursue strategies that differ significantly from the traditional and still very much in use Five Forces model developed by Harvard Professor Michael Porter (1985). Their approach to strategy is what I called "continuous adaptation" (Poblador, 2006) and is in keeping with Aries De Gues' concept of The Living Corporation (1997). Business organizations in this mold are less hierarchical in structure than their traditional counterparts, and their line managers are more actively engaged in strategy rather than being mere implementers. Organizations in this genre such as IBM, Cisco and Genentech are exemplars of open-systems management and on-demand access to information and other corporate resources. These features provide organizations with the needed flexibility to adapt near-instantaneously to a continuously unfolding environment by implementing small incremental changes over time as the needs arise. This gradual, incremental approach to organizational change tends to be less disruptive to the status quo, and seldom leads to undesirable results as do sweeping organizational change strategies.

An Experimental Approach to Strategy

Nonetheless, in today's fast-moving global economy, business organizations cannot depend for their survival solely on their quick responses to unanticipated changes in their environments. To remain competitive over the long haul, they must attempt to anticipate major technological and market developments and to brace themselves for the opportunities and threats that they pose. For all the sophistication of statistical tools and forecasting models currently in use, in today's exceedingly complex and dynamic world, these developments cannot be predicted and evaluated well beforehand with any acceptable degree of certainty and accuracy.

Nonetheless, well-informed corporate managers do have ways of discerning

emergent patterns in their continuously unfolding settings. Their insights – call this “gut feel”, if you may – can provide their organizations with ample lead time to develop the required capabilities and resources to meet head on the challenges that they may face in the future.

To establish the required “strategic fit” between the organization and its fast-changing environment, there is a compelling need to gently “nudge” – to borrow a term from W. Brian Arthur (1999) – the organization in certain preferred directions, and to tweak it into following the intended path. This can be accomplished in any of a variety of ways: by “re-engineering” their production processes and operational procedures, by redesigning their structures, by product innovation, by re-staffing, and so on.

Extreme care must be taken, however, to insure that these changes are made in very small, gradual increments lest they severely disrupt the delicate and complex maze of inter-dependencies that characterize the organization’s initial condition. Major changes have the tendency to provoke complex systems into a spasm, and may trigger off forces, both internal and external, that can cause them to spin out of control.

Another major problem needs to be addressed. In the absence of solid science on which to base strategic choices, there is no assurance that the changes that are implemented will yield the intended results in terms of worker productivity, product quality, customer loyalty, and ultimately on shareholder wealth. The predictive models currently in use are simply unreliable for this purpose. In the face of uncertainty, there is no guarantee that the chosen strategic direction is the “correct” one, and there is always the danger that the organization will find itself locked into untenable situations. To avoid lock in, organizational planners must be able to detect with ample lead time the general direction that the organization is initially taking, discover their mistakes and missed opportunities early enough, and to change courses in a timely manner should this be necessary without having to incur huge switching costs.

In sum, there are two major reasons why traditional approaches to strategy may backfire:

1. The unpredictability of the environment and the uncertainty that the chosen path will turn out to be the “right” one; and
2. The uncertainty that the organization will react as predicted to the specific strategic moves taken.

Because of these two interacting sources of uncertainty, it is impossible to tell early on the ultimate outcomes of specific strategic decisions. One way out of this *strategy dilemma* is to adopt the experimental approach to the creation of new

knowledge (Anderson and Simester, 2011; Edmondson, 2011). This research method is extensively used in the biological, physical and behavioral sciences, and now increasingly in social and economic policy. Using the organization itself as the subject in the experiment, it is possible for organizational managers to maintain the profitability and competitiveness of their businesses by managing them through uncertain times by a process of *continuous interaction* with their environments and searching for solutions by trial and error rather than by the usual reliance on formal decision models and formulaic approaches to problem solving. Using stage production as metaphor, Harvard Business School guru Rosabeth Moss Kanter calls this the “improvisational” approach to strategy, as against the traditional “scripted” approach (Moss Kanter, 2002; see also Orlikowski and Hofman, 1997).

Our proposed experimental approach views strategy as a continuous, dynamic process. From this perspective, strategy is neither a set solution to a well-defined decision situation, nor what Kotler (2010) calls the mindless application of “gut instincts and conventional wisdom” in dealing with complex and ill-defined management problems. Rather, strategy lies somewhere in between.

This approach represents a convergence between the two types of rationality described by Smith: the constructivist rationality of the professional manager and the ecological rationality inherent in the organization and its environment. We view the use of the former as a way of reinforcing the latter in accelerating the organization’s natural evolutionary tendencies. The fields of genetic modification, the regulation of financial markets, and environmental management are examples of convergence between these two forms of rationality.

To serve as metaphor, picture a molecular biologist in a sterile laboratory trying to coax a stem cell into morphing into a kidney cell. Two forms of rationality are at play here. One is that displayed by the scientist in applying explicit knowledge learned from years of formal training and professional experience. The other one is that exhibited by the stem cell from knowledge learned from millions of years of evolution. The scientist can perform any of a number of alternative actions on her subject not knowing where each will lead to. The only way to find out is to experiment, then again, only after the fact. The idea is for the researcher to trick the stem cell into “believing” that the treatment that it is being subjected to in the laboratory is part of its natural environment, and it will then react by following the logic to which it has been genetically programmed.

Startups that do not have any “proven” formula for success, or established companies whose business models have ceased to be effective in the light of unanticipated developments in the environment, can search for newer business solutions through a process of experimentation. Many business organizations are

actively, if unknowingly, engaged in such “feeling-the-water” approaches to strategy. Google is a case in point (Saporito, 2011). Returning-CEO Larry Page is faced with the choice of sticking with the company’s core business of search or to be more like 3M and Microsoft by producing many products without having any major hits. The company’s non-search services such as the Android mobile operating system and Chrome, its operating system for Web applications, have yet to find their marks. Google has also been actively seeking to get into the media business by trying to interest entertainers and media organizations in using its YouTube platform as a conduit for reaching wider audiences. Page has indicated his plans of “experimenting” with alternative business models to guide Google through in the coming years. Only time can tell how these experiments will turn out.

Conclusion

The environmental settings of social systems can be seen to fall along a continuum ranging from complete chaos at one extreme to perfect stability at the other. Most social institutions, including business organizations, fall in the middle ranges characterized by varying degrees of complexity. Formal strategic plans of the type currently in use are unthinkable under chaos, but are quite valid under conditions characterized by relative stability and predictability. Our proposed experimental approach to strategy is applicable in environments characterized by relative uncertainty and indeterminateness.

By viewing business organization as complex adaptive systems, strategy can be regarded as an exercise in continuous experimentation the purpose of which is to goad the system to move away from its current state towards a more preferred one. This is accomplished by constantly making small incremental changes in the face of continually changing environmental conditions. Conceived in this way, the strategic planning exercise is no longer regarded as a once-a-year ritual but as a dynamic, continuous adaptive process.

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APPENDIX

A Proposed Methodology

Our proposed experimental methodology will use a simple matrix experimental design model. The elements of this matrix represent the following classes of organizational variables:

- Input variables – the physical, financial and knowledge resources used by the organization in producing economic value;
- Process variables – those that describe the technical and social processes and the operational procedures that are applied in the transformation inputs into outputs along the organization's internal value network;
- Organizational design variables – those that describe the horizontal and vertical dimensions of the organization's structure;
- Outcome variables - those that indicate productivity, product quality, worker satisfaction, consumer satisfaction, environmental impact and other variables that are known to impact on the organization's ultimate goal; and
- Performance variables – the usual indicators of the extent to which the organization has achieved its ultimate goals, such as market capitalization, Return on Investment, revenue growth, Economic Value Added, etc.

Where feasible, computer simulation models of the type used for Enterprise Resource Planning (ERP) and the Multidimensional Organization will be used to generate testable hypotheses.

Some implementing guidelines:

- The experimental procedure can be described generally as a “one-shot repeated measures” experimental design which consists of repeated treatments and observations following the choice of subject;
- The experimentation process starts with a description of the organization's initial condition by giving the starting values of the relevant variables;
- The next step is to indicate the desired values of the outcome variables;
- Treatment consists of the implementation of a strategy that specifies the values of a set of organizational process and design variables, with each

succeeding treatment differing from the previous ones depending on the observed results;

- Experimentation is focused on inter-relationships among process, design and outcome variables, and stops short of measuring performance variables;
- Where warranted, the desired values of the outcome variables may be changed in the light of feedback from the environment;
- Each succeeding treatment seeks to reinforce observed changes that are in the intended direction, and to abate or reverse deviations from the intended path.