Star Trek strategy: real strategy at work

Strategic plans often contain generic or motherhood and apple pie statements accompanied by outcome-based "stretch" goals that are not strategy but measures to determine whether or not good strategy has been implemented. Star Trek strategy, as described by **Peter J Brews**, underscores how strategy must be evaluated: as a work of creative fiction sending firms boldly to go where none have gone before.

Perhaps you are a CEO or business unit manager leading a group of people who have worked together for a long time. Until recently results were as expected but performance is now slipping and the way ahead is unclear. You face the hardest challenge of all: developing a strategy to arrest the decline.

In your predicament you have consulted a legion of strategy experts, who suggest a variety of approaches. Develop a formal, specific plan, say some. Shoot the formal planners and plan incrementally, counter others. Consider your industry structure and exploit generic strategies, advises a third. Refine your "strategic intent" and leverage core competencies, offers a fourth group. By now you are thoroughly confused – understandably so.

A review of your existing strategy documents is equally unhelpful. You find a mission statement that could apply to all your competitors: to be market leader in the quality delivery of xyz services to ABC consumers worldwide. Carefully crafted over months of intensive debate, the statement is accompanied by other "stretch" goals and desired firm attributes: to be the employer of choice in your industry; to have one million customers by 2005 (you currently have 670,000); to cut service delivery costs by 20 per cent over the next financial year; all to achieve above-average returns for stockholders. A set of desired "values" complete the document: innovation; teamwork; and customer focus are all highly valued, important and vital but now, you discover, quite unhelpful when real strategy is needed.

Sadly, you are not alone. Often, what is done in the name of strategy misses the mark. The cause of this is twofold. First, the essence of strategy is misunderstood and considerable time and effort is devoted to developing ideas that at best are motherhood and apple pie statements supported by high-level outcome goals. Second, few appreciate how our current stock of knowledge about strategy assists in developing true strategy.

This article first describes the essence of strategy. Then it summarises the major schools of thought emerging from decades of strategy research and each school's contribution to our understanding of strategy is presented. How this knowledge helps (or hinders) the development of true strategy concludes the paper. Readers are invited to use the ideas to test their appreciation of strategy and the strategy process as well as to evaluate the strategy formation activities practised by their firms.

Star Trek strategy

What first comes to mind when you hear the words "strategy" or "strategy formation"? In my experience, most executives associate strategy with plans or planning – the process of setting goals and objectives and specifying the means to achieve those goals. Though valid and insightful, these conceptualisations focus on the processes used to form strategy rather than the substance of strategy itself. Neither do they differentiate "good" from "bad" strategy. To determine such differences, the quality of the ideas embodied in a plan must be evaluated.

A well-known line from a popular television series helped me develop a filter to conduct this evaluation. This "Star Trek strategy" signifies that the *raison d'être* of strategy is to ensure that an organisation "boldly goes where none have gone before".

The critical test for any real strategic idea is whether it describes an ambitious, imaginative yet

feasible foray into a new quadrant of the competitive universe. Does it describe the characteristics of this new universe in clear and unambiguous terms, detailing the nature of the goods or services the firm intends offering? If not, it may be an interesting idea but it is not real strategy.

At conception, Star Trek strategy resides in the imagination and is a work of *creative fiction*. At its core, good strategy is abstract, not yet existing in the annals of human experience. If, as is destined in the voyages of the *Starship Enterprise*, no-one has travelled to the quadrant of the universe about to be visited, the sector waits to be discovered (or, for our purposes, created or invented). In star trekking, creative imagination and the ability to develop a compelling abstract idea are essential. I often employ my "You have got to be kidding" test to evaluate the degree of abstraction of an idea. If after initial exposure to a proposal your reaction is "YHGTBK!" the idea may be on the right track.

Regrettably, most managers are more comfortable with tangible reality than creative fiction and the world of star trekking. When confronted with an idea that is even remotely strategic, the idea is immediately dismissed. For star trekking, tolerance or even a welcoming of abstraction is key. Star Trek strategy also captures the pioneering quality of strategy. Similar to the experiences of real-life pioneers, adversity and failure are likely. When evaluating a firm's strategic activities I always inquire how often failure is encountered? If the answer is seldom or never, I become concerned. Not experiencing some failure in the execution of strategy is worrisome: either the firm is exceedingly lucky and/or very smart (unlikely) or the "strategic" ideas being implemented are not strategic at all

Table 1

Boldly going: star trekking by business pioneers

Wal-Mart stores

Despite conventional wisdom that held full-line discount stores required populations of 100,000 or more to be sustainable, Sam Walton set out to build a discount store chain to serve small southwestern towns. The idea was to offer the same or a wider range of products at prices as good as or better than those offered by existing metropolitan-based, high volume discount stores.

Canon's personal copier

Seeking to break Xerox's photocopying dominance, Canon's top management asked a cross-functional team of engineers to design and build a value-for-money, low volume desk-top copier, 50 per cent cheaper than conventional copiers, 10 times as reliable and maintenance free. Three years later the smallest, lightest copier ever built was introduced, creating a new market niche and outselling Xerox in units sold. This revolutionised the copier industry and established Canon as a leading supplier of electronic office products.

Cementos Mexicanos' ready-mix concrete on demand

Cementos Mexicanos (Cemex), now the third largest cement company in the world, is revolutionising the delivery of ready-mix concrete in congested third-world cities through the combination of advanced modelling based on chaos theory and the use of satellite-based GPS to co-ordinate large city-wide fleets of trucks. Preloaded trucks fulfil orders on demand, arriving within 10 minutes of the promised time – down from the three-hour window previously considered feasible – and eliminating the need to place orders 24 hours in advance. In the launch test market, Cemex promoted its concrete delivery capability with miniature pizza boxes poking fun at a local pizza franchise that delivered pizza less efficiently. In these markets, Cemex now offers an on-time guarantee and a five per cent rebate on orders more than 20 minutes late.

Caterpillar's just before failure (JBF) technology

Supported by the firm's global information system and legendary parts supply capability, Caterpillar is imbedding microchips in machines to identify key component breakdown before failure occurs. The impending failure will be automatically signalled from the machine to the local dealer via satellite, who then schedules replacement at a convenient time to avoid downtime. Simultaneously, if not on hand, an electronic search for the nearest replacement part is commenced and the closest part is located and dispatched to the dealer. The JBF technology should vastly decrease downtime and considerably enhance Caterpillar's already excellent customer service.

Siemens Medical Solution's digital hospitals

Siemens Medical Solutions, a division of Germany's Siemens AG, is currently pioneering the development of all digital, fully automated hospitals. Combining the expertise of several Siemens operating companies, the new facilities are expected to be significantly more efficient and safer than existing hospitals. Patients will wear wireless "wellness monitors" that signal problems as they arise, providing their exact location to enable immediate response. Administrators, physicians and other health care providers will navigate electronic patient records, vital signs, images, test results and enter medical orders and treatment information virtually. Process simplification and network-based IT should reduce medication cycles from around 10 steps to four, cutting down medication errors and costs. Drug interactions will be automatically highlighted, averting errors that cost tens of thousands of lives a year in the US alone. Naturally – though the Siemens software will be compatible with competitor equipment – installations will mostly carry the Siemens brand. But the sale is not based on the quality of the hardware, where differentiation is difficult. Siemens is betting that integrated healthcare solutions will enable it to dominate competitors.

(more likely). Instead, the firm's concept of strategy is fundamentally flawed.

Tolerance of failure is therefore key to successful star trekking. Firms that expect perfect execution and are quick to punish failure are unlikely to do much star trekking. If the message is "go boldly but go perfectly" after the first voyager has been chastised for failing, the message will be out – don't go boldly since as night follows day penalty follows failure.

Rather than punishing failure the intent must be to learn quickly from failure so that an alternative viable path is established. A cherished value for many years at Honda Motor Company, arguably Japan's most innovative and creative car company, is that success is 99 per cent per cent failure. While hopefully the failure percentage in successful star trekking is not quite as high, trying then failing, then learning and trying again is an inescapable element of star trekking. This does not mean that failure is OK or to be encouraged. Failure should be avoided or minimised as much as is possible. Unfortunately, given the nature of true strategy failure is likely, indeed almost inescapable.

The box "Star trekking by business pioneers" (see page 36) presents five examples of true Star Trek strategy. Three have been successfully implemented and the last two are currently moving from creative fiction to profitable business reality.

Each example tangibly reflects the essence of star trekking, and passes my YHGTBK test. The range of examples shows that star trekking occurs at many levels: firm; product; or function/technology. Though not apparent from the examples, individuals can star trek too, regardless of organisational position or status. "Grand" strategy differs only in scope, resource requirement and impact. Strategically efficient firms encourage all employees to star trek within the purview of their individual responsibilities – strategy in these firms is the sum of both "grand" and "individual" boldly going.

The examples also illustrate that strategy is uncomplicated at the core. Voluminous plans of mind-numbing detail that cannot be reduced to accessible, exciting creative ideas are often more bureaucratic "busy" work than cogent strategic ideas. Does your strategy represent a compelling and accessible reconceptualisation of your firm's business or operations, or a revolutionary product idea, or an inventive use of technology that will break the boundaries of the known competitive universe and offer unrivalled value to customers? Good strategy is usually a combination of all these. If drafted in such terms your ideas are on track. If not, scrap them and start again.

Strategy formation synopsis

Though Star Trek strategy captures the essence of strategy, it masks the complexity of the strategy process. Most good strategic ideas appear obvious once implemented but transforming ideas from creative conception to profitable reality is complex. This complexity is reflected in the strategy schools of thought that have surfaced since the field emerged as an independent academic discipline in the 1950s. These schools are summarised in the box "Back to the future: a synopsis of strategy schools of thought"(see page 38).

The synopsis indicates our understanding of strategy has expanded impressively over the years. Strategy as SWOT usefully specified the overall strategy problem but in practice often produced listings of Strengths, Weaknesses, Opportunities and Threats without a coherent connection of Strengths to Opportunities or Threats. Strategy simply appeared once the SWOT analysis was completed.

Today we know that strategy formation extends beyond SWOT analysis. One contribution of Strategy as Leverage and the resource-based view of the firm is we now appreciate that strengths have little value unless idiosyncratic and hard to copy and unless they attract and retain customers when embodied in products or services – in other words, unless they are strategic resources.

Opportunities and threats were also initially conceptualised as independent of the firm, waiting either harvesting or neutralising. Today we understand that firms create opportunities and threats (one firm's opportunity is another's threat) through good strategy, and that firm actions significantly influence competitive environments.

As initially depicted in Strategy as SWOT or Strategy as Planning, strategically smart firms do not attempt to predict or forecast the paths of powerful and capricious external environments – they create the environment by offering superior products or services that less capable competitors cannot match. Futures wait to be created, not predicted or forecast. One outcome of good strategy is it skews an environment towards dominant competitors and away from weaker ones.

In addition, the summary shows that the deepening of our understanding of strategy has progressed sometimes sequentially and sometimes in pendulum swings. Planning followed SWOT and suggested a range of processes that both complemented and added to the contribution of the earlier school, while Strategy as Positioning added techniques that deepened our understanding of industry – a vital part of the external environment.

In contrast, the Learning School surfaced in counterpoint to the perceived excesses of the

Table 2

Back to the future: a synopsis of strategy schools of thought

Strategy as SWOT (1950s-60s)

Strategy was first presented as the matching of firm Strengths and Weaknesses with environmental Opportunities and Threats. The essence of strategy was conceived as the development of products or services around (internal) firm strengths that matched (external) competitive conditions. The CEO/top management was responsible for strategy formation and the model assumed that firm strengths and weaknesses could be objectively identified and assessed and that external opportunities or threats existed independently of the firm in the competitive cosmos, ripe for plucking or neutralisation by smart strategists. The best strategies were stated in simple, explicit terms, suitable for implementation once formed.
Readers wishing to learn about Strategy as SWOT should read Kenneth R. Andrews' classic The Concept of Corporate Strategy *(Homewood, Il: Dow Jones – Irwin, 1971).*

Strategy as Formal Planning (1960s-70s)

Building upon the ideas of Strategy as SWOT, Strategy as Formal Planning detailed the planning activities necessary in strategy formation. The School conceptualised strategy formation as a formal, conscious, elaborate planning process, decomposed into a number of distinct rational steps. Starting with a statement of firm mission and key strategic objectives, the process cascaded into detailed programmes and action plans, and budgets and operating plans of ever-increasing specificity. Once developed, this plan bound the firm into a tightly coupled system of hierarchically controlled plans and programmes that monitored, evaluated, controlled and rewarded behaviour and performance. This ends/means conceptualisation of strategy assumed strategy could be modelled before the fact and reduced to detailed, time-limited statements of objectives, programmes and action plans. Similar to Strategy as SWOT, the external environment was assumed to be analysable and predictable, and either top management or staff planners were considered responsible for the development of the plan.
Igor Ansoff's work Corporate Strategy: An Analytical Approach to Business Policy for Growth and Expansion. *(New York, NY: McGraw Hill, 1965) exemplifies the early thinking of the Planning School.*

Strategy as Positioning (1980s)

Strategy as Positioning considered industry structure the key independent variable in strategic analysis, and suggested good firm performance resulted from an industry structure/firm strategy fit. Strategists identified attractive industries, and then selected one of three "generic" strategies (low cost, differentiation, focus) that fitted the industry structure. Porter's Five Forces Model (arguably the most famous framework in strategy) provided a template to determine the degree of attractiveness of an industry. Industry attractiveness was presented as a function of five forces: buyer power; supplier power; threat of substitutes; threat of new entrants; and intensity of rivalry among incumbents. Powerful firms reside in industries with low buyer and supplier power, lack of substitutes, few new entrants due to high barriers to entry, and low intensity of rivalry among incumbents. Profits in such industries would be high. Strategy as Positioning complemented both Strategy as SWOT and Strategy as Planning by presenting a technique that permitted a more rigorous analysis of one key segment of the external environment – the industry.
Michael E. Porter's Competitive Strategy: Techniques for Analyzing Industries and Competitors. *(New York, N.Y.: Free Press, 1980) sets out the initial thinking of Strategy as Positioning.*

Strategy as Learning (Late 1970s-80s)

Arising mostly in reaction to the perceived excesses and limitations of Strategy as Formal Planning, Strategy as Learning viewed strategy formation as a process trial and error learning, and not formal planning. Rather than being deliberate and conscious (as suggested by formal planners) strategies typically emerge over time as organisations learn from their successes and failures. In turbulent, complex, fast-changing contexts, predetermination, formality and objective analysis were suggested as insufficient, even dysfunctional. Instead of emerging full blown and complete from the planning process, strategies start as broad intentions that are crafted over time through incremental learning into appropriate firm behaviours and policy. Strategy formation is more about incremental learning than the production of detailed specific plans.

For perspectives on the Learning School, see J.B. Quinn, "Strategic change: logical incrementalism," Sloan Management Review, 20 (1), 1978, 7-21, or Henry Mintzberg's "Crafting strategy", Harvard Business Review, July – August 1987, 66 –75

Strategy as Stretch and Leverage (late 1980s – present)

Similar to Strategy as Learning, Strategy as Stretch and Leverage emerged to counterbalance an earlier school. Restoring firms to the centre of strategic analysis (in contrast to the industry-level orientation in Strategy as Positioning) Strategy as Stretch and Leverage holds strategy is about achieving seemingly unattainable "stretch" goals through the leverage of firm strategic resources (also referred to as core capabilities, core competencies or, more generally, strategic resources). Firms are conceptualised as bundles of resources (now referred to as the resource-based view of the firm) a few of which are strategic, that is, unique, valuable and hard to copy resources that when embodied in products and services present offerings competitors cannot match. The "Stretch" element requires the setting of ambitious, enduring goals far beyond current capabilities that rally firm members and force new and innovative uses of existing or to be developed strategic resources. Rather than being about fit within a given industry structure, strategy disrupts and creates "misfit" as innovative goods or services that competitors cannot replicate are created and voraciously consumed.

For insights into Strategy as Stretch and Leverage, see Gary Hamel and CK Prahalad, Competing for the Future. (Boston, MA.: Harvard Business School Press, 1994). The resource-based view of the firm is covered in "Competing on Resources – Strategy in the 1990s". by D.J. Collis and C.A. Montgomery, Harvard Business Review, July – August 1995, 118-128.

Planning School. For years strategists were advised to plan formally, specifically and in detail, only to be urged by the Learning School to abandon formal planning as dysfunctional – formal planning introduced rigidity and bureaucracy, making organisations inflexible and resistant to change.

To some Learning School adherents the term "strategic planning" became an oxymoron. Similar to the Learning School's appearance, Strategy as Stretch and Leverage also emerged partially in reaction to the dominance of Strategy as Positioning. To some supporters of Strategy as Stretch and Leverage, the Positioning School ignored the idiosyncratic and firm-specific nature of strategy (grounded at the firm level) in favour of higher-level aggregate "industry" constructs.

Given these controversies, the $64m question is can these divergent threads be woven into a tapestry that captures the complexity and challenges of strategy formation? Though the answer to this question is certainly yes, the integration must be done with care.

The strategy formation tapestry: Star Trek strategy, and the strategy schools of thought

Star Trek strategy is Strategy as Stretch but with amendment.
Star Trek strategy captures the essence of strategy.

And though Strategy as Stretch approximates this, it does so often imprecisely. Proponents of "stretch'" advise organisations to set enduring, ambitious, "winning" goals that go beyond current resources and capture the imagination and motivate. Though these definitional terms fall within the boundaries of star trekking, flawed enactment of the concept have accompanied the broad descriptions.

For example, an early exemplification set stretch goals in exhortations such as "Encircle Caterpillar" or "Beat Benz". Though such war cries motivate, they provide little guidance as exemplified in Star Trek strategy. It would be like Sam Walton setting out to "Beat K Mart" rather than accomplishing the goal described in the box Boldly going: star trekking by business pioneers". Beating K Mart does not describe Wal-Mart's strategy – it records the outcome of Wal-Mart's powerful strategy in discount retailing.

Others depict stretch goals in more specific but equally unhelpful outcome-based terms. These also fail to make the grade. I am often asked to comment on stretch goals such as a doubling of sales in two years or increasing returns to 20 per cent by the year 2004, or the expansion of the customer base to 200 million (up from 150 million now) by 2005.

Often imposed from on high for budgeting, control or shock therapy purposes, these are not real Star Trek goals.

First, they focus attention wrongly. Rather than promoting debate on the cogency of a creative idea, discussion degenerates into the fine-tuning of outcomes to four decimal points: why a doubling (and not a 75 per cent increase) in sales? Or why 200 million and not 175 million customers?

Second, such goals are often arbitrarily imposed and demotivate, in the extreme representing an abuse of power.

Third, defining strategy in outcome terms provides no means to evaluate intermediate progress – it does not develop beacons indicating where an organisation intends boldly going or how it intends getting there. In short, performance-based outcome goals are not strategy. They establish the means to measure whether good (or bad) strategy has been implemented after the fact.

If your stretch goals are written in terms of doubling sales, becoming number one in your market or increasing market share by 10 per cent over the next three years, start again. Important strategic questions are not whether or by how much market share is to be increased, but how – with which offerings, in which market, using which resources? Though outcomes – before, during and after the fact are a part of setting and evaluating strategy – these can only be estimated once the creative core itself is specified.

Neither do qualitative statements specifying generalised desirable firm attributes qualify. These include mission statements such as "we will be the best in class company in the xxx industry,

filled with empowered, motivated people doing great things". Not only is this statement outcome based – with the attendant weaknesses of

outcome-based goals outlined above – it is also generic and potentially applicable to any organisation in almost any industry.

Star trekking is anything but "generic". The idea of a generic strategy is in itself oxymoronic. Further, though warm and fuzzy motherhood and apple pie statements can motivate and are unlikely to do damage, they must not be confused with real strategy.

Star Trek goals are creative, tangible abstract ideas specified in product market terms that clearly describe a firm's competitive intentions – we will build this house on that hill with these unique and innovative characteristics that once constructed will attract customers from near and far with great return to all. Competitors, naturally, will be unable to match.

Before boldly going, know where others have boldly gone before: Strategy as Positioning. Gathering knowledge of competitor positions is advisable before embarkation on any Star Trek journey. Avoiding going boldly where other competitors already are requires such insights.

However, similar to Strategy as Stretch the prescriptions of the Positioning School should be applied with caution.

The concept of "average" industry attractiveness suffers from the deficiency of many aggregate statements: with one hand in the refrigerator and the other on the hob, on average you're OK.

In practice, an industry may be attractive to one competitor but unattractive to others. Since attractiveness may differ according to who is asking, average statements of attractiveness in isolation are really unhelpful. Why has Toyota done so well while GM struggled? Or why did Cisco Systems do so well in the internetworking business while Bay Networks fell by the wayside? Analysis per key competitor rather than per industry reveals these "positional" differences. Specifying competitor differences is key to understanding positioning in an industry.

Another reason for caution relates to the application of industry analysis. Industry analysis maps where key competitors have gone and where they are. If really comprehensive, where competitors intend going may be included. Strategy was often expected to appear magically upon completion of this analysis. This expectation is misplaced. Industry analysis does not create strategy, but provides information vital to the strategy development that hopefully will follow. But this is creative and not analytical work.

Neither do "generic" strategies help much in determining where firms should boldly go. Terms such as low cost, focus, or differentiation cannot capture the substance of good strategy – star trekking defies reduction to such "generic" terms or descriptions.

Star trekking requires a route map: Strategy as Planning.

Travellers embarking on a journey into the unknown are better off with a map. Plans should record where a firm intends boldly going and how it intends getting there. A healthy planning

Travellers embarking on a journey into the unknown are better off with a map

process allows the testing and refinement of fictional ideas, hopefully reducing the likelihood of failure and minimising the costs of learning once translation from fictional intent to non-fictional reality begins. Plans also guide implementation – strategic control and learning can only be achieved by comparing actual outcomes against original star trek intentions.

The intensive and often bitter Planning School/Learning School debate on the pluses and minuses of formal planning has identified many elements of planning that must be avoided. However, one regrettable result of the Learning School's assault on formal planning has been the conclusion that the remedy for bad planning is no planning. In fact, the remedy for bad planning is good planning. Though many of the Learning School's criticisms of formal planning are insightful, there is a vital role for "good" planning in the strategy process.

For example, we now recognise that good planning requires formulation and that implementation should neither be separate nor performed separately – thinkers cannot be detached from doers. Those charged with creating the future must have a significant say in its conceptual design.

In this regard, I urge the observance of two simple rules: never formulate a plan you are unlikely to implement; nor implement a plan you did not help formulate. Failing to observe either rule misaligns incentives, becoming most apparent when difficulties surface. Detached formulators attribute failure to poor execution while detached implementers blame flawed formulation. And while the planners and doers squabble, competitors advance. Moreover, it is astonishing how motivated people are to implement their own ideas and how demotivated they become when implementing the ideas of others.

Finally, more responsible formulation is likely when formulators know they will be required to implement the ideas they suggest.

We have also learned that good planning is a team-based line activity and not the bailiwick of isolated staff planners or senior managers. A key top management responsibility is ensuring that the appropriate people from the appropriate levels with the appropriate knowledge, background and resources are entrusted to create and implement a firm's future.

Since formulation cannot be detached from implementation and since successful star trekking typically takes time, the core of the team should remain until implementation is achieved or the idea is abandoned. Teams comprising mostly or exclusively of executives close to retirement may be unable to see the plan through to completion, often necessitating disruptive and costly hand-overs. At worst, ideas to ensure good performance until retirement and stock options have been exercised may be implemented.

But this does not mean that executives close to retirement should not be part of a strategy team. Though not the core, they certainly can mentor and advise as the team struggles to develop and implement its strategic ideas. And we also now know that implementation is only complete once a new prototype is up and operating having been tested with customers and shown to be viable.

Finally, today we recognise good strategic planning is essentially a future-oriented, creative process not to be confused with more precise though equally important activities such as the maintenance of ongoing operational efficiency.

Downsizing, rightsizing, restructuring or cost cutting reflect the quest for operational efficiency. Operationally inefficient firms must cure the disease they are likely to die from first – no sense in boldly going when current costs are too high and the firm is bleeding to death. However, this operational "managing of the farm" is different from "betting the farm," which involves strategic efficiency and star trekking. But both are necessary – while some are entrusted to bet the farm, others must manage the farm to keep it operationally intact.

To reduce the probability of failure (star trekking is risky) have equipment that provides advantage and defence in the sector of the universe you intend entering: Strategy as Leverage.

Strategy as Leverage points out that in addition to bold and innovative ideas, strategy is also about

possessing unique resources that permit the transformation of creative fiction into sustainable fact despite competitor endeavours to prevent this.

I am often asked whether it is the innovative ideas or the leverage of unique resources that really counts. After all, star trekking can be achieved with freely available resources (Strategy as Stretch but without Leverage). Answering this question is easy – a valuable innovation offered with freely available resources is likely to be copied and the returns quickly traded away. Competitors may also force prices below levels that permit the innovator's pioneering costs to be recouped. Sustainable star trekking thus requires both creative ideas *and* unique resources. Execution through unique resources prevents competitor replication of the idea.

Applying the resource-based view does have challenges, however. Strategists view firms differently from customers and if they are any good they hide strategic resources to mask the true nature of their firm's competitiveness. I find likening firms to icebergs a helpful metaphor. The 90 per cent of an iceberg below the water represent the strategic resources strategists see while the 10 per cent above the water are the goods or services customers enjoy.

To customers, Nike sells shoes and clothing. To CEO Phillip Knight, athletic shoe design and brand management is a better "under the water" strategic description of Nike's business. To Wal-Mart shoppers the firm is a discount retailer but to Wal-Mart strategists the firm is in the IT/logistics management business displayed in the superior cross-docking, inventory replenishment and transport management systems operated by the firm. Since these resources enable Wal-Mart to stock shelves at prices competitors cannot match, they define the firm's true nature of business and competitive substance.

Philip Morris's understanding of multi-purchase consumer marketing (developed over years of building strong cigarette brands) was the strategic resource the firm leveraged to acquire Miller Beer and enter the food business. Cemex changed the ready-mix concrete business in developing country cities into an IT-based transport services business, leaving competitors with the daunting task of reconceptualising their resource base to avoid being driven out of business. Siemens is currently changing the core of its medical business from the manufacture of medical systems to the provision of healthcare solutions that integrate the systems with other workflow processes in hospitals. This reflects a shift in resources to workflow management and integrated software development.

Resource-based analysis thus often requires getting hands around clouds, a process with considerable uncertainty and imprecision.

Hidden layers of the strategic onion must be continually peeled back in the hope that the true layer of competitiveness is finally revealed. And there is no sure way to verify your conceptualisation of what is going on under the water is correct, especially when confronted by a carefully guarded competitor resource base.

A final concern regarding resource-based analysis relates to which comes first – innovative ideas or strategic resources? Examples of either sequence abound, as do combinations of both. Walton's vision for Wal-Mart preceded the logistics, inventory replenishment and cross-docking capabilities that turned the vision into reality. Alternatively, Philip Morris' entry into the beer industry relied upon a pre-existing strategic resource developed in another context. Here resources preceded the idea.

Canon's personal copier illustrates an innovative idea achieved with both existing and new strategic resources. The desktop personal copier was built on the company's existing strategic knowledge in optics, fine chemicals, electronics and precision mechanics but needed the development of new copier technology to circumvent Xerox's patents. Siemens' evolution to medical solutions was conceived in the mid-1990s but an acquisition in the late 1990s provided some of the resources needed to digitise workflow processes in healthcare.

However, though the relationship between innovative ideas and strategic resources is messy and circular, which comes first does have important consequences. Attaining innovative ideas with yet-to-be-created strategic resources is probably more risky than ideas achieved through the application of existing strategic resources. It is more than likely that innovative ideas implemented with new resources will take longer and cost more than those relying on existing strategic resources.

All things being equal, such star trek ventures should produce greater returns than those applying existing resources to new arenas. A portfolio approach may be optimal – some star trek goals relying on resources yet to be created together with some ideas requiring the application of both existing and new strategic resources balanced by innovative ideas implemented out of existing strategic resources.

Once your journey into the unknown begins mistakes and surprises will happen: Strategy as Learning.
The Learning School's greatest contribution to our understanding of strategy rests upon the distinction between intended and realised strategy. Even the best-laid plans are intentions that may never be realised. We now recognise that plans supported by the most cogent industry

> The essence of strategy is the creation of a tangible but abstract description of a firm's bold intentions followed by a voyage of invention that turns these intentions into profitable reality

analysis and containing the most creative ideas remain fictional theories of action until implementation starts. Usually, as implementation proceeds setbacks are encountered and learning takes place. What was thought feasible turns out to be impossible – the environment shifts, a competitor responds unexpectedly or customer rejection gets in the way.

Stated differently, good strategy includes both before-the-fact planning and during-the-fact adjustment/recalibration as implementation proceeds. Neither formal planning nor incrementalism alone adequately describes the complexity of the strategy process. Recognising that implementation is fundamentally a learning process avoids many of the dysfunctional planning processes the Learning School warns about – rigidity, inflexibility and the fallacy of considering plans a perfect predetermination of the future.

What we do and do not know about strategy

The essence of strategy is the creation of a tangible but abstract description of a firm's bold intentions followed by a voyage of invention that turns these intentions into profitable reality.

Albert Einstein once said that imagination is more important than knowledge. Star Trek Strategy endorses this – the bright spark of true strategy flows from this most important and unique of human capabilities. However a gloss on Einstein's statement is necessary. Successful star trekking is unlikely to emerge from isolated creativity conceived in a vacuum or the uncontrolled experiments of

scientists randomly tinkering in a laboratory. Instead, successful star trekking requires creative but intelligent imagination informed by Positioning, shaped and refined by Planning, resourced through Leverage and implemented while Learning. Imagination *based on and supported by* knowledge is the strategists' domain.

Five decades of investigation and experience have considerably enhanced our understanding of strategy and the strategy process. We now appreciate that strategy formation is a multidimensional complex activity with many elements and dimensions. The strategy school currently in vogue holds that strategic success is contingent upon the ownership and application of idiosyncratic, hard-to-copy, valuable strategic resources. Though essential, this emphasises only one dimension of the strategy puzzle. The other dimensions must neither be ignored nor forgotten – a sophisticated and balanced application of all is required.

However, if intelligent creativity is the Holy Grail of strategy, many questions remain. Though an understanding of Positioning, Planning, Stretch, Leverage and Learning may increase the probability of strategic creativity, it is unclear whether organisations (or humans) can learn or be taught to be more creative.

How to develop and control creativity is another key question. Employing monthly budgets or short-term financial performance measures to shape and control abstract and hard-to-model creative ideas will probably hinder more than help. Since star trekking is typically longer term with uncertain payoffs, rewarding on the basis of short-term financial targets may kill creativity before it starts. Our current level of knowledge only permits us to conclude that we should be intelligently creative in strategy and incorporate appropriately the portfolio of capabilities that make up good strategy process. Hopefully, in 50 years time our understanding will have expanded significantly, allowing many to boldly go where they first imagined they would be, to the benefit of us all. ■

Resources

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