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Satisficing

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Abstract

This entry discusses the meaning and influence of the satisficing concept, with particular attention to the seminal contributions of ► [Herbert Simon](#). The contrast between satisficing and optimizing behaviour is addressed, with attention to satisficing's superior claim to behavioral realism as well as to the idea that satisficing is itself a sort of (meta) optimization. Recent research contributions are noted, and an argument is made that future studies of decision-making can find useful guidance in the satisficing concept, especially in decision contexts where the generation and representation of decision alternatives are important parts of the overall problem.

Definition The term 'satisficing' refers to the tendency of decision makers to settle for an alternative judged to be 'good enough' in the light of available information and goals, rather than striving to achieve the optimal decision.

► [Herbert Simon](#) adopted the term 'satisficing' to refer to a near-ubiquitous feature of observed decision behaviour: the fact that decision makers

commonly settle for an alternative that is judged to be 'good enough' in the light of available information and prevailing goals. Simon proposed the label (Simon 1956) shortly after he presented his classic analysis of the phenomenon itself, in 'A behavioral model of rational choice' (Simon 1955). The term itself is said to derive from an archaic form of the English verb 'to satisfy', still found in Northumbria.

If the matter were judged from a suitably large distance, it might seem peculiar that such a commonplace phenomenon would be thought to require analysis and deserve its own label. What, after all, is the alternative to the idea that decision makers often settle for a satisfactory alternative? Here in the domain academe. Earth we know the answer to that question: it is the idea of an *optimal* alternative. The analysis of satisficing is a response to the challenging question, 'Why settle for less than the best?'

Were it not for the great intellectual prestige of the idea of optimization, now enshrined in economics, ► [game theory](#), statistical decision theory and elsewhere, social scientists would perhaps have no need for the term 'satisficing', although they would be devoting a large proportion of their time to understanding the details of the phenomenon. It would correspond to the doubt of an agnostic in a world where belief was unknown.

Thus, as a term of general discourse in the social sciences, 'satisficing' is mainly about 'not optimization'. This framing is quite evident in Simon's writings on the subject, and also in

those of the many who have followed his lead. These writings explore the often-subtle issues that arise in the contrast between satisficing and optimization (Radner 1975). Therefore, the first and most widely known contribution of the satisficing concept is to provide some structure for a conceptual dialogue between behaviourally oriented scholars of decision and the enthusiasts of optimization. Here, it is important to note that the dialogue concerns the use of optimization as a foundational approach to descriptive theorizing about behaviour; it is not about the value of optimization techniques for prescriptive purposes, as in operations research. In the context of descriptive theorizing, satisficing is invoked in an attempt to break the spell of enchantment with optimization analysis, by demanding the introduction of considerations of descriptive realism into the account of decision behaviour.

Beyond that, the satisficing concept has provided constructive guidance for a large and wide-ranging collection of research efforts that seek to illuminate particular domains of human activity, especially activity in organizations. These efforts are concerned not with the contrast to the grand alternative of optimization, but with the implications of specific satisficing formulations in specific contexts. Frequently, the satisficing idea is invoked in conjunction with closely related ideas in the broad domain of bounded rationality, relating to organizational adaptation, learning and search. Just as researchers in economics and other fields have generated a great wealth of optimization models, scholars pursuing Simon's lead have used various formulations of the satisficing idea in a variety of analyses. When they invoke satisficing, it is generally not focal to the contribution of the analysis; it is just an effective means to other ends. Much the same remark is often made about optimization models. Similarly, in both cases, conclusions or testable implications typically reflect a whole bundle of assumptions, not merely the high-level commitments regarding decision processes.

Promising new directions in research on satisficing have appeared in recent years. Particularly significant is the (belated) emergence of direct experimental testing of satisficing

predictions at the individual level, with the following outcome:

Our experiments cover various settings that differ in the number of options available and in the complexity of those objects, and in all cases, we find broad support for Simon's hypothesis. (Caplin et al. 2011: 2899)

The experimental paradigm in this work offers promise both for further corroboration of the satisficing hypothesis and for exploring the question of what else, in addition to satisficing, accounts for the departures from optimality (since something clearly does). Satisficing and aspiration-level mechanisms have also been fruitfully employed in a family of models of learning in multi-person games (see, e.g., Karandikar et al. 1998). In these models, repeated playing of games like ► [Prisoner's dilemma](#) can reliably produce cooperation via aspiration-driven learning – that is, for reasons that do *not* have to do with rational appreciation of the shadow of the future.

Satisficing as Meta-optimization

The notion that satisficing offers a sharp contrast to optimization is to some degree challenged by proposals that construe it as a kind of optimization. The literature on 'optimal stopping' analyses a wide range of situations that invite the interpretation of satisficing as optimal behaviour in a context where the optimizing calculation involves something besides the quality of the alternative ultimately chosen; for example, the cost of examining the next alternative. Simon himself essentially endorsed this kind of thinking (in Simon 1955) by setting up an example involving the attempt to sell a house at an advantageous price, an example in which the probability distributions of bids vary from day to day in a known way. He presented a formal analysis of the stopping problem – the decision about when to sell – in the appendix, winding up with an interpretive discussion of what we would now call the Bellman equation for the stopping criterion for each day.

Although satisficing was originally presented as an account of 'stopping', it has also been

interpreted as an account of ‘starting’. What is compared with aspiration is not a newly uncovered alternative, but the performance of the status quo alternative. When that comparison is unfavourable to the status quo, the search for a better answer begins – a premise that links satisficing to the broad concept of ‘problemistic search’ (Cyert and March 1992). In this perspective, satisficing analysis responds to a challenge that does not reference ‘the best’; it references ‘Isn’t business-as-usual good enough?’ (Winter 1971). Arguably, that question operates in the world with much more force than the quest for the best.

Satisficing as Behavioural Realism

Simon’s endorsement notwithstanding, the seductive idea of construing satisficing as meta-optimization is a burden on the intellectual fecundity of the concept. Simon’s original and enduring purpose was to guide research attention towards the ‘bounded rationality’ of human actors, the real limitations they have regarding the information to which they have access and their available ways of utilizing that information (Augier 2001). That an optimal stopping rule might generate patterns of overt behaviour that have a superficial resemblance to satisficing does not negate the basic objections deriving from an awareness of those limitations; if anything, the requirements for successful optimization are increasing as we embed a given optimization problem in a meta- or meta-meta-level optimization, and the assumptions that underpin full rationality are ever more blatantly counterfactual as we proceed.

The contrast with optimization is particularly clear-cut in the accounts given of aspiration levels. A general feature of ‘behavioural’ analyses is that actors are seen as responding to information that is likely to be available to real actors – and probability judgements that are confident, comprehensive and internally consistent are not seen as falling in that category. For example, computational models in the behavioural tradition often represent aspiration as a smoothed version of realized performance, such as an exponential

distributed lag. Causally, ‘aspiration’ is thus backward-looking, in sharp contrast to the intrinsically forward-looking stance of optimization. Alternatively, perhaps aspiration may be seen as depending partly on the contemporary performance of perceived peers and rivals. It might also depend on perceptions of near-term external constraints, such as break-even or survival conditions. What aspiration emphatically does *not* depend on, in behavioural analyses, is hypothetical coherent conjectures about the remote future.

Satisficing: The Promise of the ‘Research Programme’

Deep methodological issues are unquestionably involved in the contest between optimization and satisficing – if they were not, the contest would long ago have produced either a victory for one side or (more likely) a productive and well-demarcated truce (Lakatos 1970). Here, analysis of the contest will focus on the important reasons for favouring the satisficing view as the promising path forward.

In Simon’s own encyclopaedia entry on satisficing (Simon 1987), he featured the challenge to optimization in the domain of calculation, saying, ‘In many (most?) real-world situations, however, genuine optima are simply not computable within feasible limits of effort’ (p. 244). This has the important virtue of locating the battle on ground where the issue is sharply posed, and much has been said from this vantage point. Arguably, however, this is also the location where the plausibility of optimization is the highest – and the more narrowly we construe ‘computation’, the higher it gets, thanks to the continuing advances in computer technology and algorithmic techniques. Hence, it is probably not the best ground for proponents of satisficing to make a persuasive case.

Computation, in a broad sense, is certainly one of the challenges encountered by an actor (individual or organization) facing a decision situation. There are others, for example, those relating to the identification and acquisition of relevant information, and to the efficacy of implementation steps. Particularly critical is the challenge of

representation or ‘framing’, which involves choosing a manipulable structure that might seem to offer a pragmatic bridge between the available information and a conclusion about what to do.

What is usually referred to as ‘framing’ presents questions like ‘What are the interests we have at stake here?’ and ‘Where lies the best promise of future success?’ and ‘Is this a good time to start a fight with our principal rival?’ (Kaplan 2008). The ‘representation’ face is more about the structure of processing: Are we choosing among a few discrete, complex options? Or are we, at the opposite extreme, creating a programming model that subsumes, indefinitely, many options and offers the possibility of a calculation to identify the optimum?

It is possible (though hardly necessary or commonplace) that the adopted representation sets the stage for an explicit optimization calculation – by sharply characterizing the set of alternatives and an associated approach to exploring them. Since ‘optimal’ is only defined with reference to a clearly specified set of alternatives, the contrast between optimization and satisficing arises most clearly in this sort of context; in it, the question of whether the calculation actually stops at an optimum is well posed, otherwise not.

Such an optimum, however, is relative to the representation and the information incorporated in it, so the optimization calculation does not banish the hazard that the calculation has produced the right answer to the wrong problem (Levinthal 2011). In addition, the calculation of the optimum had better not be significantly costly or time-consuming, for otherwise we are into yet another meta-optimization problem.

A little-appreciated factor in the comparison between optimization and satisficing is the vastly greater robustness of the latter perspective with regard to the representation of the set of alternatives. In a satisficing analysis, we do not need to posit a specific limit on the scope of search. For the real actor, and likewise for the theorist attempting to understand that actor’s proclivities, the only question requiring an answer is where to search next. Formally, a general response to that question, considered across all possible cases,

does delimit the alternatives that might conceivably be chosen. In the satisficing framework, however, that grandiose set of alternatives does not demand contemplation in advance, by either the actor or the theorist. In the optimization analysis, it does require such contemplation, because of the dependence of early-stage optimality on what will happen down the road. Exploiting the relative strength of satisficing in this respect could lead, for example, to insights into decision processes in innovation – where, quite commonly, enormous numbers of potential alternatives are implicit in the combinatorics of a large number of solution elements. A plausible rule for generating the next alternative is a much more feasible goal in this context than a comprehensive search of the possibilities.

Given the power that representations have to shape decisions, the phenomenon of ‘satisficing on the representation’ clearly deserves greater attention – and some such focus is often implicit in the emphasis given to frameworks and case examples that is prominent in the teaching of strategy. Such teaching offers schematic representations and a grounded critique of their application. At best, it emphasizes the point that the choice of representation is critical – and that representations that guide creativity might often be more helpful than ones that establish the preconditions for an optimizing calculation.

See Also

- ▶ [Behavioural Strategy](#)
- ▶ [Decision-Making](#)
- ▶ [Game Theory](#)
- ▶ [Prisoner’s Dilemma](#)
- ▶ [Simon, Herbert A. \(1916–2001\)](#)

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Scenario Planning

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Abstract

Scenario planning is a practical tool for collective strategic thinking in organizations, especially when external uncertainty is high. Its overall purpose is discussed and two complementary methods are described for building scenarios using a simplified example. Apart from illustrating the basic steps and aims of scenario planning, various psychological challenges are discussed (from overconfidence and anchoring to reframing and learning), with links to well-documented biases from behavioural decision research. The appendix provides a nine-step roadmap for building useful scenarios.

Definition Scenario planning is a disciplined process for developing alternative views about

an organization's external future by analysing key uncertainties that can significantly change the landscape. Scenarios are typically presented in narrative form by telling different stories about the future in ways that are directly relevant to managers. The deeper aim is to challenge people's mindsets by stimulating strategic dialogue and reflection.

The term scenario has many meanings, ranging from film scripts and loose projections to statistical combinations of uncertainties. In its broadest sense, scenario thinking is as old as storytelling, but focused on interesting narratives about the future. As a tool for disciplined thinking and problem-solving, its formal roots trace back to the use of computer simulation in the Manhattan project at the end of the Second World War. Shortly thereafter, three broad trends started to converge (Schoemaker 1993). Electronic computers enabled simulated solutions using ► [Monte Carlo](#) methods for otherwise intractable problems. Newly developed game theory provided a mathematical structure for the analysis of strategic conflict. The US's post-war defence needs turned towards war gaming in which humans and machines interacted. The Rand Corporation played a central role in bringing these three strands together for military defence. Later, Rand researchers such as Herman Kahn extended the simulation approach beyond defence applications to companies and society in general (see Bradfield et al. 2005 for a more recent history).

In strategic planning, scenarios refer to script-like narratives of external futures with special emphasis on causal connections, internal consistency and decision relevance (Hawken et al. 1982). A few scenarios usually suffice to define a broad range within which the future might unfold. Good scenarios present more than an end-state description, but highlight the dynamic logic of each story (akin to a Hollywood storyboard). The scenarios together should reflect a variety of viewpoints from within as well as outside the organization and jointly delineate a broad range of possibilities (Schwartz 1991). Scenarios are not states of nature (they are seldom exhaustive) nor probabilistic predictions but, rather,

coherent narratives of what could happen (Wack 1985). The focus is not on forecasting the future, or fully characterizing key uncertainties in terms of probabilities, but on *bounding* the uncertainty range and creating frameworks for discussion. Companies should use scenario planning the more the following conditions apply:

1. Uncertainty is high (relative to the organization's ability to predict or adjust).
2. Too many costly surprises and blind spots have occurred in the recent past.
3. Insufficient new opportunities are perceived and generated by the organization.
4. The quality of strategic thinking is low (strategic planning has become perfunctory).
5. The industry has experienced significant change or is about to be transformed.
6. A common language and framework is desired for discussion, without stifling diversity.
7. Strong differences of opinion exist among leaders, each of which has merits.
8. Company rivals are using scenario planning to gain competitive advantage in the future.

The scenario approach differs in both orientation and method from more traditional extrapolative oriented planning. The focus is less on numbers and more on worldviews and mental models. Since uncertainty is central in scenario planning, a purely statistical approach diverts attention to computational complexity rather than conceptual analysis. For example, if we were to cross-classify n uncertainties with

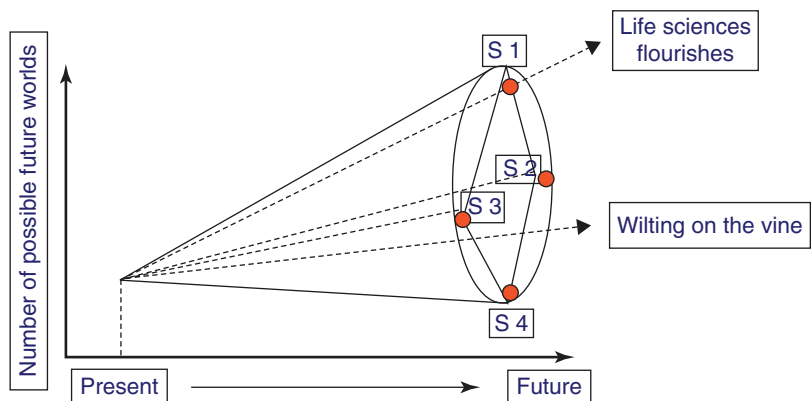
m outcomes each, the number of possibilities explodes quickly (i.e., m^n). Each of these combinations can be represented as a point in an n -dimensional space defined by the n random variables, as illustrated in Fig. 1. This depicts an uncertainty cone within which the future is likely to evolve. Scenarios try to describe clusters of outcomes within this space (denoted A, B, C and D here) but via heuristic techniques rather than formal cluster analysis. Scenario planning is aimed at defining the boundaries of the cone and then challenging people's thinking about various future narratives prior to defining and structuring problems analytically. In project planning, scenarios can help to identify which uncertainties are most important for, say, a decision tree analysis. In strategic contexts, scenario planning can help set the agenda for deep dialogue and profound change within an organization and industry (Schoemaker 1995) or even an entire country, as with the abolishment of apartheid in South Africa (Sunter 1987).

Scenario Planning Example

To illustrate the basic steps in scenario planning, consider the following actual case in simplified and disguised form. The company was medium sized, with annual sales of about \$80 million, located on the West Coast of America. It manufactured medium-tech maintenance and service equipment, such as street sweepers and indoor industrial cleaning equipment, with

Scenario Planning,

Fig. 1 Uncertainty cone to bound the future (Schoemaker 2002)



individual units costing between \$30,000 and \$90,000. Most domestic selling took place through a well-established dealer network. The end users were industrial, military and municipal entities. In overseas markets the product was sold both directly and indirectly via a dealer network. Due to the strong dollar at the time, overseas competition from Asia had stiffened and penetrated the US market significantly. The company was not the industry leader, ranking third in market share.

The first step in developing scenarios is to define the general scope, timeframe and key issues. In this case, the outlook was 5–10 years, and the scope international. Key issues included (1) whether to expand from manufacturing into service and sales, (2) where to manufacture and source, (3) what product line to offer, (4) how much R&D to engage in, and (5) how to deal with their high cost labour union. With these questions in mind, 11 external trends and pre-determined elements were identified, as shown in Table 1. All of these were deemed to be beyond the control of the company. The initial list included some more trends, but after examining their potential impacts, the underlying evidence,

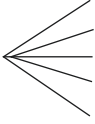
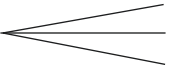



and the relationships among the trends, several were eliminated as being irrelevant or not entirely exogenous. The bottom of Table 1 illustrates how the remaining trends were organized hierarchically, recognizing that some trends were derivative of some main drivers. Analysing trends is standard in business planning and not the essence of scenario planning. The trends will be common to all scenarios.

Scenarios do not differ in terms of the trends but by how various key uncertainties are assumed to play out. Table 2 shows the top five uncertainties for our simple example. It depicts the range over which each uncertainty might play out by listing various outcome branches for each and their impact on the company today. These branches can be made more refined, for example by providing a continuous outcome range of outcomes with an appropriate probability distribution. But the focus here is less on numerical precision or statistical completeness than on developing strategic insights. It is also important therefore to examine to what extent the uncertainties are correlated among each other, but not in fine detail. Scenario planning is both an art and a science. There are many ways to develop

Scenario Planning, Table 1 Important trends

		Impact
T ₁	Increased global competition	–
T ₂	Maturing US and global markets	–
T ₃	Increased opportunities in the far east	+
T ₄	Continued high US labor cost	–
T ₅	Declining budgets in the military	–
T ₆	Increased overseas sourcing	?
T ₇	Weakening union power	+
T ₈	Consumer emphasis on high quality	+
T ₉	Increased product differentiation	?
T ₁₀	Labor competent declining in product	+
T ₁₁	Technology shift toward simpler designs	–
Global	<pre> graph TD T1 --> T2 T1 --> T3 T2 --> T6 T3 --> T6 T4 --> T5 T4 --> T10 T5 --> T6 T7 --> T8 T8 --> T11 </pre>	T ₇
National		
Industry		
Technology		

Scenario Planning, Table 2 Key uncertainties

			Impact
U ₁ : Dollar's strength against relevant currencies		(1) Much higher (2) Higher (3) Same (4) Lower (5) Much lower	-- - 0 + ++
U ₂ : Fundamental technological change		(1) Much (2) Medium (3) Little	? 0 +
U ₃ : Change in industry concentration		(1) More (2) Less	- +
U ₄ : Best place to manufacture		(1) USA (2) Far East (3) Europe	+ ? -
U ₅ : Level of service desired by customers		(1) High (2) Low	+ -

scenarios as well as use them (Fahey and Randall 1998). Due to space constraints, I discuss only two methods below.

Forced Scenarios Method

A simple way to develop scenarios and assess correlations among the key uncertainties is to put all negative outcomes in one scenario and all positive outcomes in another. This is a rather mechanical approach and should be viewed simply as a technique to get started. In our example, the negative scenario would contain the elements (U₁₁, U₃₁, U₄₃, U₅₂), and the positive scenario the set (U₁₅, U₂₃, U₃₂, U₄₁, U₅₁), where U_{ij} refers to the *j*th outcome of uncertainty *i*. Usually, such forced scenarios are not internally consistent. For example, the positive scenario combines a weak dollar (which favours exports from the US) with a decrease in domestic industry concentration. However, foreign producers in the US market are typically disadvantaged by a weak dollar whenever revenues are converted back into their home currency. So, some foreign players may exit the US market when the dollar weakens, and this in turn would *increase* rather than decrease domestic industry concentration. After identifying all internal inconsistencies in the forced scenarios, the challenge is to regroup outcomes to attain

internal consistency, while still maintaining a wide range between the two scenarios. Usually, there is no single unique or best solution to this challenge, which itself may prompt a rethink of the original issues, trends and uncertainties. The forced scenario technique naturally results in three scenarios, namely the two extreme ones we started with and then re-adjusted, plus a middle-of-road scenario, as illustrated below. Each scenario can be developed in more detail by providing additional context and rationale, as follows.

Scenario I: Gradual Adjustment (Positive Scenario)

The US dollar remains quite weak, resulting in high exports and limited foreign completion in the US market. Japanese and Korean competitors in particular are losing market share. As a result, the product undergoes minor technological change since much innovation had come from Asia. Patent infringement in Asia remains a concern but less so than in the past. Thanks to the weak dollar, the US economy grows at moderate pace, averaging about 5% per annum in GNP growth. Union power continues to decline – there are no more crippling strikes and so manufacturing in the US remain viable. Customers remain interested in

high service, which is easy to supply for domestic customers and via distributors in overseas markets.

Scenario II: High Turbulence (Middle-of-the Road Scenario)

Political elections in the US shifts power toward a fiscally conservative majority, with less emphasis on federal subsidies to the states. This trend reduces municipal budgets, which in response are starting to delay their equipment replacement. The declining tax base delays big ticket purchases and emphasizes service and maintenance instead. A strong US dollar reduces exports but foreign player remains hesitant to enter the US market aggressively due to declining municipal and military budgets. With a greater emphasis on making existing equipment last longer, overseas component sourcing and sub-system assembly increases. The product is somewhat simpler to manufacture than before but still enjoys patent protection.

Scenario III: Tough Times (Negative Scenarios)

Technological changes make the product very simple to produce and in the process obsolete various US patents. Advances in sweeping technology are disruptive for several players some of whom close shop or are purchased by stronger rivals. The US dollar is very strong, causing stiff competition even at home. Customers are increasingly price sensitive and need less service because of simpler designs. Some industrial customers start to buy directly from overseas producers, bypassing the traditional dealer network entirely. The industry is entering a commoditization phase, with price becoming the dominant factor in purchasing street sweepers and other cleaning equipment.

Two-by-Two Matrix Method

Some scenario planners dislike the good vs bad scenario mindset implied by the above method. They fear that the resulting scenarios are too much anchored on the status quo since that is the starting point. Instead, they favour a scenario method that focuses on the two most important uncertainties shaping the future, independent of a particular

Scenario Planning, Table 3 Scenario matrix. Amount of technological change in 5 years?

Strength of dollar 5 years out?		Minor	Major
	Much stronger	Scenario A	Scenario B
	Much weaker	Scenario C	Scenario D

company’s position at that moment. This approach works best if there are indeed two relatively independent uncertainties that tower above all others. To assess this, let us first ask how much an uncertainty’s outcomes can really vary within the timeframe considered and whether this variance matters in terms of business impact. In our simple example, the strength of the US dollar and the extent of technological change could really rock the company’s world. So, these would be good uncertainties to start with under the two-by-two matrix method. Table 3 shows how four scenario themes emerge when these two uncertainties are dichotomized and then crossed. Other combinations could have been considered as well. Indeed, with n uncertainties there will be $n(n-1)/2$ possible pairings. But some will entail highly correlated uncertainties or derivative ones, which reduce their suitability for this heuristic method.

Once a two-by-two matrix has been determined, a test should be conducted to ascertain whether or not each matrix cell can occur and is worthy of further development into a fully fledged scenario. This narrative would first need to explain how the various boundary conditions (such as weaker US dollar plus major technological change in cell D) could arise in the first place. Next, the unfolding narrative would need to discuss how the other uncertainties are likely to play out within a given cell. Importantly, the postulated outcomes need to vary sufficiently across the four cells so that the scenarios truly differ. For example, what would be the best country to manufacture in for cell A as compared with cell D? A weak dollar may favour a US manufacturing base, whereas the effect of major technological change would only favour it if the innovations occurred in the US or could be easily licensed into the US. There may not be agreement within a

management team as to which outcome is most plausible for a third or fourth uncertainty in a particular matrix cell. This will prompt discussion and, one hopes, deeper dialogue about how managers' views reflect different implicit mental models about how the industry works. Eventually, however, some judgement calls have to be made that best fit the overall theme and messages of a given scenario cell. So, scenario planning entails the art of strategic conversation in order to foster in-depth dialogue within a management team (Van der Heijden 1996).

Apart from examining uncertainties, the trends also need to be assessed in finalizing the scenarios. By definition, all the trends (11 in our example) will be present in each of the four scenarios. So, one should test to what extent the postulated outcomes in a given scenario are compatible with all these trends. In addition, the scenarios developed for each matrix cell should also examine how consumer, competitors, partners, regulators and other stakeholders are likely to behave if that future emerges. The initial narratives sketched should therefore be viewed as just learning scenarios, to see if the future depicted is plausible, internally consistent and important enough to examine strategically. After multiple iterations, these learning scenarios will evolve into decision scenarios which can then be used to test the current strategy or to create new ones. The key in scenario planning is to develop interesting and compelling stories about the future that challenge (or validate) current thinking. They should result in new strategic insight as well as meaningful dialogue among the company's leaders. The [Appendix](#) summarizes the basic steps involved in a more complete scenario planning exercise.

Psychological Aspects

The intended benefit of scenarios is that they stretch as well as focus people's thinking. The hope is that scenarios reduce overconfidence by bringing to mind futures not yet considered as well as by challenging those presumed likely by most managers. Although the deeper

psychological effects of scenarios are still being researched, they seem at least to entail (1) framing, (2) availability effects, and (3) de-anchoring. Good scenarios provide multiple intellectual windows on a complex phenomenon in order to challenge people's thinking. For example, if the British shipbuilders or US car manufacturer had more seriously examined the 'globalization' scenario a few decades ago, they might have switched their strategies sooner. For too long, their mental models were shaped by domestic experience and an implicit assumption that any change would be gradual. Steps 1 through 4 of the guidelines listed in the [Appendix](#) are aimed at challenging organizations' mental frames, their implicit reference points and their yardsticks of performance.

Scenario planning, especially steps 5–8 in the [Appendix](#), can also help overcome the availability bias (Tversky and Kahneman 1974), which states that people undervalue information that is hard to imagine or recall from memory. When chemical managers in Shell, who had only experienced decades of growth and expansion in the 1960s, developed scenarios highlighting causes of stagnation and overcapacity, their strategic visions changed. Usually, however, the negative scenarios are hard to envision and accept. Schoemaker (1993) provides a comparison of positive and negative scenarios constructed by managers enrolled in the University of Chicago evening MBA program for the industry they expected to be employed in upon graduation. The negative scenarios were systematically given less weight and credence than the positive by the managers who constructed them. It is hard for individuals as well as organizations to seriously entertain negative scenarios even though they happen quite frequently, as recent business history has shown abundantly.

Third, scenarios can shift the anchor from which people view the future. For most managers, the mental anchor is the present and past, and usually managers do not adjust their thinking very far from this starting point. Yet the past is often a highly misleading guide to the future, especially after major discontinuities have occurred such as deregulation, tax changes and

new technologies. The financial community in London, for instance, may have been seriously handicapped by its stable past in coping with the deregulation of the financial markets in 1987 (the ‘Big Bang’). Similarly, the new Bell Operating companies in the US were significantly disadvantaged by having functioned for many decades as a regulated monopoly. The idea of having to compete for customers or embrace innovation was simply alien to those with decades of experience in a regulated monopoly. One way to shift people’s conceptual anchors is to provide powerful alternative scenarios that supplant the past as the dominant starting point for thinking about the future.

Another important topic concerns the determinants of plausibility and coherence in scenarios. Paradoxically, more cohesive and detailed scenarios are often perceived as more credible even though they are statistically less likely. People commonly fall prey to what Tversky and Kahneman (1983) termed the conjunction fallacy, in which people deem $\text{Prob}(A\&B) > \text{Prob}(A)$ or $\text{Prob}(B)$. Ironically, this cognitive bias may actually make scenarios seem more likely when additional detail is added (contrary to the conjunction rule of probability theory). The additional detail provides coherence and plausibility by reinforcing mental scripts and schemata that support the scenario. Thus, somewhat ironically, scenario planning may utilize one bias (e.g., the conjunction fallacy) to counter other cognitive biases, such as overconfidence and myopic framing.

Other factors that can influence a scenario’s believability include their causal strength, perceived coherence and emotional connections. The power of storytelling often lies in its *emotional* impact, especially when describing a day in the life of a customer. Scenario planners try to use narrative discourse to help managers *feel* the future in addition to comprehending it cognitively. This can be done via dramatization in videos or by depicting a patient’s life in some future health care scenario. To what extent the heart and the mind need to connect in order to bring about meaningful change will vary by organization as well as culture. But often it is through drama and emotion that scenarios are internalized as well as create

perhaps a shared sense of urgency in organizations and a desire for change. This mode of impact can complement the more traditional emphasize on numbers and models which can also benefit from scenario underpinnings. Thus, the method is quite flexible and scalable, which is both its strength and weakness since scenario planning may require considerable customization and unbiased seasoned facilitation.

In sum, scenario planning differs in important ways from traditional forecasting in managing uncertainty. The focus is more on storytelling and changing mindsets than on numerical analysis. A forecast is typically the distillation of expertise into a single number or probability distribution, aimed at solving a particular problem. Scenarios, instead, try to highlight the reasoning underlying a forecast, with explicit attention to sources of uncertainty. Although this will normally complicate their use in ► [decision-making](#) (as further translation may be required of each scenario for the problem at hand), their value remains if circumstances change. The scenario approach accords the human mind an important role as input provider, pattern recognizer and (tacit) information synthesizer. But it also recognizes that our minds often have to be stretched, challenged and cleansed from illusions (Kahneman et al. 1982). Scenarios can serve as a collective thinking tool and communication device that aid the managerial mind rather than replace it. This aid is especially useful under conditions of high uncertainty and complexity, where traditional forecasting can fall prey to numerous shortcomings and biases. Scenarios are less likely to suffer from these biases, because they are more focused on challenging the initial beliefs of the analyst, a management team or an entire organization.

See Also

- [Behavioural Strategy](#)
- [Bounded Rationality](#)
- [Causal Ambiguity](#)
- [Decision-Making](#)
- [Monte Carlo](#)
- [Portfolio Planning: A Valuable Strategic Tool](#)

- ▶ Real Options
- ▶ Resilience
- ▶ Risk and Uncertainty
- ▶ Sensemaking
- ▶ Strategic Peripheries

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Appendix: Guiding Steps for Constructing Scenarios

1. Define the issues you wish to understand better in terms of time frame, scope and decision variables (e.g., prices of natural gas over the next 5 years in the Far East). Review the past to get a feel for the degrees of variability that key uncertainties (such as oil prices) have already exhibited, as well as significant interdependencies that occurred among major variables in the past.
2. Identify the major stakeholders or actors who would have an interest in these issues, both those who may be affected by it and those who could influence matters appreciably. Identify their current roles, interests and power positions.
3. Make a list of current trends, or pre-determined elements that will affect the issue(s) of interest. Briefly explain each, including how and why it exerts an influence. Constructing a diagram may be helpful to show inter-linkages and causal relationships.
4. Next, identify key uncertainties, whose outcomes will significantly affect the issue(s) of interest to you. Briefly explain why and how these uncertain events matter, and examine how they interrelate.
5. Construct two forced scenarios by placing all positive outcomes of key uncertainties in one scenario and all negative outcomes in the other. Add selected trends and predetermined elements to these extreme scenarios.
6. Assess the internal consistency and plausibility of these artificial scenarios. Identify where and why these forced scenarios may be internally inconsistent (in terms of trends and outcome combinations).
7. Eliminate combinations that are not credible or not possible, and create new scenarios (two or more) until you have achieved internal consistency. Make sure these new scenarios cover a reasonable range of uncertainty.
8. Assess the revised scenarios in terms of how the key stakeholders would behave in them. Where appropriate, identify topics for further study that would provide stronger support for your scenarios, or might lead to revisions of these so-called learning scenarios.
9. After completing additional research, re-examine the internal consistencies of the learning scenarios, and see if certain interactions can be formalized in the form of a quantitative model. If so, use this model to run some Monte Carlo simulations after obtaining subjective uncertainty ranges (or entire distributions) for key independent variables.
10. Finally, re-assess the ranges of uncertainty of the dependent (i.e., target) variables of interest, and retrace Steps 1 through 9 to arrive at decision scenarios that might be given to others to enhance their decision-making under uncertainty.

Adapted from Schoemaker (1995)

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Schendel, Dan (Born 1934)

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Abstract

After receiving his Ph.D. from Stanford University, Dan Schendel joined the faculty at Purdue University, where he helped found one of the earliest Ph.D. programs in strategic management. As a leader in the field, he founded the Strategic Management Society and the ► [Strategic Management Journal](#), which became the pre-eminent scholarly journal in the field under his editorial leadership. Dan was a productive scholar and later in his career helped to successfully found and co-edit the *Strategic Entrepreneurship Journal*. Overall, Professor Schendel shaped the paradigm for and the research in the field of strategic management.

Dan Schendel spent his early years in Wisconsin and received his B.Sc. degree in Metallurgical Engineering from the University of Wisconsin. Later, he received an MBA from Ohio State University. Finally, he received his Ph.D. in Marketing from Stanford University. In the years between

earning his several degrees, he worked for the Aluminum Company of America, the US Civil Service, the US Air Force and the Stanford Research Institute. He joined the faculty at Purdue University in 1965 with an initial appointment as a member of the marketing faculty. However, he was asked to teach in the business policy area shortly thereafter, a challenge he accepted. He renamed the course ‘strategic management’ in 1969, which was an early indication of what the field would come to be known as under Dan’s leadership.

Throughout his career, Dan provided leadership to the field and served as an institution builder. For example, he served as an early chair of the Business Policy and Planning Division of the Academy of Management. He also co-developed and co-chaired, with Charles Hofer, what became known as the ‘Pittsburgh Conference’, held in May 1977. This conference was held at the University of Pittsburgh and was attended by approximately 75 people in the field. It was titled ‘Business Policy and Planning Research: State of the Art’. The goal for the conference was to develop a new paradigm for the field. Schendel and Hofer used Thomas Kuhn’s concept of a paradigm and his work on the philosophy of science as a guide. In fact, it was at this event that ‘strategic management’ as a name for the field first began to take hold. This conference is considered pivotal in the development of the strategic management field. The book *Strategic Management: A New View of Business Policy and Planning* edited by Schendel and Hofer was published in 1979 and included several papers presented at the conference.

Dan could be referred to as an academic entrepreneur because he founded the Strategic Management Society (SMS) and, perhaps even more importantly, founded and edited the ► [Strategic Management Journal \(SMJ\)](#). The *SMJ* developed over time to become the pre-eminent scholarly journal specializing in the field of strategic management. He served as the editor/editor-in-chief for a remarkable 27 years. Although it is difficult to precisely determine, several scholars estimate that the ► [Strategic Management Journal](#) became accepted in the field as a ‘Class A scholarly journal’ after about 10 years of publication.

Dan was the Founding President of the Strategic Management Society and later served as its executive director for many years, a position that he relinquished to a new permanent full-time executive director hired to lead the Society forward. The Strategic Management Society is the primary professional association for specialists in the field of strategic management. These specialists include academics and practitioners (e.g., consultants and executives). When it was founded, it was established as an international association; today, approximately 50% of its membership comes from outside the US. Following his term as Executive Director, Dan served as treasurer for the SMS and a board member for several years until he undertook the role of Chairman of the Board of the Strategy Research Foundation (established as an independent nonprofit corporation by the Strategic Management Society).

Along with Arnold Cooper, Dan helped develop one of the earliest Ph.D. programmes in strategic management at Purdue University. Leading and working in this programme, Dan mentored a number of top Ph.D. students, who themselves have contributed significantly to the field through their scholarship and service (e.g., Karel Cool, Jeffrey Reuer). Indeed, a number of students graduating from Purdue's Ph.D. programme have distinguished themselves in the field. Dan Schendel was also a major believer in the need to enhance and enrich the research conducted in the field of business policy and planning (strategic management). In particular, he wanted to see a stronger emphasis on the application of quantitative tools and theory testing. Therefore, development of the content knowledge skills to do this was emphasized in Purdue's new Ph.D. programme. As a result, many of Dan's Ph.D. students developed dissertations and worked on other research projects that served as a forerunner to this style of research as the norm in the field.

Dan has authored several scholarly articles in such journals as *Management Science* and the *Strategic Management Journal* and authored and co-edited four books. Perhaps the most prominent among these is the 1994 volume that he co-edited

with Richard Rumelt and David Teece, *Fundamental Issues in Strategy: A Research Agenda*.

Dan is a Fellow in the Academy of Management and also of the Strategic Management Society. In addition, he was Founding Dean of the Strategic Management Society Fellows. And importantly, he was a catalyst for the development of the Strategy Research Foundation that he now leads as chairman of the board. Dan and his wife, Mary Lou, were honoured in 2007 with the naming of the annual award for the best paper published in *SMJ* as 'The Dan and Mary Lou Schendel Best Paper Award'. Mary Lou helped Dan with the Society and the *SMJ* for a number of years. In fact, she served as the Executive Editor of the *SMJ*, managing the significant flow of manuscript submissions for much of the time that Dan served as Editor/Editor-in-Chief of the journal.

After Dan 'retired' from the position as Editor of the *SMJ*, he undertook the challenge of founding and co-editing another new journal, the *Strategic Entrepreneurship Journal (SEJ)*. He served with Michael Hitt as a founding co-editor for a period of 5 years and four published volumes of the journal. The goal was to establish another highly respected scholarly journal in the same vein as the *SMJ*. The *SEJ* achieved ISI recognition at the earliest time allowed by the ISI Web of Science, and the inclusion in the ISI was made retroactive to include all published articles, beginning with the first issue. Thus, Dan successfully founded two scholarly journals during his academic career.

Dan also provided leadership for his home institution, Purdue University. In addition to his work in founding and leading the Ph.D. programme in strategic management and developing a prominent group of faculty in strategic management at the university, he also headed that area for several years. In addition, he served as the Dean of the German International Graduate School of Management and Administration, representing Purdue University and its role in founding and leading this institution. When he retired from the University in 2010, Dan held the Blake Family Chair in Strategic Management. As a visionary, an academic entrepreneur and an active leader in the

field, Professor Schendel shaped the paradigm for and the research in the field of strategic management. As such, many consider him as the ‘father’ of the strategic management field.

See Also

- ▶ [Business Policy and Strategy](#)
- ▶ [Strategic Management Journal](#)
- ▶ [Strategic Management of Knowledge](#)

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Schumpeter, Joseph (1883–1950)

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Abstract

The work of Joseph Schumpeter (1883–1950) is centred around the individual entrepreneur and the entrepreneur’s capacity to envision a new combination of already existing economic elements. But there also exist elements in Schumpeter’s conceptualizations that give a substantial role to the firm and that are relevant to the literature on strategic management. One of these is Schumpeter’s stress on the importance of the entire process of carrying out an ▶ [innovation](#) – from conceptualization to

profit. This approach implies a special as well as a novel perspective on both firm behaviour and organization.

It is legitimate to ask if an entry on Joseph Schumpeter (1883–1950) is justified in an encyclopedia of strategic management. If strategic management is to be understood in its narrow sense, say as an area of business economics that is mainly interested in developing concrete strategies for existing firms, the answer to this question is ‘no’: Schumpeter himself once said, ‘I am not running a drug store. I have no pills to hand out; no clear-cut solutions for any practical problems that may arise’ ([Schumpeter 1941](#): 1). If, on the other hand, you view strategic management as an open and dynamic field, one ready to incorporate and confront new ideas, then Schumpeter’s work has much to offer.

But even if this is true, doesn’t Schumpeter deal only with the individual entrepreneur and not with the firm, which after all is the focus of strategic management? On the whole this observation is correct; the individual entrepreneur was Schumpeter’s hero, and in so far as Schumpeter was concerned, he was also the motor of change in capitalism. But as I will try to show, there is more to Schumpeter’s work; and it is his theory of entrepreneurship in general – not just what he says about the individual entrepreneur – that is of interest to strategic management.

Schumpeter, the son of a textile mill owner, was born in a small town in the Austro-Hungarian Empire in 1883. Having studied economics at the University of Vienna, and before moving to the United States in 1932 to teach at Harvard, he tried his hand at both banking and politics, but with little success. In the first case he went bankrupt and subsequently he was fired as a finance minister after a few months in office. Schumpeter was considerably more successful as an economist, teaching at Harvard University from 1932 until his death in 1950 (for Schumpeter’s life, see [Allen 1994](#); [Swedberg 1991](#); [McCraw 2007](#)).

Although he was the author of a large number of articles, his work is mainly associated with his books. During his time in Europe, Schumpeter

wrote three books: *The Nature and Essence of Theoretical Economics* (1908), *The Theory of Economic Development* (1911) and *Economic Doctrine and Method* (1914). During his years in the United States he wrote three additional volumes: *Business Cycles* (1939), *Capitalism, Socialism and Democracy* (1942) and *History of Economic Analysis* (which was published posthumously, in 1954).

In terms of his theory of entrepreneurship, Schumpeter's most important contribution is *The Theory of Economic Development*. This was written in German and received relatively little attention when it was published in 1911. A second and severely revised edition appeared in Germany in 1928 and was translated into English under Schumpeter's supervision in 1934 (Schumpeter 1911, 1928, 1934). The version of Schumpeter's theory of entrepreneurship that is known today is that presented in his 1934 book. Compared with the original theory, it is both more restricted in scope and also less dynamic (Schumpeter [1911] 2002, [1911] 2003). It is more restricted in scope because it is applied only to the economy rather than to social life in general. And it is less dynamic since entrepreneurship is seen as being compatible with equilibrium analysis, an argument that was not advanced in the 1911 version.

Schumpeter's famous definition of entrepreneurship can be found in *The Theory of Economic Development*: 'entrepreneurship is a new combination of already existing elements in the economy' (Schumpeter 1934: 66, 137). Or, in an alternative formulation that draws attention to the fact that an entrepreneur also has to make a profit: 'entrepreneurship is the successful carrying out of a new combination' (Schumpeter 1934: 42, 158).

The entrepreneur is the person who carries out the new combination of already existing elements. Such a new combination is also termed an ► **innovation**; and an innovation differs from an invention in that it is available. According to Schumpeter, there are five major types of innovation: (1) a new source of raw material, (2) a new method of production, (3) a new product, (4) a new market, and (5) a new organization (Schumpeter 1934: 66, 133–135).

The entrepreneur is not driven by a desire for money or to maximize profit, but by one of the following motives: the joy of creating, the will to conquer and the dream of founding an empire (Schumpeter 1934: 93). He also needs capital, which he gets from a banker. The entrepreneur employs his capital to pay for the raw material and the means of production; he also pays his collaborators and workers to carry out his instructions. In order to act innovatively, the entrepreneur has to overcome two types of resistance: that within himself and that from his social environment.

A successful venture brings profit to the entrepreneur. Through its size it attracts other businessmen who imitate the successful innovation. As these new actors enter the game, the level of profit falls, leading eventually to speculation and overinvestment. Since entrepreneurs, according to Schumpeter, come in swarms, the introduction of new innovations leads to a significant rise in economic activity and then leads inevitably to a downturn. In this way Schumpeter links his theory of entrepreneurship to the business cycle. His giant work *Business Cycles* (two volumes, 1939) traces the fluctuations of economic development from the late 1700s to the mid-1900s in Germany, England and the United States.

As can be seen from this summary of Schumpeter's theory of entrepreneurship, the organization or the firm plays a much smaller role than the entrepreneur. It is, in fact, mentioned in only two contexts, and then indirectly. First, the reader of *The Theory of Economic Development* is told that the entrepreneur uses some of his capital to pay off his collaborators and workers. Only in this way, Schumpeter explains, can he get them to do something novel and entrepreneurial; otherwise their resistance would be too difficult to overcome. And second, one of the five major types of innovations is a new organization. What Schumpeter is referring to, however, is not a new type of firm but a new organization of an industry such as the cartel.

Before leaving these two examples, it should be emphasized that Schumpeter's thinking on these issues was deeply anchored in his time. While it may not be difficult for an entrepreneur today to find companions and to hire personnel

who are positive to change and innovation, this was not the case in pre-First World War Austria and interwar Germany. Furthermore, cartels and similar attempts to organize an industry were legal in Europe in Schumpeter's day. Finally, we can also amend Schumpeter on these two points, without changing anything of the essential aspects of his theory.

The discussion to date of Schumpeter's theory of entrepreneurship has focused on the most familiar aspects of his work. As such it is fine since it summarizes the essentials of Schumpeter's theory. If we want to explore Schumpeter's importance for strategic management, however, it will be necessary to consider some other aspects of his theory of entrepreneurship.

To do this we return to *The Theory of Economic Development*. According to Schumpeter, entrepreneurship is best understood by contrasting two ideal types of economy: in a static stage and in a dynamic stage. The first of these is discussed in Chap. 1, 'The Circular Flow of Economic Life' (Schumpeter 1934: 3–56). The static model of the economy is most importantly characterized by the fact that nothing new ever happens. The same goods are produced, year in and year out, using essentially the same methods. Demand and supply are in equilibrium and whatever capital is required is available in the system.

Changes in this type of economy come from outside and are met by measures that are well known and understood. There are two types of labour: so-called directing labour and so-called directed labour. Each of these has the capacity to deal with and solve the minor types of problem that arise on an everyday basis in the circular flow of the economy. They do so by drawing on experience and rational thought; what is known is carefully thought through and acted upon.

Having outlined the ideal type of the static type of economy, in Chap. 2 of *The Theory of Economic Development*, 'The Fundamental Phenomenon of Economic Development', Schumpeter posits another type: the dynamic economy (Schumpeter 1934: 57–94). In his vocabulary 'development' has the same meaning as 'entrepreneurship'. In this type of economy you will also find both directing labour and directed labour.

However, in contrast to the situation in an economy that operates as a circular flow, directing labour in an entrepreneurial economy consists of new and non-habitual types of behaviour. The entrepreneur draws on intuition rather than rational thought in figuring out a new combination and pushing it through. The reason why rational thought does not work is that the situation the entrepreneur is confronted by is totally novel (or 'uncertain', in Frank Knight's terminology).

While the directing of labour in the circular flow type of economy is carried out by *managers*, in the stage of development it is carried out by *entrepreneurs*. In the former case economic change comes from the outside, and is handled in a routine manner; in the latter instance it from the inside and is handled in a novel manner. Managers are paid steady wages, while entrepreneurs are rewarded with entrepreneurial profits. If directing labour is devoted to the carrying out of an innovation, then it is classed as entrepreneurial; when it is not, it is managerial. A manager can become an entrepreneur and vice versa. You may inherit a firm or a fortune, but you can be an entrepreneur only through your own actions. You can inherit the prey of the lion, but not his claws (Schumpeter [1911] 2003: 101).

In the average population, Schumpeter explains, about one-quarter of the people show no economic initiative whatsoever (e.g., clerks); one half have developed a capacity to survive in the economy (practically all businessmen); and one-quarter show economic initiative ('the Carousos'). Some of the people in this last category do something truly novel, while the rest imitate these to differing degrees (Schumpeter 1934: 81–82).

It is clear from this analysis that there are considerable differences between the notion of management that one can find in the work of Schumpeter, on the one hand, and that which can be found in the strategic management literature, on the other. To Schumpeter, management and entrepreneurship are mutually exclusive; there are 'mere managers' and 'entrepreneurs' (Schumpeter 1934: 83). In the strategic management literature, in contrast, these two categories overlap, even if they are not necessarily identical.

Despite this difference, however, one may argue that giving some attention to Schumpeter's ideas may be useful for students of strategic management, since they do raise a number of questions about the nature of good management and to what extent management should also include entrepreneurship. Today it may be especially helpful to consider Schumpeter's ideas, given that good management and entrepreneurship seem to be moving closer and closer together. William Baumol, for example, has argued that competition in modern capitalism essentially means competing by means of innovation and not by lowering prices or improving the quality of already existing goods (Baumol 2002).

It is also possible to argue that while Schumpeter himself was no doubt an individualist and viewed the entrepreneur as a character from an Ayn Rand novel, his theory does not stand and fall with this individualism. The notion of putting together a new combination – what Schumpeter also calls the entrepreneurial function – may equally well be carried out by a team, some group or even the state as by a single individual.

As readers of *Capitalism, Socialism and Democracy* know, Schumpeter sometimes also tried to theorize the role of the firm in the entrepreneurial process. When he did so, he considered that the role of the firm was seen as something negative. During the twentieth century, he argued, huge firms have emerged and these have established substantial research and development (R&D) departments. This type of department has been created in order to facilitate the process of innovation; and they have been successful in this aim. While this may sound like a positive development, Schumpeter viewed things very differently.

By facilitating innovations, the huge firms have in reality helped to undermine entrepreneurship, he argued, especially through their elimination of strong, innovative personalities. Schumpeter made the gloomy prediction that this process feeds straight into a number of other negative features of twentieth-century capitalism that will eventually lead to the introduction of socialism.

As we know today, he was wrong on this point. We also know that the huge firms have not continued to grow in importance, as Schumpeter feared. He underestimated the role of small and medium-sized firms, just as he overestimated the role of the huge firm. Schumpeter was not alone in this, as exemplified by a long line of people, including Marx, Weber and Chandler. Contemporary capitalism has small as well as medium-sized and huge firms; and each type fills important functions.

Just as there are some elements of interest to students of strategic management in Schumpeter's general theory of entrepreneurship, if we try to go beyond the standard interpretation of his ideas, this is also the case in respect of Schumpeter's view of the capitalist firm. While most of Schumpeter's attention was directed at the huge firm and the dangers that it posed, he sometimes also focused on the firm in general. As the twentieth century proceeded, it would also appear that Schumpeter increasingly came to realize that he had overemphasized the importance of the individual entrepreneur and needed to redress the picture. For example, in the late 1930s he begins to speak more of innovations rather than of the entrepreneur, as exemplified by *Business Cycles*. He also begins to pay more attention to the firm.

There is one particular place in his work where Schumpeter tried to bring together his theory of entrepreneurship and his theory of the firm in a truly organic manner. This is in an article called 'Entrepreneur', written in 1928 for a handbook in political economy and political science (and recently translated into English – see Schumpeter [1928] 2003). This was the very year in which the second edition of *The Theory of Economic Development* was published, and from this latter work it is clear that Schumpeter did not yet feel ready to introduce his ideas about the firm and entrepreneurship into his basic theory of entrepreneurship.

Nonetheless, the attempt in the 1928 article is quite suggestive and deserves more attention than it has received so far. Schumpeter's argument is complex and it is necessary for the reader to use some patience. The key idea is contained in the following two passages:

We further want to point to a second meaning of the term ‘enterprise’ in science, which from a linguistic point of view is the original one: ‘Enterprise’ does not just refer to the unit of production, the shop, the firm itself. It also refers to *the process* by which this unit, the shop, the firm, emerges, the activity of certain economic subjects that *create* it. As we will see, only in that sense the entrepreneur is the subject of the enterprise. (Schumpeter [1928] 2003: 245)

The entrepreneur is the carrier of the exchange acts through which, in the case of an economy organized as a market economy, the economic process is realizing itself. (Schumpeter [1928] 2003: 247)

It should be restated that these two passages are not easily interpreted. Nonetheless, according to my reading Schumpeter’s argument can be summarized as follows. Economic production can be conceptualized as a process; and an innovation means that the economic process has been changed in one of its basic elements. An innovation, in short, consists not so much in, say, the invention of a new good or the use of some new machinery of production, but rather *in the whole economic process*. This includes locating the necessary raw material, transforming it into a good, with the help of some machinery, and, finally, putting the good on the market and selling it successfully.

The conventional firm, Schumpeter suggests, goes through this whole process by relying on existing ways of doing things. The entrepreneurial firm, in contrast, innovates in one of its elements – (1) by locating a new source for raw material, (2) by using some new piece of machinery, (3) by producing a new good, (4) by locating a new market or (5) by organizing some industry in a novel manner. As the reader may notice, these are the five main types of innovations to which earlier reference was made.

The point that Schumpeter wants to make, I would argue, is that economic actors should not be overly concerned with following existing recipes for the structure of an organization; to do so would mean to create a traditional firm of the type that will do well only in the circular flow of economic life. What is essential for the entrepreneur is instead to carry out the full economic process – from the conception of a good to its production, marketing and successful sale – and

somewhere in this process to do something novel and thereby create the potential for entrepreneurial profit. The point is not to try to select some optimal form of organization, but rather to run the race from beginning to end and to win it, against all other competitors, by doing something novel.

There can be considerable discussion of whether or not this interpretation of Schumpeter’s argument as elucidated in his 1928 article is correct and reliable. One can, however, have good grounds for arguing that Schumpeter’s theory of entrepreneurship should be part of the discipline of strategic management. It can also be argued that, in the case of fertile social scientists such as Schumpeter, some freedom should be allowed in interpreting their works and in developing some of their less developed ideas into full arguments.

See Also

- ▶ [Innovation](#)
- ▶ [Leadership](#)

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Schumpeterian Rents

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Abstract

Traditionally it is the scarcity of fertile land that determines the amount of rent in existence, that is, the surplus earning above the costs necessary to till a piece of land. The notion of rent also applies to any factor that is in fixed or quasi-fixed supply. In the perfect competition approach, it refers to ‘inefficiencies’ that are not competed away in equilibrium. By contrast, Schumpeter sees rents (which he calls profits) as the result of the entrepreneur creating new combinations and new modes of organization. The entrepreneur earns profits during the period of transition, while the economy shifts from the old equilibrium to the new one, that is, during the creative-destruction process. These profits are the difference between *ex ante* resource costs in the old equilibrium and *ex post* revenue in the new one, and they disappear once the market settles in the new equilibrium. In mainstream

economics and in strategic management, these transient entrepreneurial profits are known as Schumpeterian rents.

Definition Schumpeterian rents are transient surplus earnings above the costs necessary to deploy and use a resource. They emerge in the process of creative destruction in markets and result from the new combinations of resources (including new modes of organization) that entrepreneurs initiate.

Ricardian and Other Rents

In his treatise *On the Principles of Political Economy and Taxation* (1821), David Ricardo was concerned, among other things, with explaining the earnings that accrue to different groups in society and with understanding the impact of land appropriation on commodity prices, independently of the influence of labour and capital. To that effect, Ricardo developed the notion of rent, which he presented as ‘that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil’ (Ricardo 1821: 33). In this approach, it is the scarcity of fertile land that determines the amount of rent paid to the landlord. The more fertile the land, the more rent it will earn relative to marginal land, that is, rent-free land, given the same inputs of labour and capital. A ► [Ricardian rent](#) is a surplus earning above the costs necessary to till a scarce and fertile piece of land.

The notion of rent was extended to describe other phenomena. Alfred Marshall (1896), for instance, recognized that rents exist in the case of any factor that is in fixed or quasi-fixed supply, and not just land. In the neoclassical and modern context, the notion of rent has come to refer to inefficiencies, and is seen as some sort of ‘above normal earning’ that are not competed away due to the particularities of certain factors, such as heterogeneity. Thus rents are a difference between a resource’s payment in its best possible use and the payment it would receive in its ‘normal’ use. In all these views, rents are a static phenomenon and exist in equilibrium.

New Resource Combinations and Schumpeterian Rents

By contrast, some rents can be defined as a transient phenomenon that arises only in disequilibrium situations in which resources can be mispriced. In disequilibrium, entrepreneurial or Schumpeterian rents are ‘the difference between a venture’s *ex post* value (or payment stream) and the *ex ante* cost (or value) of the resources combined to form the venture’ (Rumelt 1987: 143). In other words, Schumpeterian rents emerge as the addition of value that results from new combination of resources (including new modes of organization) that an entrepreneur may have undertaken. They are transient in the sense that they do not persist in equilibrium (or in the circular flow, as Joseph Schumpeter explained) where they are competed away. In that sense, they must be distinguished from other rents that remain in equilibrium because they are either the result of heterogeneous resource use or because they proceed from legal protection (such as monopoly rents).

Note that Schumpeter was careful to distinguish in *The Theory of Economic Development* (1982) the notion of entrepreneurial profit from that of rent, which he associated with David Ricardo and other classical economists. As the notion of rent became integrated into the neoclassical model of the market (and that notion of entrepreneurial profit disappeared), the term ‘Schumpeterian rent’ became used. In Schumpeter’s work, profit emerges in the market because of entrepreneurial activity, which is the driving force of a process of creative destruction. The entrepreneur creates new value by establishing new combinations of capital goods and new modes of organization in order to produce new products that will come to replace older ones. Innovators earn ► [entrepreneurial rents](#) during that period of transition, while the economy shifts from the old equilibrium to the new one. These rents are the difference between *ex ante* resource costs in the old equilibrium and *ex post* revenue in the new one. Once the market settles in the new equilibrium these rents disappear. They are purely transient and result from the bold vision of the entrepreneur.

Schumpeterian Rents and Kirznerian Entrepreneurial Profits

Other authors, particularly in the Austrian tradition, have used a similar concept. Pure entrepreneurial profit – that is, as the difference between product prices and input costs (including the opportunity cost of capital) – plays a fundamental role in Israel Kirzner’s work (1973). While entrepreneurial profit and Schumpeterian rent are similar concepts, they result from different processes. In the Kirznerian market process, the entrepreneur tends to bring market variables (prices and quantities) more in line with their true underlying values. Entrepreneurs recognize or discover hitherto unknown opportunities in the world around them. These opportunities present themselves in the form of price discrepancies between a product’s selling price (i.e., revenue) and the sum of all relevant resource prices (i.e., costs). They are price discrepancies between the current values in the market and what the future state of the market may reflect. When identifying opportunities, the Kirznerian entrepreneur brings resource allocation more in line with what consumers really desire. The presence of pure profit reflects the difference between a low-valued deployment of those resources, and the more valuable use to which the entrepreneur has diverted these resources. Pure profit reflects the existence of a value gap between what is currently supplied in the market and what the entrepreneur discovered. All else being equal, the Kirznerian entrepreneur brings market variables closer to some long-run equilibrium (which is defined in the process of its discovery), whereas the Schumpeterian entrepreneur destroys past routines to create new ones.

Strategic Rents and Competitive Advantage

The concept of Schumpeterian rent is often used in modern economic theory, especially in the resource-based theory of the firm. Edith Penrose’s *The Theory of the Growth of the*

Firm (1995) opened the door to a dynamic approach to the growth of the firm in which the goal is to explain change. In this context, strategic rents in general, and Schumpeterian rents in particular, are pivotal concepts to explain the evolution of firms. Indeed, in a situation of disequilibrium, resources can be mispriced and strategic opportunities may exist. Schumpeterian rents arise particularly from entrepreneurial innovation within the firm in terms of new combinations of inputs, new modes of organization, new sources of supply or new technology. Through the discovery and capture of Schumpeterian and other strategic rents, firms establish the capabilities (i.e., complementary inputs) necessary to sustain competitive advantage. The importance of Schumpeterian rents is reflected in the fact that the entire field of business strategy is based on ‘the ethical pursuit of returns in excess of the “ordinary” rate of profit’ (Trailer 2003), that is, the pursuit of profits and rents.

See Also

- ▶ [Austrian Economics](#)
- ▶ [Economic Rent](#)
- ▶ [Entrepreneurial Rents](#)
- ▶ [Managerial Rents](#)
- ▶ [Opportunity Recognition](#)
- ▶ [Profit](#)
- ▶ [Quasi-Rent](#)
- ▶ [Ricardian Rents](#)

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Science and Innovation

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Abstract

In the first half of the twentieth century, the relationship between science and [innovation](#) was largely understood in terms of a linear model: innovation starts with basic research and then moves to applied research and development, followed by production and diffusion. This model has been criticized as oversimplified and misleading, as scholars have observed different ways and factors that lead to innovation. Later models such as non-linear models consider innovation as a more evolutionary, non-linear, and interactive process between the firm and its environment.

Definition Science and innovation here refers to the interconnections and interface between science and innovation. Issues relating to mechanisms by which science assist innovation and innovation assists science are discussed.

A considerable body of literature is devoted to examining the interface between science and [innovation](#) and to factors affecting this link. Scholars have shown that there are different types of influence and channels through which basic science can contribute to innovation. The manner is different in different technological

sectors (Pavitt 1998). In some sectors, innovation is science-based (e.g., biotech). In other sectors, science indirectly leads to innovation through the dissemination of knowledge and the training of engineers, especially in scale-intensive and specialized suppliers sectors (Pavitt 1984).

Research in the 1960s generally found a weak relationship between science and technology (e.g., Price 1965). Later studies show stronger and more direct relationships between the two based on case studies and surveys. Studies also show that the impact of science on innovation differs widely across firms and industries (e.g., Rosenberg and Nelson 1994; Mansfield 1995; Cohen et al. 1998).

Some scholars have conducted empirical research and measured the impact of academic research on innovation. Gibbons and Johnston (1974) analysed 30 innovations and found that the contribution of scientific information to the innovations was significant: 20% of all information (or 36% of externally obtained information) utilized in the innovation processes was scientific in character, and drawn from scientific journals. However, Gibbons and Johnston also noted that the interactions between basic or applied and in-house or external research are complex. Thus, the contributions of science to innovation need to incorporate other benefits (such as knowledge (or technology) transfer from scientists to firms) beyond exploitable scientific discoveries. Jaffe (1989) quantified knowledge spillovers from academic research by measuring university patents and citations to patents. Mansfield (1991) estimates that 2.1% of sales for new products and 1.6% for new processes would have been lost without substantial aid from academic research.

Linear Model

In the 1950s and 1960s, the so-called ‘technology-push’ model of innovation continued to hold sway (e.g., Carter and Williams 1957). In this model, the relationship between science and innovation is understood in a linear model: innovation starts with basic research and then moves to applied research and development, followed by production and diffusion. The publication of Vannevar

Bush’s *Science: The Endless Frontier* (1945) gave impetus to this, as did the Manhattan Project and other applications of science to national goals during the Second World War.

New empirical results, based on studies of actual innovations (e.g., Myers and Marquis 1969), placed more importance on the role of the marketplace in innovation, and the linear ‘market-pull’ (often also referred to as ‘need-pull’ or ‘customer need’) model of innovation began to emerge. Market demand is an important factor in innovation – perhaps more so than recognition of technical potential (Myers and Marquis 1969: 60).

In the 1970s, the linear pure-technology push and need-pull theories of innovation were criticized as oversimplified, ignoring the need for feedback and mid-course corrections (e.g., Teece 1989), and unrealistic because the sources of innovation are multiple (Langrish et al. 1972).

The rejection of the simple linear model and its replacement by more complicated models is partly derived from the fact that the model assumes limited interactions between science and technical research in innovation processes. Furthermore, it assumes that there is no feedback or overlap between and among different stages of the innovation process. Nor does the linear model incorporate learning processes in the process of innovation (Kline and Rosenberg 1986). It is also important to note that common types of innovation are incremental by nature because of firm-specific accumulated technological knowledge (Pavitt 1984).

In short, innovation occurs not only from accumulated knowledge about a firm’s existing technology but also from undertaking research and science.

Relatedly, another problem for the linear model stems from the observation that science is not essential to initiating technical innovations; rather, design and redesigns are essential to initiating innovations and achieving ultimate success (Kline and Rosenberg 1986). Innovation often requires the use of methodologies and test procedures that are different from scientific activities (Kline and Rosenberg 1986). The first line of reference for innovation processes is not research but the totality of accumulated human knowledge (Kline 1985: 41).

In other words, the fact that there are many ways to conceptualize the innovation process renders the linear model oversimplified and misleading. Freeman (1974) defines innovation as a process that includes the technical, design, manufacturing management, and commercial activities involved in the marketing of a new (or improved) product or the first use of a new (or improved) manufacturing process or piece of equipment. There are also differences in innovation processes by sector (Pavitt 1984).

Non-linear Model

Conceptions of innovation that are more realistic than the linear model have been introduced. Innovation is often conceptualized as a more evolutionary, non-linear and interactive process between the firm and its environment (e.g., Nelson and Winter 1977; Kline and Rosenberg 1986; Dosi 1988).

Non-linear models recognize that there is a strong two-way flow between science and technology (Rosenberg 1982). Feedback and the demands of innovation itself can lead to scientific progress, just as innovation draws on science.

Teece (1989) observes that the serial or assembly line model of product development (with feedback and overlaps with stages of the innovation process) was once a reasonable approximation of the innovation process in many large US firms. Examples include the 7 × 7 series of Boeing aircraft, the Mercury and Apollo programmes, the IBM 360, and the Xerox 9000 family of high-speed copiers (Teece 1989: 35). However, the serial model has a macro-project orientation and underemphasized the importance of process models that do not require marketing and new tooling (Teece 1989).

A serial model incorporating more links and feedback, or the ‘chain-linked’ model, was first proposed by Kline and Rosenberg (1986). Their characterization includes some aspects of a linear model, such as a flow of activity through design to development production and marketing, but also incorporates constant feedback between and

among ‘stages’. Moreover, ‘the linkage from science to innovation is not solely or even preponderantly at the beginning of typical innovations, but rather extends all through the process ... Science can be visualized as lying alongside development processes, to be used when needed’ (Kline and Rosenberg 1986: 290–291).

Although the chain-linked model is more realistic than the linear model, Teece (1989) argues that the ‘parallel (simultaneous) model’ of the innovation process also needs to be recognized to reflect reality. In products such as computers and smartphones, the need for developing new products quickly is high, and thus various downstream activities are implemented simultaneously while product features and specifications are still being developed.

Some studies focused on additional factors. For example, Nelson (1988) highlights the role of universities, such as the provision of engineers and knowledge spillovers to industry. Users can also serve as a significant source of innovation in some sectors (von Hippel 1988). Von Hippel (1977) found that user-dominated innovations provided more than two-thirds of innovations in scientific instruments and in process machinery used in semiconductor and electronic subassembly manufacture. The integrated model introduced by Rothwell (1992) extended the chain-linked model to incorporate strong upstream linkages with suppliers and horizontal collaborations and put a heavier emphasis on close collaboration with customers. Von Hippel (1988) observed horizontal collaboration in the innovation process (e.g., informal knowledge sharing between engineers from different companies). Likewise, open innovation models (Chesbrough 2003) also recognize that the innovation process may receive important contributions from external sources (e.g., firms, universities, crowds), so much so that both the linear and chain-linked models are challenged in many industries.

See Also

- ▶ [Innovation](#)
- ▶ [Innovation Policy](#)

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Science Policy

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Abstract

Science policy, along with related concepts such as technology policy and ► [innovation policy](#), is increasingly important as we move towards a more knowledge-intensive economy. It is concerned with decisions by government, and by other organizations investing in research, on the allocation of resources to different research areas in order to maximize economic, social, environmental and cultural benefits. Government science policy also includes efforts to create an environment that will influence the research behaviour of firms and other actors in the national system of ► [innovation](#) in such a way that this leads to desired outcomes.

Definition Science policy is a deliberate course of action on the part of government or other organizations to achieve certain stated aims through specific means with regard to science and other areas of research. It typically involves decisions on the allocation of resources to research, on mechanisms for conducting that research and on the intended economic and social consequences.

Science policy is a rather imprecise term, often used interchangeably with others such as research policy. Its meaning has also changed over time. ‘Policy’ denotes a deliberate intention on the part of government (or some other body) to achieve certain stated objectives through specific means. ‘Science’ is interpreted differently across countries. In the English-speaking world, science is often distinguished from ‘arts and humanities’ and sometimes from ‘social sciences’, while in other languages the equivalent term (e.g., *Wissenschaft*) embraces all organized knowledge. As social sciences and humanities have become increasingly important in the knowledge economy, science policy is now normally interpreted to include all these disciplines.

In the 1960s, when the term ‘science policy’ first began to be used widely, it was assumed to mean initiatives mainly by national governments. Over time, this has broadened to include other levels or forms of governance, such as regional governments, international bodies such as the European Union (now a significant source of research funds) and non-government organizations. It is sometimes used to describe initiatives by firms with large research investments, although other terms such as ‘technology strategy’ are probably preferable here.

During the 1960s, the rationale for science policy was generally related to the ‘linear model’ of ► [innovation](#) (Brooks 1996), in which science (or ► [basic research](#)) was seen as the first link in a chain that led on to applied research, technological development and (sometimes) innovation. Governments had a science policy to deal with the financial and human inputs to this chain, and a separate industrial policy which, amongst other things, encouraged firms in the exploitation of technology and innovation. However, the linear model has since given way to an interactive model of innovation, in which science is just one of several inputs to innovation. Hence, today one is more likely to see references to ‘science, technology and ► [innovation policy](#)’, which covers not only the ‘producers’ of science (e.g., universities, research institutes) but also the ‘users’ of research in industry and elsewhere.

The origins of science policy are often traced back to Francis Bacon (Freeman and Soete 1997). In his 1627 book *The New Atlantis*, Bacon was one of the first to suggest a link between science and economic progress, arguing that organized and effectively applied science could ‘improve the condition of mankind’ (Martin and Nightingale 2000: xxvi). Another early advocate of science policy was Nicolas de Condorcet, who in the eighteenth century argued that expanding scientific knowledge would create more freedom, wealth and moral compassion. However, it was not until the latter part of the nineteenth century, as ► [research and development](#) activities grew in scale and became more professionalized, that governments started to engage significantly in science policy (Freeman 1993). Prominent here were the rapidly industrializing United States, which set up agricultural experimental stations after the Hatch Act of 1887, and Germany, which launched various science policy initiatives, including the Imperial Institute of Physics and Technology created in 1887. The latter, in turn, stimulated the establishment of similar organizations such as the National Physical Laboratory in Britain and the National Bureau of Standards in the United States. By the 1920s, medical and agricultural research had also emerged as areas where government funding, and hence policy, was needed, and over the following decade military research grew in scale.

The 1930s further saw a key debate between Michael Polanyi, who argued that science should be autonomous (operating as a ‘Republic of Science’) and J. D. Bernal, who felt that science should be subject to planning in order to meet societal goals. Bernal’s 1939 book *The Social Function of Science* was particularly influential in arguing that increased investment in science would enhance economic growth and human welfare (Freeman 1993). However, it was the Second World War that clearly illustrated what could be achieved through intensive application of science (e.g., the atom bomb, radar, rocketry, cryptography, operational research and penicillin). The success of this de facto science policy meant that, after 1945, governments assumed similar policies might

bring benefits not only in waging the Cold War but in civilian areas such as nuclear energy, Central here was the 1945 report *Science: The Endless Frontier*, by Vannevar Bush, which described how:

Basic research leads to new knowledge. . . . New products and new processes do not appear full-grown. They are founded on new principles and new conceptions, which in turn are painstakingly developed by research in the purest realms of science. (Bush 1945: 16)

This is often interpreted as a description of the linear model of innovation described above, with basic research as ‘the pacemaker of technological progress’ (Bush 1945: 20).

Around 1960, economists ► [Nelson, Richard R. \(born 1930\)](#) and ► [Arrow, Kenneth \(born 1921\)](#) provided a rationale for government intervention in science. They argued that scientific knowledge is a public good that is ‘non-rival’ (i.e., others can use the knowledge without detracting from the knowledge of the producers) and ‘non-excludable’ (others cannot be prevented from using the knowledge). Because they are unable to appropriate all the benefits, private firms tend to under-invest in research. To achieve socially optimal level of investment in science, government therefore needs to correct this market failure by funding research.

During the 1960s, the Organisation for Economic Co-operation and Development (OECD) was focal in promoting science policy as a mechanism for pursuing economic growth. The OECD developed standardized definitions for (basic and applied) research and development, and began collecting R&D indicators that made international comparisons possible. It also undertook reviews of national science policies, and provided an international forum for exchanging ideas. By 1970, most OECD countries had established the basic instruments for implementing science policy, such as a Ministry of Science (often combined with Education) for funding university research; research councils for funding competitive project grants, fellowships and research institutes; government research laboratories; major research programmes in targeted areas; and mechanisms for supporting research in industry either directly

(e.g., procurement) or indirectly (e.g., through tax or intellectual property incentives). Some countries chose a centralized approach (e.g., France), others a decentralized model (e.g., the United States). (The picture painted here is of Western countries; for a description of Soviet science policy, see Cooper 2008.)

In the 1970s, the focus moved to ‘science and technology policy’, in recognition that science should be integrated with technological considerations. There was also a shift from the previous emphasis on economic and military benefits to include wider social and environmental consequences. The following decade, the focus altered again, with innovation policy becoming more central in response to declining economic growth and rising unemployment. Policies also reflected the fact that the linear model of innovation had now been replaced by an interactive model, in which stimulating the ► [demand for innovation](#) was as important as creating new knowledge by funding research (‘science push’).

The 1990s witnessed a more fundamental policy shift, following the introduction of the concept of ‘national systems of innovation’ by Chris Freeman and Bengt-Åke Lundvall. According to this concept, how well a country functions with regard to innovation depends not just on the strength of the individual actors in the innovation system (firms, universities etc.) but perhaps more on the strength of links between those actors. With this came the replacement of the market failure justification for government intervention with the system failure rationale. Consequently, the goal of science, technology and innovation (STI) policy shifted from providing support for individual actors and individual functions (e.g., ‘science’, ‘innovation’) to developing a more integrated STI policy emphasizing the interconnections between the various actors in the system of innovation, for instance by encouraging ► [academic entrepreneurship](#), university–industry links and collaborative research, forming networks and ► [research and development \(R&D\) alliances](#), and developing the ► [absorptive capacity](#) of firms. There was also a diffusion of STI policy from OECD countries to elsewhere, including

‘catch-up countries’ in Asia and Latin America and transition economies in Central and Eastern Europe. However, it was recognized that policies for smaller or less developed countries needed to be different (e.g., more selective and focused) than those of larger, richer countries that could aspire to leadership across the range of science.

Finally, in the first decade of the twenty-first century, science, technology and innovation came to be viewed as fundamental to the emerging knowledge economy, in which new technologies such as information and communication technology, biotechnology and nanotechnology were seen as crucial. (The above phases in the development of STI policy are fully described in Lundvall and Borrás 2005.) However, by the end of the decade, doubts were emerging as to whether such policies had perhaps been too heavily influenced by neoliberal, pro-market economists, and risked fettering science.

As science policy has increased in importance over the last 50 years, so the community of scholars devoted to its study has grown from a handful in the late 1950s to several thousand today. The pioneers included researchers from economics, sociology and management, and these were soon joined by others, including industrial psychologists, organization scientists, economic and business historians (e.g., Rosenberg, Nathan (born 1927) and Chandler, Jr, Alfred D. (1918–2007)), and later by economic geographers (see Martin 2012). Some of these work in university economics departments or ► [business schools](#), others in dedicated centres such as SPRU (originally the Science Policy Research Unit) at the University of Sussex and the National Institute of Science and Technology Policy (NISTEP) in Tokyo. The field now has its own Ph.D. programmes, journals (e.g., *Research Policy*) and conferences (e.g., the Triple Helix conferences). It has made a significant impact on established disciplines such as economics (with the development of evolutionary economics by Nelson and ► [Winter, Sidney](#) (born 1935)) and management (with such notions as absorptive capacity and ► [dynamic capabilities](#)), as well as

on policymakers (with the construction of science, technology and innovation indicators, policy tools such as research evaluation and technology foresight, and concepts such as the national system of innovation).

See Also

- [Absorptive Capacity](#)
- [Academic Entrepreneurship](#)
- [Arrow, Kenneth J. \(Born 1921\)](#)
- [Basic Research](#)
- [Business Schools](#)
- [Demand for Innovation](#)
- [Dynamic Capabilities](#)
- [Innovation](#)
- [Innovation Policy](#)
- [Nelson, Richard R. \(Born 1930\)](#)
- [Research and Development \(R&D\) Organization](#)
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Scope Economies

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Definition Two or more products exhibit scope economies when the combined cost of producing and/or selling given quantities of each is lower when their production or sale is organized jointly than when it is completely separate for each product.

Scope economies are said to exist when the cost of producing a given quantity of two or more different products is lower when they are produced within the same organization than when they are produced separately. The concept was named by Panzar and Willig in a working paper (1975), from which the relevant portion was published several years later (Panzar and Willig, 1981).

Their work purported to show that, under conditions of perfect competition, the presence of scope economies for production and organizational costs led to ► [multiproduct companies](#). The underlying concept is that of a shared input to production of the products, in the sense that some or all of the input remains available for production of other products after one product has been produced. A variant on the shared-input thesis is when one production process creates an unwanted by-product (e.g., heat), which then becomes available as an input to another process.

An example of a shared input to production (broadly defined) is a sales force that can sell two products more efficiently than could two separate sales organizations. Other examples of such inputs can be physical factors of production, such as a power generator with a capacity greater than required for the output of a single product, or intangibles, such as production know-how or corporate brand image.

As Teece (1980) pointed out, the presence of scope economies is not sufficient to determine the

existence of a multiproduct firm. Joint production could theoretically be organized in two separate firms that share the services of the shared input (s) or by-product under contract. Alternatively, it might be feasible to have the services of the shared input rented by a third-party supplier. Teece (1982) explores the existence of multiproduct firms in detail.

See Also

- [Diversification](#)
- [Economies of Scale](#)
- [Multiproduct Companies](#)

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Scope of the Enterprise

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Definition The scope of the enterprise is the range of activities undertaken within a firm rather than through contracts with separate firms. It most often refers to product lines rather than to the extent of the firm's vertical integration within a given product line.

The scope of an enterprise is the range of activities undertaken within the firm itself rather than being managed through contracts with separate firms. It most often refers to the range of a firm's product lines rather than to the extent of its vertical integration within a given product line. Scope is synonymous with the firm's horizontal and lateral boundaries.

The economic rationale for an expansion in a firm's scope was given by Teece (1980). Teece found that economies of scope cannot explain the existence of multiproduct firms in most cases because arm's-length contracts among specialized firms would generally be sufficient to capture the same economies as a multiproduct firm. The conditions when this did not hold are: '(1) where the production of two or more products depends upon the same proprietary knowhow base and recurrent exchange is called for, and (2) when a specialized indivisible asset is a common input into the production of two or more products' (Teece 1980: 241).

This analysis was subsequently amplified, again by Teece (1982), who pointed to multiple factors that might justify expanding the scope of the enterprise without reference to ► [scope economies](#). One factor is the opportunity to put underutilized resources to work. As ► [edith penrose \(1959\)](#) observed, firms always have some unused productive services from their existing resources. Resources are a broad concept that includes tangible items, such as machines, and intangible items, such as managerial capabilities. Unused resource services can arise, for example, from learning that occurs during the activities required for existing lines of business. Because resource services are often applicable across a variety of businesses, a firm will, in some cases, find it profitable to enter a new market that can leverage the type of resource services that it already has.

This combines with a second factor, which is the difficulty (transaction costs) of trading many resource services in a market. If the resource is sufficiently specialized, so that the number of parties that might be interested in renting its services is very small, then the risk is high for unfavourable conditions to arise in a contract. It is generally better for the firm to make internal use of the excess services (i.e., enlarge its scope)

rather than transact with another firm. This 'thin market' difficulty is particularly common in the case of know-how and other intangibles.

A third factor is the difficulty of knowledge transfers. A contract to transfer a firm's excess know-how to a firm wishing to apply it in a non-competing product market will typically require transferring, or at least loaning, the personnel who are familiar with the tacit aspects of that know-how. This effectively converts the know-how from a non-rival to a rival good, that is, one for which the use by one party limits its use by the other. If the 'excess' knowledge is applied in-house to enlarge the scope of the enterprise rather than being sold, then the rival good problem is less likely to arise.

This analysis might be seen to imply that, if all managers are rational profit maximizers, then all product diversification should be related in some way to existing lines of business. In practice, however, some firms are conglomerates, with product divisions sharing no functional or technological relationship apart from the shared financial oversight by a headquarters office. Yet a study in the mid-1990s (Teece et al. 1994) found that most multiproduct firms were 'coherent diversifiers'. Firms in this category pursued pair-wise combinations of product lines that were similar to the way other firms throughout the economy combined the same pairs of product lines, which suggests the presence of common underlying technological or transactional factors.

See Also

- [Firm Resources](#)
- [Firm Size and Boundaries, Strategy](#)
- [Outsourcing](#)
- [Penrose, Edith T. \(1914–1996\)](#)
- [Scope Economies](#)

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Second Best

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Abstract

This entry offers a brief overview of second best reasoning, sketches the theory and provides an example that illustrates the mechanics behind it. The theory aims to identify the distortions generated by an economic friction that restrains a decision maker, and it uses a three-step procedure: (1) compute the optimal choice of a decision maker in a frictionless environment (the first best solution); (2) compute the optimal choice when an additional constraint due to the friction is added to the analysis (the second best solution); (3) determine the disturbing effects of the friction by comparing the two solutions.

Definition Second best refers to the solution of a decision maker's optimization problem when the feasible choices are constrained by an economic friction that does not allow the first best to be reached.

► **second best** theory investigates the disturbances as well as the cost for a decision maker due to sand in the wheels of a resource allocation mechanism, like, for example, the price-based mechanism in the market or the contract-based mechanism in the firm.

Second best reasoning originated in the literature in economic policy, and, having been formalized by Lipsey and Lancaster (1956), the theory was diffused to various areas of welfare economics. It underlies, for example, the study of pricing decisions, the design of taxation systems and of

trade policies. The theory initially aimed to investigate the consequences of introducing one or more constraints into a formal model of the economic system. These constraints prevent the optimality conditions that characterize the first best solution (or first best *equilibrium*) from being satisfied, and render into a mathematical form the imperfections that hamper the efficient allocation of resources operated by the market mechanism. The reader interested in the use of second best theory in economics is referred to Bohm (2008).

Following further refinements, the theory has been used not only in welfare economics, to study optimal government policies, but also in microeconomics, to investigate firms' and individuals' decisions. But whereas different fields share the same terminology, the meaning attached to first best and second best can differ. In welfare economics, a first best policy may indicate the policy that deals optimally with a given market imperfection, whereas a second best policy is a sub-optimal policy that generates a lower welfare. This interpretation is closer to the use made of second best in everyday language to indicate a less than optimal choice. In microeconomics, by contrast, the difference between the first best and the second best typically has to do with whether or not an imperfection exists that restrains a decision maker (beyond some feasibility constraint). In this second interpretation, the second best refers to a *constrained* and yet *optimal* solution of a maximization process, whereas the first best solution refers to the ideal case in which the constraint generated by the imperfection is removed.

To illustrate the difference between the first and second best, it is not uncommon to refer to an economic imperfection using the mechanical analogy of a *friction*. This suggests a parallelism with physics. For example, in the same way as the effects of friction on a pendulum are best understood by referring to the ideal law of motion in a frictionless physical system, with the pendulum oscillating forever, the effects of an economic friction are most effectively highlighted when comparing the second best solution to the first best solution, referred to a frictionless economic system. This terminology is also used in the

managerial literature, probably following the similitude used by Williamson (1985) to describe transaction costs in a market environment as the equivalent of frictions in a physical system. For more details on the origins of the terminology see Klaes (2000).

The practical interest of the comparison between the benchmark of first best and the second best depends on the friction under scrutiny, and on the scope of the analysis. In many cases the friction is irremovable, and the first best refers to a *utopian* situation, as Meade (1955) first defined it. But at times the friction can, in principle, be removed (or its disturbing effects mitigated) if adequate investments are made. In this case, it must be understood when it is convenient for the decision maker to incur the cost of the investment. To answer this question, it is useful to sketch the formal theory.

The Canonical Setting

Consider an economic model in which a decision maker (be it the government, a firm or an individual), maximizes a given payoff function (that measures the welfare of society, the firm’s profits or the individual’s utility). The following three-step procedure is commonly used: (1) derive the first best solution for the ideal case of a frictionless system; (2) derive the second best solution when the friction is taken into account; (3) determine the distortions generated by the friction by comparing the two solutions and the decision maker’s payoffs.

To illustrate the mechanics of this procedure, suppose that the decision maker manoeuvres two variables $(x_1, x_2) \in \mathfrak{R}^2$ with the intent to maximize a payoff function $\pi(x_1, x_2)$. In a frictionless environment, the variables can be chosen subject only to some feasibility constraint (given, for example, by the available technology or by the available resources), such that a function $f(x_1, x_2)$ takes non-negative values. Formally, the constraint $f(x_1, x_2) \geq 0$ defines the set of feasible choices $X \subseteq \mathfrak{R}^2$ in which the decision maker looks for the optimum. The decision maker’s optimal choice in a frictionless environment

corresponds to the solution of the following optimization problem, P^{fb} :

$$P^{fb} \begin{cases} \max_{x_1, x_2} & \pi(x_1, x_2) \\ \text{subject to} & f(x_1, x_2) \geq 0 \end{cases}$$

Let $(x_1^{fb}, x_2^{fb}) \in X$ indicate the first best solution, and $\pi^{fb} = \pi(x_1^{fb}, x_2^{fb})$ the optimal payoff.

With this benchmark in mind, consider the case in which an economic friction is added to the analysis. This can be formulated adding a constraint $x_1 = g(x_2)$, so that the choice set shrinks from X to a smaller set X' . The decision maker then faces the following problem, P^{sb} :

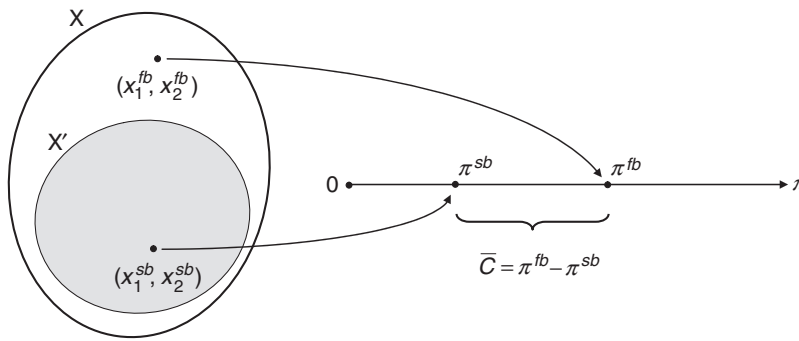
$$P^{sb} \begin{cases} \max_{x_1, x_2} & \pi(x_1, x_2) \\ \text{subject to} & f(x_1, x_2) \geq 0 \\ & x_1 = g(x_2) \end{cases}$$

To the second best solution $x^{sb} = (x_1^{sb}, x_2^{sb}) \in X'$ corresponds an optimal payoff $\pi^{sb} = \pi(x_1^{sb}, x_2^{sb})$. Equipped with the first and second best solutions, the disturbing effects of the friction are easily understood by comparing (x_1^{fb}, x_2^{fb}) and (x_1^{sb}, x_2^{sb}) . Suppose now that the decision maker is in principle, capable of removing the friction by incurring a cost $C > 0$. Then, $\bar{C} = \pi^{fb} - \pi^{sb} > 0$ is the maximum cost that is convenient to incur to remove the constraint $x_1 = g(x_2)$.

Figure 1 provides an illustration of this example.

Applying the Theory

To be of practical interest, the abstract setting above must be contextualized to a realistic economic situation. In what follows, the theory is related to the functioning of the firm when the allocation of resources is ruled by contracts (Coase 1937), using the archetypal example of the contractual relationship between a manager-owner and an employee. The friction under scrutiny is a source of asymmetry of information between the two parties that impedes the smooth functioning of the relationship.



Second Best, Fig. 1 Comparing the first and the second best solution. Because of the economic friction, the choice set shrinks from X to X' ; to the first best solution (x_1^{fb}, x_2^{fb})

and the second best solution (x_1^{sb}, x_2^{sb}) correspond payoffs π^{fb} and π^{sb} , respectively; the decision maker's payoff is reduced by an amount $\bar{C} = \pi^{fb} - \pi^{sb}$

Taking an **agency theory** perspective, the manager is the principal (named *she*) who makes a take-it-or-leave-it offer to the agent, the employee (named *he*). Suppose that the manager needs the employee's effort to produce an output q , an output that is random and whose expected value increases with the agent's effort, denoted x_1 . (To streamline the exposition, the dependence of q on x_1 is not made explicit.) The output is valuable to the manager only, and the agent dislikes effort because it generates a cost equal to x_1 . To compensate the agent for his effort, the manager offers a wage, denoted as x_2 , which can depend on the realized level of the output, such that $x_2 = x_2(q)$. Assuming that the manager is risk neutral, and that the employee is risk averse, their payoff functions are $\pi(x_1, x_2) = E[q - x_2(q)]$ and $f(x_1, x_2) = E[u(x_2(q))] - x_1$, respectively, where the function $u(\cdot)$ is increasing and concave.

As a benchmark, consider the case when there is no asymmetry of information and x_1 , x_2 and q can be specified in the contractual offer that the manager makes to the agent. The manager can choose x_1 and $x_2(q)$ at will to maximize her expected payoff, but she faces the so-called *participation constraint*: the employee must obtain an expected utility that is not lower than that yielded by his next best alternative, here assumed to be 0. The manager then maximizes $\pi(x_1, x_2) = E[q - x_2(q)]$ subject to $f(x_1, x_2) = E[u(x_2(q))] - x_1 \geq 0$, which is consistent with the general problem P^{fb} discussed above.

A standard result in agency theory is that that the risk-neutral manager fully insures the risk-averse employee against production uncertainty, so that his wage and the final utility do not depend on the realization of q . Given the first best level of effort, x_1^{fb} , the manager offers then a constant wage $x_2(q) = x_2^{fb}$ such that $u(x_2^{fb}) = x_1^{fb}$, and obtains an expected payoff $\pi^{fb} = E[q] - x_1^{fb}$.

Consider now the case in which the employee's effort is not observed by the manager. This friction due to hidden effort generates a **moral hazard** concern. If the manager insists in offering full insurance to the agent, he will exert no effort because it is costly and generates no benefit. The employee must be provided then with the right incentives to exert an effort, so that the manager now faces an additional *incentive compatibility constraint*, which simply says that the agent exerts an effort that maximizes his own expected utility, and not the one of the manager.

Indicating with $x_1(x_2(q))$ the effort optimally chosen by the agent when he is offered a wage schedule $x_2(q)$, the manager's problem takes now the form of problem P^{sb} illustrated above: she maximizes $\pi(x_1, x_2) = E[q - x_2(q)]$ subject to $f(x_1, x_2) = E[u(x_2(q))] - x_1 \geq 0$, and to $x_1 = x_1(x_2(q))$.

In the second best solution, the employee is not provided with full insurance anymore, and the wage is optimally linked to the level of production according to the function $x_2^{sb}(q)$. Thus, the employee now shares the risk with the manager, but because he is risk averse, he must be

compensated with a larger expected wage, so that $E[x_1^{sb}(q)] > x_1^{fb}$. Because of this extra cost due to the provision of the incentives, the manager induces an effort $x_1^{sb} < x_1^{fb}$.

Summing up, the friction due to hidden effort generates a trade-off between insurance and incentives, and in the second best scenario the employee bears a larger risk and exerts a lower effort than in the first best.

Conclusions

The reasoning behind second best theory is highly intuitive and appealing since it aims to investigate the disturbances of an economic friction that restrains a decision maker. This is done by contrasting the unconstrained optimum for the frictionless environment, the first best solution, to the constrained optimum, the second best solution.

See Also

- ▶ Agency Problems
- ▶ Agency Theory
- ▶ Coase, Ronald (Born 1910)
- ▶ Moral Hazard
- ▶ Principal Agent
- ▶ Risk Aversion
- ▶ Second Best
- ▶ Transaction Cost Economics
- ▶ Williamson, Oliver E. (Born 1932)

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Selznick's Approach to Strategy

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Definition Selznick's major focus is on the normative functions of organizational leaders. He insisted that the 'critical decisions' they make craft the organization's 'character structure': shaping its distinctive competence. His focus was primarily on the ways in which organizations contribute to their larger communities and societies.

Philip Selznick (1919–2010) was a leading scholar in the s of both law and organizations. He was a major founding figure in the 'law and society' school of research, making significant contributions to the sociology of law, with application to both private and public organizations. In addition, he developed a distinctive version of institutional theory which, over time, has generated productive linkages with evolutionary economic and resource-based theories of organizations – strands of work feeding into management strategy.

Based on his early research on public and political organizations – the Tennessee Valley Authority and Leninist associations (Selznick 1949, 1952) – Selznick observed how, over time, organizations made adaptive changes in their structures and practices in response to both internal forces, such as the changing composition of members, and external forces, including powerful exchange partners. In his treatise *Leadership in Administration* (Selznick 1957), he crafted these ideas into a theory of the institutionalization of organizations. Selznick argued that, although organizations begin as technical systems designed to achieve specific goals, over time, as commitments to internal and external constituencies accumulate, they become 'institutionalized' – 'infused with value beyond the technical requirements of the task at hand' (Selznick 1957: 17). These

collective commitments come to comprise the organization's 'character structure', reflecting both its 'distinctive competence' as well as its specific forms of inadequacy.

Unlike the related concept of 'organization identity', which is more concerned with how the organization is perceived as 'object' by others, 'character structure' deals with the organization as 'self' – as actor (Carlsen 2009). Selznick viewed the formation of organization character as a historical and dynamic process – one which was open-ended and pragmatic. The organization acquires its distinctive competence and its commitment to particular values as a result of its struggle to adapt to its internal and external environment in a purposive and reflexive manner.

While organizations can acquire their character structure through inadvertence and drift, this structure can also be more deliberately crafted. Elite groups, in particular 'institutional leaders', can define and foster the advance of general goals and associated values. Unlike managers, who attend to the coordination of technical functions in order to improve efficiency of operations, an institutional leader 'is primarily an expert in the promotion and protection of values' (Selznick 1957: 28). Leaders are concerned with defining, protecting and promoting the moral values the organization embodies, 'from the standpoint of the people whose lives it touches as well as that of the larger community' (Selznick 1992: 238). The scope afforded to institutional leaders varies across organizations: the broader the goals it serves, the larger is the need for and opportunity provided to institutional ► [leadership](#).

This conception of leadership within organizations is not unique to Selznick. Many of the ideas were foreshadowed by Mary Parker Follett (1941) and by Chester I. Barnard (1938), and Selznick's lead has been followed by more recent scholars, such as those developing a 'stewardship theory' of management (Davis et al. 1997). In addition, scholars working in relatively distant areas, including evolutionary economics and resource-based theories of organizations, have advanced related conceptions of organizations and the role of their leaders.

The institutional economist Edith Penrose (1959) recognized that the most important asset a firm possesses is its specialized use of resources, including work skills, and its capability to mobilize them as required in new and diversified combinations. As developed in evolutionary economics (Nelson and Winter 1982) and in resource-based theories of the firm (Barney 1997; Teece et al. 1997), these approaches resonate with and expand on, but can still learn from, Selznick's work on institutionalized capabilities – attending to both their strategic advantages and the constraints they impose on organizational adaptation (Knudsen 1995).

In the final analysis, Philip Selznick's concern was to improve the functioning not only of organizations but of communities and societies. He urges strategic leaders of organizations to recognize and embrace their moral functions as influential members of these wider communities. He asks them to attend less to improving the 'bottom line' and more to advancing the 'higher values' they can protect and serve (Kagen et al. 2002).

See Also

- [Leadership](#)
- [Path Dependence in Technologies and Organizations](#)

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Sensemaking

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Abstract

Sensemaking is typically understood as the ongoing production of images, labels, stories or symbols in order to stabilize the streaming of experience. People make sense by focusing on a limited set of cues and elaborating those few cues into a plausible, momentarily useful, guide for action. And actions themselves partially define the guide that they follow. Sensemaking is better thought of as a process of bringing about reality rather than discovering it. The sensemaking perspective, with its emphasis on the social construction of reality, provides an important contrast to traditional organization theory, which emphasizes

information processing and ► **decision-making** under uncertainty.

Definition Sensemaking is a process that occurs when surprising or discrepant cues interrupt individuals' ongoing activities and they retrospectively develop plausible meanings of those cues that rationalize what they have been doing.

Although sensemaking is sometimes described literally as the making of sense, it is much more complicated than that. Sensemaking theory provides insight into how individuals and collectives carve out cues in their environments, give meaning to (i.e., interpret) these cues, and translate these interpretations into action (Weick 1995). In other words, sensemaking is a process through which individuals turn flows of experience into understandings and words that serve as a springboard for action (Taylor and Van Every 2000: 40; Weick et al. 2005). By enacting more or less order into the ongoing circumstances from which they extract cues and make plausible sense retrospectively, people act their way into knowing. In this way sensemaking is a kind of diagnostic process that involves sizing up a situation and discovering what you face, while simultaneously acting and determining the nature of what you discover (Weick 1995).

Interpretation is often used as a synonym for sensemaking, which has a degree of truth. But this synonymous usage blurs important distinctions that are necessary for a richer understanding of sensemaking in organized settings (Weick 1995: 6–16). It is true that interpretation is a component of sensemaking. A key distinction between the two terms is that sensemaking is about the ways people construct what they interpret. Interpretation assumes a frame of meaning is already in place and that one simply needs to connect a new cue to an existing frame. It also assumes that one recognizes a need for the interpretation. Where there is no frame, or where there is no obvious connection between cues and frame and one has to be created, there is sensemaking (Weick 1995; Weick et al. 2005). Consequently, sensemaking is concerned more with invention than with discovery; invention precedes interpretation.

Sensemaking and Decision-Making

Sensemaking is sometimes lumped together with ► **decision-making**, but the two terms are not interchangeable. Sensemaking comes before decisions and after decisions, but it is not itself decisional. Taylor and Van Every (2000: 275) describe sensemaking as a ‘way station on the road to a consensually constructed, coordinated system of action’. This description highlights the fact that that waystation occurs earlier on the road than does decision-making, and is more controlling of subsequent stations and actions than is decision-making (Weick et al. 2005). That is, sensemaking determines whether the ‘entity’ of a decision even gets bracketed into ongoing activity; sensemaking happens long before people imagine that there may be some kind of decision to be made (Weick et al. 2005).

The sensemaking perspective fills an important gap in organization theory, especially when contrasted with traditional organization theory. Recall that March and Simon (1958) viewed organizations as systems of embedded routines through which information is processed, coded and evaluated in a computational manner (Lant and Shapira 2001). Through a computational lens the key problems organizations face relate to making decisions under uncertainty – searching and processing relevant information when search is costly and decision makers are boundedly rational (Lant and Shapira 2001). Decision-making is about the influence of evaluation on choice. In contrast, sensemaking is about the interplay of action and interpretation. When action is the central focus, interpretation, not choice, is the core phenomenon (Weick et al. 2005). As Scott Snook (2001) makes clear in his friendly fire analysis, the shooting down of the friendly helicopters over Iraq was not a case where the F-15 pilots ‘decided’ to pull the trigger. Instead, it was an act at the end of a collective, plausible sensemaking process. Snook (2001) observes that by reframing his analysis as research on sensemaking rather than decision-making, he shifted the emphasis away from attributions, choices and boundedly rational (and flawed) individual decision makers towards potent situational factors that influence action. As

Snook explains (2001: 206–207; emphasis original), it ‘opened *my eyes* to the possibility that, given the circumstances, even *I* could have made the same “dumb” mistake’.

What Instigates Sensemaking?

Sensemaking naturally is an ongoing activity. But its intensity varies. It is most visible, explicit and intense in equivocal situations, where people search for meaning as a way to deal with uncertainty. Sensemaking activities are triggered when there are changes and fluctuations in ongoing flows of events, and when the current state of the world is perceived to be different than the expected state of the world (Weick et al. 2005). When a situation feels ‘different’, it is experienced as a situation of surprise (Louis 1980), jolt (Meyer 1982), discrepancy (Orlikowski and Gash 1994), breakdown (Patriotta 2003; Christianson et al. 2009), disconfirmation (Weick and Sutcliffe 2007) or interruption (Barton and Sutcliffe 2009). Although diverse, these situations share the property that an expectation of continuity is broken, organized actions become disorganized and, in response, people make an effort to construct a plausible explanation of what is happening. Plausible explanations shape sensible situations: they normalize the breach, restore expectations and enable projects to continue (Weick et al. 2005: 415).

Key Components of Organized Sensemaking

As a general process, sensemaking embodies a number of assumptions and distinguishing features, such as the following (Weick et al. 2005). First, sensemaking is an explicit response to some kind of chaos, which generates ‘an undifferentiated flux of fleeting sense-impressions’ (Chia 2000: 517). The chaos that threatens organizations is often churned up by the unexpected and the equivocal. Second, a capability for sensemaking influences reliable functioning in the face of the unexpected and the equivocal (Weick and Sutcliffe 2007). Third,

a sensemaking capability is determined by at least seven properties (Weick 1995: 17): (1) sensemaking is social in that it is influenced by interaction and conversation with actual, implied or imagined others (Weick 1995: 461); (2) identity and identification provide clear frames of reference from which judgements and interpretations fan out; (3) retrospect or relevant past experience serve as evidence for sensemaking; (4) individuals extract contextual cues that serve as seeds from which they develop a larger sense of what might be happening; (5) sensemaking is ongoing and capability derives from a willingness to update and keep pace with changing demands; (6) individuals create and evaluate accounts of what could be happening on the basis of their plausibility rather than accuracy; and (7) action is a means to gain sense, which means that people use action and its consequences as meaningful data, including data about one's own role in implanting what is now faced. A fourth assumption is that these seven properties function more or less fully, depending on how mindful the organization is (see Weick et al. 1999; Weick and Sutcliffe 2007). Mindful organizations fully scrutinize their failures, simplifications, operations, capability for resilience and expertise (Weick et al. 1999). Fifth, organizational life is essentially reactive even though legitimacy is tied to fostering the appearance that it is forward-looking, as evidenced by a preoccupation with plans, progress and agendas (Weick 1979). Sixth, the sense that is made always lags a little behind our actions and although we try to play catch-up, we are never successful (Weick 2011). And, finally, effective sensemaking not only answers the question 'What's the story?', but also generates an image of action that answers the question, 'Now what? Sensemaking draws agents into an unknown future in the belief that they have some control over what will have happened (Weick et al. 2005).

The preceding overview shows how sensemaking is intertwined with enactment. Enactment connects sensemaking with organizing (Weick et al. 2005). People act in order to figure out what they should do next and their acting typically codetermines the answer. Unsurprisingly, this process of building retrospective

interpretations during interdependent actions resembles the basic process of organizing composed of ecological change, enactment, selection and retention (Weick 1979: 132; Weick et al. 2005). As Weick et al. note (2005: 414), we can treat sensemaking as reciprocal exchanges between actors (enactment) and their environments (ecological change) that are made meaningful (selection) and preserved (retention).

See Also

- ▶ [Cognition and Strategy](#)
- ▶ [Decision-Making](#)
- ▶ [Information and Knowledge](#)
- ▶ [Innovation](#)

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Seven-S Framework

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Definition

The Seven-S framework is a practice-based approach to organizational design and change that claims that a firm's structure, strategy, systems, skills, style, staff and shared values must all be aligned with one another for the firm to perform well.

The Seven-S framework is a set of inter-related features that characterize an organization. The framework posits that the mutual alignment of each of these features to the others is important for organizational performance. The framework can be applied at a point in time and also during periods of organizational change to ensure that the change results in a new and equally coherent organization.

The framework was developed by two consultants working for McKinsey & Co. based on their experiences with clients. It was first publicized in a 1980 article (Waterman et al. 1980), then more widely in a 1982 book called *In Search of Excellence* (Peters and Waterman 1982).

The seven interdependent categories of the framework are shown in Fig. 1.

The seven elements are:

1. **Structure:** How decision-making and accountability are organized, including the degree of centralization, number of levels of management, and whether the major administrative divisions are by function or by product.
2. **Strategy:** How the company plans to maintain or improve its competitive position by means such as creating unique value, customer lock-in, or acquiring key assets.
3. **Systems:** How day-to-day business is done, including budgeting, [human resources](#), and new product development.
4. **Skills:** Capabilities, such as manufacturing or marketing, that the organization performs well.
5. **Style:** The explicit and implicit messages given by top management about priorities, including what and who is important.
6. **Staff:** How managers are identified and developed.
7. **Shared values:** The sense of a common goal, such as making money or improving the world in some way.

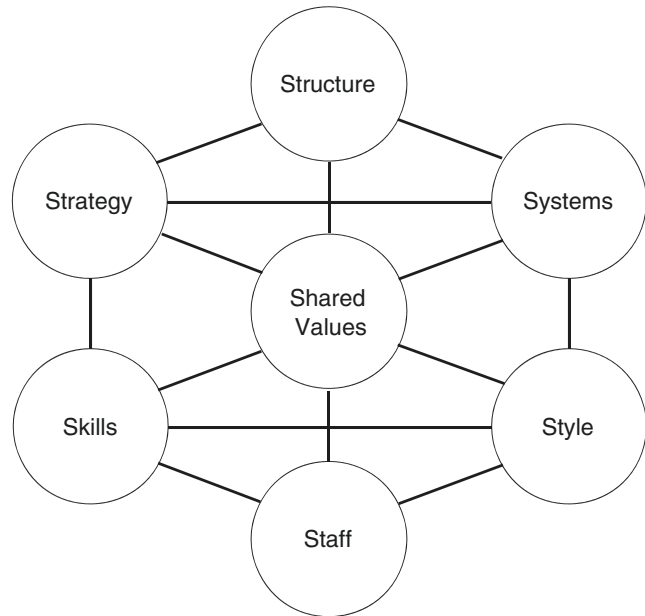
All seven elements are to be treated as of equal importance. A deficit in any of the areas will undermine the overall performance of the organization.

Because the framework is essentially a checklist without causal linkages or testable propositions, there is very little theoretical or empirical research about it. There are, however, a large number of applied case studies demonstrating the framework's application in a wide variety of for-profit and non-profit settings, although without any element of hypothesis testing.

Seven-S Framework

There are similar frameworks in existence, but they have been less widely applied. One that predates Seven-S is Weisbord's (1976) Six-Box Organizational Model that asks key questions about coordination and conflict internally and

Seven-S Framework,
Fig. 1 The seven-S
 framework



externally. Burke and Litwin (1992) put a Seven-S style framework in a more theoretically founded model that includes a causal role for the environment.

A somewhat more fully developed model was introduced by Nadler and Tushman (1977) and further elaborated in a series of articles. It proposed a causal flow, with feedback loops, in which the inputs of environment, history and resources are transformed, under the guidance of strategy, by people, structures and processes into various types of outcome at individual, group and organizational levels. The main message was the need for congruence between the elements, while recognizing that strong congruence could introduce rigidity that would render [organizational change](#) difficult (Nadler and Tushman 1989).

In the strategic management field, such practice-based models have paved the way for more theory-based approaches such as the [Dynamic Capabilities](#) framework. In fact, the goal description that Waterman et al. (1980) gave in their original article reads more like a description of dynamic capabilities than of the Seven-S framework:

Somewhat to our surprise, senior executives in the top-performing companies that we interviewed

were concerned that the inherent limitations of structural approaches could render their companies insensitive to an unstable business environment marked by rapidly changing threats and opportunities . . . Their organizations, they said, had to learn how to build capabilities for rapid and flexible response . . . Their task, as they saw it, was largely one of preserving internal stability while adroitly guiding the organization's responses to fast-paced external change. (p. 16)

See Also

- ▶ [Dynamic Capabilities](#)
- ▶ [Human Resources](#)
- ▶ [Organizational Change](#)
- ▶ [Organizational Culture](#)
- ▶ [Organizational Design](#)
- ▶ [Peters, Tom \(Born 1942\)](#)

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Shubik, Martin S. (1926–)

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Abstract

Martin Shubik has been a prominent economist for over 60 years, having made several groundbreaking contributions in the early development of game theory. His dollar-auction game shows how entities can escalate a conflict even though in absolute terms the stakes are low. He is also primarily responsible for the development in game theory of a theory of money.

Martin Shubik was one of the early pioneers of ► [game theory](#), making several significant early contributions to the field starting in the 1950s, often in co-authorship with Lloyd Shapley. These early contributions included groundbreaking papers in the areas of evaluating the ► [power](#) of players in decision-making bodies, a well-known model of escalation for social science, the relationship between the Shapley Value and the core, market games and total balancedness, the assignment game and the development of a theory of money.

But perhaps the greatest contribution of his career has been his ability to see how to successfully apply the concepts of game theory to a variety of problems in economics and political

science. In his own words, he did this through his appreciation of a ‘mathematical institutional economics’ (Shubik 1959a), that is, his belief that good economic modelling should take into account the institutions (and their dynamics) which facilitate economic interaction; and also to model using ‘minimal institutions’ (see Shubik 1999), that is, using models so basic that any simplification would destroy their ability to model the desired phenomenon.

Shubik was born on 24 March 1926 in New York City. Brought up in England, he moved to Canada during the Second World War, obtaining his BA from the University of Toronto in 1947. He arrived at Princeton as an economics PhD student in 1949, and was one of the bunch of economics and mathematics graduate students there (along with John Nash, Lloyd Shapley and many others) well known for their role in the early development of game theory. Much of the work that he published later originated during this time: for a good description see Shubik (1992, 1997a) or Gordon (2000). His thesis, written under Oskar Morgenstern, later became the book *Strategy and Market Structure* (Shubik 1959a).

In what follows we summarize some of Shubik’s major contributions, but one should note that this is just the proverbial tip of the iceberg – in fact he is the author of over 300 articles and over 20 books.

In an early Shapley–Shubik paper (1954), the authors show how to model decision-making bodies (such as a state legislature or the UN Security Council) as simple games, that is, cooperative games in which ‘winning’ coalitions have a value of 1 and all others have a value of 0. They then argue that the Shapley Value applied to such a game is a good measure of the players’ power (derived solely from the voting structure of the body).

In Shubik (1959b), he brought together the classical model of Edgeworth (1932) from economics with game theory, by showing that the ‘contract curve’ of undominated outcomes from the Edgeworth box was really just the core of the appropriately defined cooperative game. He also was the first to suggest that the core (as well as the Shapley Value and Nash’s bargaining solution) of

a game would shrink down to the set of classically defined economic price equilibrium payoffs under sufficient replication. He was in fact able to show this for his model in the ‘transferable utility’ case. This was later generalized for the ‘non-transferable utility’ case by Debreu and Scarf (1963), and independently by Aumann (1964).

Market games (Shapley and Shubik 1969) are transferable utility, cooperative games in which players are endowed with inputs and concave utility functions over those inputs. The worth of a coalition is the maximum combined utility it can attain for its members, by reallocating its combined resources. Shapley and Shubik showed that the class of such games coincides with that of totally balanced games, that is, games in which all subgames have nonempty cores. In another paper (Shapley and Shubik 1975), the authors show that the set of competitive price equilibrium outcomes is a subset of the core in market games.

In (a simplified version of) his ‘dollar-auction’ game (Shubik 1971a), two players take turns bidding for a \$1 prize, with the highest bid surrendering her bid but winning the \$1, but also the second-highest bidder surrendering his bid amount to the auctioneer. It seems reasonable to make bids of less than \$1, but once a player has bid \$x and been overbid by his opponent, it still seems rational (for *any* x) to outbid that opponent with a bid that is less than $x + 1$. So the bidding rockets off to infinity. This model can be used to explain why economic or political agents will invest huge, ‘irrational’ amounts in competition for ‘prizes’ which are really not worth much in absolute terms (Shubik 1971a).

Assignment games (Shapley and Shubik 1971) are the ‘transferable utility’ version of two-sided matching games, that is, games in which there are two types of players and the essential coalitions are the single players and twosomes consisting of one player of each type. These markets are good models of labour markets (the two types being firms and workers) and markets for large indivisible goods such as houses (buyers and sellers). Shapley and Shubik showed that the cores of

assignment games are always non-empty, coinciding with the set of optimal solutions to the dual of an assignment linear programme.

Next, in ongoing work that has spanned the last 40 years, he has been working on the development of a theory of money. The unifying approach (which differentiates this work from classical equilibrium theory) is to explicitly model the flow of money as it changes hands among the agents of a model, via the use of strategic market games. The seminal papers on strategic market games were Shubik (1973), Shapley (1976), and Shapley and Shubik (1977). But since then Shubik has been able to model institutions and phenomena such as banking, credit, reserve policy and bankruptcy (see e.g., Shubik and Wilson 1977 and Shubik and Smith 2007).

Finally, he has written articles in many other areas, for example ‘truels’ (Shubik 1954), games of status (Shubik 1971b), counting Nash equilibria in bimatrix games (Quint and Shubik 1997), and defence/wargaming/terrorism (Shubik and Verkerke 1989; Bracken and Shubik 1993; Shubik 1997b).

See Also

- ▶ [Cooperative and Non-cooperative Game Theory](#)
- ▶ [Game Theory](#)
- ▶ [Nash Equilibrium](#)
- ▶ [Power](#)

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Simon, Herbert A. (1916–2001)

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Abstract

Herbert A. Simon was recognized as a major contributor to established disciplines such as economics, political science, and psychology, a key founding father to some of the most important intellectual foundations for the more recent field of strategic management and coined some of the most important concepts and ideas embedded in the field today. His explicit intellectual footprints in the field and ideas that were already well established and incorporated include concepts such as limited/bounded rationality; satisficing and organizational routines; ideas such as organizational decomposability, loyalty, and identification, and others that have influenced both the foundation for the field and modern developments.

Introduction

Herbert A. Simon was born on 15 June 1916 in Milwaukee, WI, USA. He received his PhD in Political Science from the University of Chicago in 1943, and taught at the Illinois Institute of Technology (1942–1949), before moving to Carnegie Mellon University in 1949, where he stayed until he died on 9 February 2001. Simon received major awards from many scientific communities, including the A.M. Turing Award (in 1975), the National Medal of Science (in 1986), and the Nobel Prize in Economics (in 1978). During his career, Simon also served on the Committee on Science and Public Policy and as a Member of the President’s Science Advisory Committee. He also was very active at the National Academy of Science and was the first social scientist to be elected (before the creation of economics or social science divisions). Through both his intellectual work and his institutional efforts, he and his colleagues helped to

make Carnegie Mellon University's business school a model for the post-war reorganization of business schools in the USA (Augier and March 2011).

Simon made important contributions to economics, psychology, political science, sociology, administrative theory, public administration, organization theory, cognitive science, philosophy, and strategy and management. His best-known books include "Administrative behavior" (1947), "Organizations" (1958, with James G. March), "Sciences of the artificial" (1969), "Human problem solving" (1972, with Allan Newell), and his autobiography, "Models of my life" (1991). Although contributing to many seemingly different domains and traditions, Simon's main research interest remained the same: understanding human decision-making (Augier 2001; Augier and March 2002). Both his early work (in particular Simon 1947; March and Simon 1958) and his later efforts to move beyond a neoclassical framework of analysis of decision-making had significant impacts on the early developments of the behavioral foundations for strategic management (Bromiley 2004), in addition to the traditions around competencies, capabilities, and resources (Rumelt et al. 1991; Pierce et al. 2002).

Besides past and current uses of Simon's ideas in the field of strategic management, there are additional under explored ideas around concepts such as organizational identification and loyalty that can add important insights into our understanding of strategic management in organizations today and in the future (Augier and Sarasvarthy 2004). Moreover, his work may also hold considerable promise for future developments in the field of behavioral strategy, reminding us that strategy is not only inherently *behavioral* (Levinthal 2011; Fang 2013), but also inherently *organizational* (Augier 2017).

Early Life and Work

Simon spent his early years with his parents and his older brother on the West Side of Milwaukee in a middle-class neighborhood. Attending public schools, Simon at first intended to study biology.

However, after he went on a strawberry hunting trip, and discovered that he was colorblind (unable to distinguish the strawberries from the plants), he changed his mind, thinking that color blindness would be too big a handicap in biology. He then thought briefly about studying physics, but he gave up that idea after discovering that there weren't really any major advances left to be made in physics. "They have all these great laws," he said in conversation. "Newton had done it, no use messing around with it." As a result, upon finishing high school in 1933, Simon enrolled instead at the University of Chicago with an interest in making social science more mathematical, and an intention to major in economics. In keeping with his strong wish to be independent, Simon preferred reading on his own instead of taking classes, and refused to take the class in accounting, which was required to graduate in economics. As a result, he majored instead in political science.

Political science was not physics, of course, with all the "great laws." However, as an empirical science, it encompassed both theory and practice and had to take the data seriously. Furthermore, Simon found that interdisciplinary thinking (in particular the role of psychology in understanding political behavior psychology) appealed to him. The details of Simon's later work differ, but the underlying ideas, interdisciplinary thinking, and the necessity of bringing together theory and reality remained. Also present from the start was the essential idea of limited rationality, which would stay with Simon as he proceeded to combine his insights into political science and public administration with his work in economics, organization theory, psychology, and artificial intelligence. Limited rationality, of course, is also a central concept and basis for the behavioral foundations of the field of strategic management (Bromiley 2004), and developments that have been central to the field, such as transaction cost economics (Williamson 2004) and evolutionary approaches (Dosi 2004; Winter 2000).

In these early years, Simon was invited by Clarence Ridley to participate as a research assistant in a project for the International City

Management Association (Simon 1991, p. 64). Together with Ridley, Simon published the results of this project in several articles and in a book, “Measuring municipal activities” (Ridley and Simon 1938). This resulted in an invitation to join the University of Chicago’s Bureau of Public Administration to study local government. While directing a study on public administration of state relief programs in Berkeley, intended to demonstrate how qualitative empirical research could contribute to understanding and improving municipal government jobs (Simon 1991, p. 82), Simon was also working on an early manuscript of his thesis, which became “Administrative behavior,” in which he proposed to reform administrative theory (Simon 1947). The first working title of “Administrative behavior” was “The logical structure of an administrative science”. Simon had envisioned the book as having a heavy philosophical component; in particular, because he was influenced by Rudolph Carnap. Furthermore, Simon introduced the importance of organizations in individual decision-making, a theme later elaborated on, especially in March and Simon (1958). “Human rationality,” he wrote, “gets its higher goals and integrations from the institutional settings in which it operates and by which it is molded . . . [Therefore] . . . [t]he rational individual is, and must be, an organized and institutionalized individual” (Simon 1947, pp. 101–102). Simon argued that organizations make it possible to make decisions by virtue of the fact that they constrain the set of alternatives to be considered and the considerations that are to be treated as relevant. Organizations can be improved by improving the ways in which those limits are redefined and imposed. Finally, “Administrative behavior” criticized existing administrative theory for being based on “proverbs” (often contradictory, common sense principles); a perspective he wanted to replace with a more empirically oriented investigation of the nature of the decision-making processes in administrative organizations.

“Administrative behavior” was the first publication in which he systematically examined the importance of limits to human rationality. “The dissertation contains both the foundation and much of the superstructure of the theory of

bounded rationality that has been my loadstar for nearly fifty years,” he wrote (Simon 1991, p. 86). The core chapters of this book were intended to develop a theory of human decision-making that was broad and realistic enough to accommodate both “those rational aspects of choice that have been the principal concern of economics, and those properties and limitations of the human decision-making mechanisms that have attracted the attention of psychologists and practical decision-makers” (1947, p. xi). Bringing together insights from economics and psychology, Simon laid the foundation for later establishment of behavioral economics and for organization studies and strategic management (Mahoney 2005).

In Simon’s own view, the key significance of his early work was in substituting “economic man” with “administrative man” by bringing insights from psychology to bear in studying decision-making processes (Simon 1947, p. xxxv). While finishing his dissertation, Simon moved to Illinois Tech, in an environment in Chicago where most of his fellow researchers were believers in rational decision-making, but Simon remained a strong advocate of the idea of limited rationality. He began to discuss his views with prominent economists, in particular, those connected to the Cowles Commission, which was a group of mathematically inclined economists doing pioneering work in econometrics, linear and dynamic programming, and decision theory, etc. (Christ 1994; Mirowski 2001). The economists connected to the Cowles Commission included such well-known names as Kenneth Arrow, Jacob Marshak, Tjalling Koopmans, Roy Radner, and Gerard Debreu, and they held regular seminars to discuss their research. Although Simon’s stay in Chicago and interaction with the economists almost made him, in his own words, “a full-time economist” (Simon 1991a, p. 140), he didn’t stop his pursuit of a more realistic and behaviorally sound foundation for decision-making. While in Chicago he met economists who were in fact more open to understanding real world behavior, such as Frank Knight (Augier 2001).

In 1949, Simon moved to Pittsburgh to join the newly established School of Industrial

Administration at Carnegie Mellon University, an early engineering school in the process of becoming a business school. Although business schools at that time were not oriented toward research, Simon and his colleagues wanted to be different and for their research to be relevant to business in addition to emphasizing the importance of research and analysis. Early core courses in the program included “quantitative control and business,” taught by Bill Cooper, a sequence of micro- and macroeconomics taught by Lee Bach, and organization theory taught by Simon. As a result of early efforts to build up a research program at Carnegie Mellon, the Graduate School of Industrial Administration was picked by the Ford Foundation as one of the foremost places where behavioral perspectives could be developed, and was the model of research-based business education that became an exemplar for the Gordon–Howell Report (see entry on “► [Business Schools](#)”). Simon also wrote an important paper on the strategic management of business schools as managing and mixing the sometimes opposing forces that business schools face, having one foot in the academic world and one foot in practice (Simon 1967).

Later Work and Career

Decision-making was also the core of Simon’s later work, and it became the basis of his other contributions to organization theory, economics, psychology, and computer science. Decision-making, as Simon saw it, is purposeful, yet not rational, because rational decision-making would involve a complete specification of all possible outcomes conditional upon possible actions to choose the single alternative action that is best. In challenging neoclassical economics, Simon found that such a complex calculation is not possible. As a result, Simon wanted to replace the assumption in economics of global rationality with an assumption that corresponded more with how humans make decisions, their computational limitations, and how they access information in their current environment (Simon 1955), thereby introducing the ideas of bounded rationality and

satisficing. Satisficing is the idea that decision-makers interpret outcomes as either satisfactory or unsatisfactory, with an aspiration level constituting the boundary between the two. Whereas in neoclassical rational choice theory decision-makers would list all possible outcomes evaluated in terms of their expected utilities, and choose the one that is rational and maximizes utility, decision-makers in Simon’s model face only two possible outcomes and look for a satisficing solution, continuing to search only until they have found a solution that is good enough. The idea of bounded rationality and satisficing became important for subsequent developments in economics, organization theory, and strategy (see entry on “► [Satisficing](#)”).

Underlying these ideas is the emphasis on bounded rationality, bringing a more psychological and realistic assumption to the analysis. As Simon noted early on:

[T]he first principle of bounded rationality is that the intended rationality of an actor requires him to construct a simplified model of the real situation in order to deal with it. He behaves rationally with respect to this model, and such behavior is not even approximately optimal with respect to the real world. To predict his behavior, we must understand the way in which this simplified model is constructed, and its construction will certainly be related to his psychological properties as a perceiving, thinking and learning animal (Simon 1957, p. 199).

Both satisficing and bounded rationality were introduced in 1955, when Herbert Simon published a paper that provided the foundation for a behavioral perspective on human decision-making (see entry on “► [Bounded Rationality](#)”; see entry on “► [Satisficing](#)”). The paper replaced the assumption of global rationality with another approach, corresponding with how humans make decisions in the real world, including their computational limitations and how they access information in their environments (1955, p. 99). Simon’s illustration of this, continuing the reasoning he had laid out in “Administrative behavior,” emphasized the view that decisions are reasoned and intentionally rational, but limited in their rationality (Simon 1947). As a result of the lack of computational and informational processing

powers, decision-making has to simplify the structure of the decisions (and therefore satisfice), one of the most important lessons of bounded rationality.

A companion paper was “Rational choice and the structure of the environment” (Simon 1956) in which he introduced the idea that the environment influences decision-making as much as information processing abilities do. He examines the influence of the structural environment on the problem of “behaving approximately rationally, or adaptively” in particular environments (1956, p. 130). Simon would later elaborate on these ideas in his book “Sciences of the artificial,” using the famous “ant on the beach” metaphor to illustrate his idea (Simon 1969, pp. 51–53). The ant makes his way from one point to another, using a complex path, the complexity consisting of the patterns of the grains of sand along the way, rather than internal constraints. Simon compares this behavior to human behavior and notes that: “Human beings, viewed as behaving systems, are quite simple. The apparent complexity of our behavior over time is largely a reflection of the complexity of the environment in which we find ourselves” (1969, p. 53). Evolutionary economists have developed and elaborated these (and other) early behavioral ideas, integrating concepts such as bounded and limited rationality and satisficing with concepts and ideas around routines, technological evolution, innovation, and learning (Winter 2000; Dosi 2004; also see entry on “► Satisficing”). Further, Simon’s development of an alternative to neoclassical thinking helped to pave the way for the evolutionary and behavioral alternative(s) that were fruitful for strategic management (Teece and Winter 1984).

Another early important paper concerned the nature of the employment relation (Simon 1951). The paper began by emphasizing Simon’s traditional view that models ought to correspond to the empirical realities that are neglected in most economic models of the employment contract (1951, p. 293). He then turns to a concept that was so central in “Administrative behavior,” namely the concept of authority. Central to the employment relation, he argues, is the fact that the employer

accepts a certain amount of authority within certain areas or zones of acceptance (p. 294). His model suggests a way of reconciling administrative theory and economics through the economic nature of the employment relation; yet, it is still limited by its “assumption of rational utility-maximization behavior incorporated in it” (p. 305). Mahoney (2005) argues that Simon’s perspective on employment relations may help to create a bridge in the field of strategic management “between economists, with their theories of the firm and of factor allocations, and organization theorists, with their theories of organization – a bridge wide enough to permit some free trade of ideas between two intellectual domains that have been isolated from each other” (p. 41). Robert Gibbons’ work (2003) has used Simon’s ideas on this in (behavioral) organizational economics in ways that are important for the strategy field as well.

Simon also used his emerging behavioral view of decision-making to create a propositional inventory of organization theory together with James March and Harold Guetzkow, which led to the book “Organizations” (March and Simon 1958) (see entry on “► March, James G. (Born 1928)”). The book was intended to provide an inventory of knowledge of the (then almost non-existent) field of organization studies, and a more proactive role in defining the field. Results and insights from studies of organizations in political science, sociology, economics, and social psychology were summarized and codified. The book expanded and elaborated on the idea of the significance of organizations as social institutions in society. “The basic features of organization structure and function,” they write, “derive from the characteristics of rational human choice. Because of the limits of human intellectual capacities in comparison with the complexities of the problems that individuals and organizations face, rational behavior calls for simplified models that capture the main feature of a problem without capturing all its complexities” (March and Simon 1958, p. 151). The book is now considered one of the classics and pioneering in organization theory in addition to strategic management (Bromiley 2004; Mahoney 2005).

Although Simon opposed major developments in rational choice economics and developed with a collaborator a behavioral alternative, he found value in the emerging field of operations research. Although Simon's marriage with operations research was neither entirely happy nor permanent, the fact that operations research was well suited to cross-disciplinary boundaries immediately appealed to him, in addition to its appeal for the use of computers for heuristic programming. Thus, Newell and Simon wrote in 1958: "Even while operations research is solving well-structured problems, fundamental research is dissolving the mystery of how humans solve ill-structured problems. Moreover, we have begun to learn how to use computers to solve these problems, where we do not have systematic and efficient computational algorithms. And we now know, at least in a limited area, not only how to program computers to perform such problem-solving activities successfully; we know also how to program computers to learn to do these things".

Although most of the techniques used in operations research are techniques of constrained maximization, Simon found that they "formed a natural continuity with my administrative measurement research" (1991a, p. 108). He found artificial intelligence to be the next logical step in operations research, using empirical studies in decision-making in organizations, constructing a mathematical model of the process under study, and then simulating it on a computer (Simon 1969).

Simon's interest in operations research is also evident in his work on the design of optimal production schedules, something that ultimately led to the book, "Planning production, inventories, and work force." Although initiated at the Cowles Commission, this work was carried out at Carnegie Mellon University, which provided the context for most of Simon's academic life. It was also at Carnegie that it became clear that Simon was not "just" another economist. Highly respected amongst most (if not all) distinguished economists of his time (see for instance, Samuelson 2004; Arrow 2004; Radner 2004), Simon himself was much more than an economist. For

instance, at Carnegie, he and James March carried out a major work in organization studies. Most importantly, at Carnegie, Simon found both colleagues and an institutional environment that could accommodate and appreciate his broad interests and honor his vision to cross disciplinary boundaries in pursuing this vision. With the emergence of a behavioral science emphasis at Carnegie came many contributions of a cross-disciplinary and interdisciplinary nature. This type of disciplinary boundary crossing that had been if not difficult then different from the mainstream previously, became possible and more widespread with the behavioral research focus that Simon helped to establish at Carnegie. It also paved the way for other interdisciplinary movements that began to sprout, including organization studies and strategic management, both essentially empirically driven in the sense of aiming to try and explain real world decision-making processes in organizations that were not accounted for in traditional theories.

Further Lessons

With the extraordinary broad (and deep) scope of Simon's interests and contributions, it is perhaps no surprise that there is still plenty of room for strategic management to learn from his ideas. In addition to the more established lessons that have already been incorporated into the field (such as bounded rationality and the importance of organizational routines for strategy), as well as more recent and specialized topical "Simonian" applications, there are also other under-utilized ideas with the potential for strategic management.

For example, Simon's work and ideas on altruism, docility, and organizational identification/loyalty could be further developed and help to broaden the behavioral and motivational foundations of strategic management (Augier and Sarasvarthy 2004; Augier and Teece 2006). Simon's belief was that opportunism is not the only (or even the dominant) motivator of many people in organizations (Augier and March 2001, 2008). A broader perspective on motivational assumptions can help to explain the importance

of issues such as trust and other aspects of organizational behavior. Simon (1991b, and 1993b) argued that people are not always driven by self-interest and opportunism (nor are they altruistic all the time), and individual docility may be reinforced by group/organizational loyalty, a source of which is organizational identification in business firms. As Simon notes:

“At the social level, the gradual change and selection of culture traits are producing patterns of information, advice, and resulting behavior that enhance the average fitness of members of the society; and because of docility, social evolution often induces altruistic behavior in individuals that has net advantage for average fitness in the society. Altruism includes influencing others to behave altruistically. (Simon 1993b, p. 157)

Simon also notes that many theories ignore this organizational identification as a “powerful altruistic force,” which helps to shape and condition “both participants’ goals and the cognitive models they form of their situation” (Ibid.). In other words, docility and organizational identification and altruism can help to improve coordination in organizations and orientation toward common goals, not through incentives, but through broader motivational and behavioral mechanisms.

Simon’s work has also been indicated to be relevant to the recent work around behavioral strategy (Augier 2017). The field of behavioral strategy has lately become successful as a scholarly framework (in particular within the strategic management literature), a framework that can also serve as an important lens for understanding and addressing management issues such as biases. Behavioral strategy as an academic field is more recent than its practice, just as the fields of organizations and management existed as practices well before scholarly studies emerged. Indeed, it has been argued that “strategy” as a practice is inherently “behavioral” (Fang 2013; Levinthal 2011). In addition, strategy (and strategic management) is also inherently *organizational*; the strategic management of business firms and other organizations constitutes the art and science of creating and sustaining competitive advantages in a world of competing organizations.

Behavioral organization studies and strategy hold valuable lessons for practicing managers on several fronts. For instance, it views the organization as being shaped by its own history (in addition to the interaction with others), but not entirely so, as there is room to proactively shape the strategic environment and one’s performance in it. Behavioral strategy also provides important tools for implementing behavioral insights in practice (Lovallo and Siobony 2010). For example, understanding organizational behaviors and decision biases are central to making strategic decisions in a proactive way and shaping outcomes without being trapped by biases and earlier decisions (including investment decisions). Also, (strategic) managers must be able to successfully identify strategic asymmetries in the competitive environment, and translate them into the building and sustaining of competitive advantages (preferably in a sustainable way). Moreover, managers must be able to embrace essential and unavoidable uncertainties in the competitive battlefield – while skillfully adapting their own organizations (with the inertias and competency traps that entails). In other words, strategic management and leadership of organizations is not easy, but behavioral organizational strategy as a framework has valuable tools for understanding the strategic environment; for understanding individual and organizational traps and biases; for understanding strategic asymmetries that can be useful in building organizational capabilities and competitive advantages; and for adapting and implementing the steps as part of the process of organizational adaptation.

Conclusion

During his amazingly productive life, Simon worked on many different things; yet, he really pursued only one vision (Augier and March 2008; Augier 2001). He contributed significantly to many different disciplines and interdisciplinary developments (including strategic management and organization studies); yet, he found the boundaries between disciplines themselves to be

less important, even unimportant, vis-à-vis solving the questions he was working on. Even as Simon sought to develop the idea that the psychological process of thinking could be simulated, in particular in the later decades, he tied his interest in economics and decision-making closely to computer science and psychology. He used computer science to model human problem-solving in a way that was consistent with his approach to rationality. He implemented his early ideas of bounded rationality and means–ends analysis into the heart of his work on artificial intelligence.

Simon's work has contributed significantly to the intellectual development of the field of strategic management in addition to many of the modern perspectives, and scholars continue to find inspiration in his work with regard to developing the field. His work is also a focal point where several different tribes in the strategy field may find opportunities for collaboration, and help to shape the future of the field.

Cross-References

- ▶ [Bounded Rationality](#)
- ▶ [Satisficing](#)

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Simple Rules

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Abstract

Firms that employ a strategic logic of opportunity use simple rules to capture a variety of opportunities to create temporary competitive advantage. Simple rules are learned through repeated process experience, in an order of increasing cognitive sophistication, and share a common structure across firms. Learning and managing a portfolio of simple rules is a purposeful activity that strategists should seek to master. A strategy of simple rules is essential for high performance in unpredictable environments but is also viable in other environments.

Definition Simple rules are unique rules of thumb or heuristics that guide key organizational processes for opportunity capture.

Simple rules can form the basis of value-creating strategies. Like all heuristics, simple rules can be mental shortcuts that emerge when information, time and processing capacity are limited (Newell and Simon 1972). However, simple rules are not just cognitively efficient. A strategy of simple rules can be more effective than more cognitively demanding ► [strategic decision-making](#) processes, especially in unpredictable or high-velocity markets (Bingham and Eisenhardt 2011).

Simple rules provide a flexible but well-structured basis for key organizational processes, thereby setting a firm's strategy for the pursuit of new opportunities. In contrast to positioning or resource-based views of strategy, the advantage of simple rules comes from successfully shaping opportunity capture (Eisenhardt and Sull 2001). Simple rules allow managers to quickly delimit attractive but fleeting opportunities. This allows firms to string together temporary advantages to stay ahead of competitors. Strategy scholars have produced anecdotal evidence of simple rules in action, including Yahoo's rule for alliance formation (Rindova and Kotha 2001), Intel's manufacturing rules (Burgelman 1994) and Lycos' rules for the integration of acquired firms (Gavetti and Rivkin 2007).

Simple rules are different from routines. They vary in their amount of structure, range of problems addressed, cognitive engagement, repeatability of outcomes and relevance to strategic actions (Cohen et al. 1996). Routines provide detailed responses to particular problems. They prescribe exactly which actions to take, in which order, when a certain problem or set of environmental stimuli are encountered. Simple rules, on the other hand, are more flexible. They provide a common structure for a range of similar problems, but supply few details regarding specific solutions to address them. Routines can increase efficiency at specific tasks, as the structure they provide makes the task more automatic and responses more reliable, but they may break down in the face of unpredictability. Simple rules tie separate

decisions of certain types (e.g., product development decisions) together with a common structure, but allow the details of those decisions to vary.

Types of Simple Rules

Organizations employing a strategy of simple rules form portfolios of heuristics that have a common structure across firms. Bingham and Eisenhardt (2011) show that these portfolios are made up of four types of heuristics: selection, procedural, temporal and priority. Each type plays an important role in effective opportunity capture.

Selection heuristics are defined as deliberate rules of thumb for guiding which sets of product or market opportunities to pursue (and which to ignore). Selection heuristics guide managers in the allocation of scarce resources to the most advantageous opportunities. They are important because they help organizations avoid the pitfalls of chasing too many opportunities, pursuing poor opportunities or being indecisive and stagnant because of information overload.

Procedural heuristics are defined as deliberate rules of thumb for guiding the execution of a selected opportunity. They specify an approach to functions like sales, design, staffing or pricing. Procedural heuristics are important for outlining the actions needed to take advantage of a chosen opportunity. Without them, organizations may increase the number of mistakes made or take too long to execute.

Temporal heuristics are defined as deliberate rules of thumb for opportunity capture that relate to time. They specify the sequence, pace and rhythm with which an organization pursues opportunities. Temporal heuristics are important for maintaining the momentum of actions and keeping organizational members in sync. A lack of temporal rules may lead to trouble switching from one opportunity to another, or may cause actions to be executed out of order.

Priority heuristics are defined as deliberate rules of thumb that rank opportunities. There may be multiple acceptable opportunities at any

given point in time, and priority heuristics allow the organization to rank some acceptable opportunities as more important than others. Priority heuristics ensure that an organization is focusing on the most attractive opportunities in a set first, leaving the lower-value opportunities for later.

How Are Simple Rules Learned?

Simple rules are learned through repeated process experience. Firms first learn selection and procedural heuristics (Bingham and Eisenhardt 2011). These types of rules have a lower level of cognitive sophistication. They do not require an understanding of how multiple opportunities relate to one another, and thus are easier to learn when a firm's experience levels are low. Firms later learn temporal and priority heuristics. These types of rules are more cognitively sophisticated. They require explicit comparison or linking of multiple opportunities.

Organizations do not automatically learn rules through repeated experience. The learning of rules is affected by how organization members attribute the results of individual experiences and how communication is structured within the firm (Bingham and Halebian 2012). When an organization experiences a failure, the members can attribute that failure to either internal or external causes. Attributing the failure to an internal cause involves recognizing that the firm made a mistake or did not execute the opportunity properly. Attributing the failure to an external cause involves blaming some aspect of the environment or other factors over which the firm had no control. When attributions of failures are convergent (either internal or external), firm members are able to consolidate their learning into heuristics. When some firm members attribute the failure to internal causes and others to external causes, the firm is less likely to learn rules from the experience.

Learning of rules is also affected by communication within the firm. Formal communication that is rhythmic, multi-hierarchical and occurring within a fixed amount of time increases the likelihood of convergent attributions. Communication between hierarchical levels improves information

accuracy and increases all parties' understanding of events. Regularly scheduled meetings with fixed timelines increase information-sharing among members and focus members on solutions that help the organization as a whole.

How Do Simple Rules Evolve Over Time?

Once learned, simple rules continue to evolve over time. Executives manage their portfolio of rules through the process of simplification cycling (Bingham and Eisenhardt 2011). Simplification cycling is an iterative process that alternates between elaboration and simplification. Elaboration occurs as organizations gain more experience and increase both the number and detail of their heuristics. Elaboration allows organizations to replace fewer, superficial rules with more and higher-quality ones. Simplification involves purposely pruning heuristics so that the portfolio remains flexible and generalizable. This prevents the 'overfitting' of existing rules to the idiosyncrasies of new experiences, and helps reorganize the knowledge of rule portfolios for more efficient retrieval. Simplification also frequently involves raising the abstraction of heuristics. Doing so reflects executive understanding of underlying similarities across a series of accumulated experiences that superficially appear distinct. Overall, simplification cycling facilitates the difficult task of improving efficiency while ensuring flexibility. Simplification cycling can be considered a key dynamic capability that firms should seek to develop.

Simple Rules and Firm Performance

Simple rules can increase firm performance by allowing firms to create sequences of temporary advantages. Simple rules foster adaptive organizational configurations (Galunic and Eisenhardt 2001) and faster innovation (Brown and Eisenhardt 1997), and help form the foundation of ► [dynamic capabilities](#) (Bingham et al. 2007). The performance advantages stem from helping executives balance between too much structure

and too little structure. For example, Bingham et al. (2007) studied the relationship between heuristics and country-entry performance in entrepreneurial firms. They found that use of a greater number of heuristics is associated with higher performance. This result held for total heuristics as well as the two different cognitive levels of heuristics discussed above. The heuristics gave a semi-structure to country entry, which allowed for efficient decision-making, but left room for improvisation, such that leaders could adapt to country-specific demands.

The relationship between simple rules and firm performance is also affected by attributes of the external environment. Davis et al. (2009) use simulation to show how a strategy of simple rules to execute a variety of opportunities is essential in environments that are high in unpredictability. Interestingly, this same strategy performed well across diverse environments, even when unpredictability decreased. The viability of a simple rules strategy in predictable environments is contrary to prior research, and suggests the utility of simple rules across a wide variety of contexts.

See Also

- [Behavioural Strategy](#)
- [Cognition and Strategy](#)
- [Competitive Advantage](#)
- [Dynamic Capabilities](#)
- [Organizational Learning](#)
- [Strategic Decision-Making](#)

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Simulation Modelling and Business Strategy Research

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Abstract

The article discusses the usefulness of simulation models in ► [business strategy](#) research and reviews the relatively small but fast-growing literature applying simulation models (especially in the form of agent-based simulation models) to the study of organizational forms, to problems of design of organizations and technologies and to industry dynamics. Some suggestions are also provided for future directions of research.

Definition Simulation models provide a distinct analytical approach from closed-form mathematical modelling. In particular, in agent-based modelling, the agent, or micro-entity, is characterized as well as the nature of the interaction with the environment and other agents. The analysis consists of characterizing the emergent behaviour from these interactions.

Simulation modelling is used in a variety of disciplines in the social and natural sciences. Why might this approach to theory development have particular appeal to strategy researchers? ► [business strategy](#), at a fundamental level, hinges on issues of spatial and temporal interdependence. With respect to the former, since the early writings of Andrews (1971) scholars have recognized that strategy involves thinking of the firm in terms of part–whole relations. The distinction between business strategy relative to functional strategies lay in the consideration of how choices in one functional domain (marketing, operations, human resources, finance) affected other functional domains. In an intertemporal sense, a choice is viewed as ‘strategic’ if it has consequences for subsequent choices and payoffs. Thus, a notion of path dependence is inherent in the notion of strategic decision-making. Finally, more recent game-theoretic treatments of business strategy have highlighted the interdependence among firms and, in this light, a choice is viewed as strategic if it influences the choices and payoffs of other firms.

Having recognized that for a choice to be strategic it must entail a linkage across time or space (both within and across firms), how does this help address our motivating question regarding the possible value of simulation modelling? In particular, why would simulation modelling potentially have a comparative advantage in strategy research? Lane (1993) highlights some of the basic properties that push a researcher from the domain of closed form analytical modelling efforts to more ‘open’ computational approaches. First, processes which are both path-dependent and uncertain, or stochastic, greatly constrain the possibilities of formal modelling. This is what motivated Bellman’s famous comment regarding

the curse of dimensionality in the context of the possible limits of dynamic programming approaches. The standard way to address this constraint within the tradition of analytical modelling, particularly traditional microeconomic approaches, is to restrict attention to two-period formulations of the strategy problem. There is a period two of final outcomes and a period one in which far-sighted firms anticipate these possible future outcomes. Such efforts can reflect reasonably well situations of one-shot, upfront capital investments and the like, but are poorly suited to consider more general path dependency.

Another 'fix' to the problem of a vastly expanding state space is to model 'representative' firms and to repress issues of firm heterogeneity. Classic models of industry concentration adopted this approach (Tirole 1988). However, firm heterogeneity, its basis and implications, lie at the core of strategy research. Strategy researchers are interested in difference in performance among a set of firms (Rumelt et al. 1994) and not merely contrasts of performance across industries. Furthermore, even in Porter's (1980) classic treatment of industry analysis, there is considerable attention to the importance of possible asymmetries among firms in an industry and their implications for firm behaviour and, in turn, industry performance.

Finally, simulation models can naturally accommodate more plausible behavioural assumptions on agents than utility (or profit) optimization as normally assumed by standard equilibrium models. Boundedly rational heuristics, routines, limited foresight and recall, adaptation, and learning can be easily modelled by computer algorithms and made part of larger models of firm and industry dynamics.

Thus, it is natural for strategy researchers to explore the path dynamics of heterogeneous firms following boundedly rational behavioural rules, computational techniques, and Monte Carlo simulation models in particular. Beginning with the pioneering work of Cyert and March (1963), this modelling approach is not only a latent opportunity but has already had a number of important expressions, though considerable further opportunities remain. In what follows, we briefly summarize the most recent lines of research.

Organizational Forms

Many of the existing efforts have focused on issues of organizational form and their implications for strategy and performance. Research has tackled this issue from the angles of information processing (Miller 2001), learning and adaptation (Marengo 1992, 1996), and search processes (Rivkin and Siggelkow 2002, 2003; Siggelkow and Levinthal 2003; Marengo and Dosi 2005).

Miller (2001) models organizations as tree-like structures in which each node represents a basic information processing capability and edges are communication channels between the two connected nodes. Organizations are generated by randomly combining nodes; they adapt through mutation and recombination, and they are selected by the environment according to their performance. Adaptation and selection are shown to offer a very powerful device for performance improvement. The model also shows a trade-off between the higher processing power of larger organizations and the higher coordination costs they imply as diminishing returns are quickly reached with the addition of new nodes.

While Miller's model assumes that information processing capabilities of individual agents (nodes) are given, Marengo (1992, 1996) present models which focus instead upon the modification of such information processing capabilities, that is, a process of structural learning. Individual agents are imperfect adaptive learners, and they adaptively adjust their information processing capabilities through trial-and-error learning, driven by information from the environment and/or from other members of the organization. The model shows that the architecture of such information flows, and, in particular, the degree of centralization/decentralization, plays a crucial role in determining the learning patterns and the performance characteristics of the organization. Intra-organizational distribution of information is also shown to set a balance in the exploration vs exploitation trade-off in organizational learning (March 1991).

The last few years have seen the development of a new family of evolutionary models of organizations, inspired by biologist Stuart Kauffman's

NK model (Kauffman 1993). This line of research, fully embracing an evolutionary perspective (Nelson and Winter 1982), considers organizational dynamics as the outcome of the interaction between organizational processes of variation (i.e., creation of novelty), selection, and retention. In large and complex (i.e., characterized by many interdependent components) search spaces, organizational forms implement a decomposition or quasi-decomposition (Simon 1969) of the search space and determine the dynamics of the search process.

One important result of this family of models is that the power of selection forces is limited by variational mechanisms and therefore by the organizational structure itself. Only a small fraction of the vast and largely unknown search space is usually generated by variation and, in turn, provides the fodder for selection processes. This simple result opens up plenty of opportunities for analysing, on the one hand, the room for strategic action and its cognitive foundation: search is not random but is informed by cognitive representation (Gavetti and Levinthal 2000) and by the division of labour (Marengo and Dosi 2005; Rivkin and Siggelkow 2003); and, on the other hand, its limitations arising from the complexity of diachronic and synchronic interdependencies of strategic decisions (Ghemawat and Levinthal 2008). In general, the structural properties of organizational forms can be studied not by beginning with assumptions of market inefficiencies as in transaction cost theory, but in their long-term dynamic properties of supporting effective search processes. An important emerging line of research addresses the role of intra-organizational reward and incentive schemes in shaping the internal selection environment and its interaction with the external environment (Dosi et al. 2003; Rivkin and Siggelkow 2003; Siggelkow and Rivkin 2005).

The Design of Technologies

Scholars have also examined the question of design in terms of technological systems and, in particular, the role of modularity (Ethiraj and

Levinthal 2004a, b; Brusoni et al. 2007; Frenken 2006). Once again the pioneering work of Herbert Simon on near decomposability and its evolutionary properties (Simon 1969; Callebaut and Rasskin-Gutman 2005) provides the theoretical background.

It is often argued that, by adopting modular design strategies, firms can take responsibility for the design and development of separate modules. Thus, they can develop new products at a faster pace, as the integration of the final product is a matter of mix and match of 'black boxes' (e.g., Baldwin and Clark 2000). However, little attention has been devoted to the costs of modularity that arise from the inevitable suboptimality of any decomposition of a complex system whose structure of interdependencies is only partly understood by boundedly rational agents (Ethiraj and Levinthal 2004a, b). Suboptimality derives from the separation into different modules of interdependent components and is the outcome of a trade-off between the search for fast performance improvements allowed by modularization and the danger of lock-in into inferior designs or designs which, though efficient in the short run, are unable to evolve and adapt to environmental changes or sustain innovation. The papers cited above define this trade-off precisely, analyse its consequences in environments characterized by different degrees of uncertainty and non-stationarity, and discuss its consequences for the design of technologies and organizations.

Strategy and Industry Dynamics

Researchers have also engaged in work that links these firm-level dynamics to broader patterns at the industry or population level. The pioneering work of Nelson and Winter (1982) and Winter (1984) on the evolution of industries in various regimes of Schumpeterian dynamics represents an important early and still vibrant strand of work of computational approaches to industry dynamics. Links with the previously mentioned line of research on organizational adaptation and search have fruitfully enriched and complemented these early works on the Schumpeterian dynamics of

industries, providing richer microfoundations to standard industry dynamics arguments.

Intrafirm variational mechanisms have been shown to constitute a source of persistent heterogeneity among firms operating in the same industry even in stationary environments and a source of differential performance in changing environments (Levinthal 1997), as well as a limit to the power of market selection forces in driving firms even to locally optimal efficiency (Rivkin and Siggelkow 2002).

Simulation models have been used to investigate the strategic choices firms make between imitation and experimentation in adapting their capabilities and also have identified a source of inter-firm persistent heterogeneity in the differential cost and timing of capability deployment across firms (Zott 2003). Lenox et al. (2006, 2007) combine agent-based models based on the NK framework mentioned above, where firms search for activities that complement one another, with traditional economic models of industry competition among profit-maximizing firms with entry and exit. Industry-level profitability, concentration, entry, exit and shakeouts during the industry life cycle are shown to depend crucially upon the pattern of interdependencies at the industry level.

Finally, a promising line of research is offered by the so-called history-friendly models, that is, simulation models of a lower level of abstraction in comparison with the ones mentioned so far, in which the larger number of parameters are calibrated using data suggested by in-depth analysis of the history of real industries (see Malerba et al. 2008, for an application to the evolution of the computer industry). These kinds of models could provide a useful tool for experimenting in the lab with alternative strategies.

In short, simulation modelling has been used to address a number of central substantive questions in strategic management and appears to have some inherent competitive advantages for doing so. While a niche ‘strategy’ among the array of approaches to strategy research, the approach has made some important contributions to date and is likely to be an even more central approach in the future.

See Also

- ▶ Bounded Rationality
- ▶ Business Strategy
- ▶ Monte Carlo
- ▶ Technology Strategy
- ▶ Theory of the Firm

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Skunk Works

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Abstract

Skunk works refers to a small team given responsibility for developing something in a short time with minimal management constraints. Large companies competing in dynamic and continuously changing industries have been resorting to this organizational form as a way of stimulating innovative, path-breaking projects. The idea is that the members of the team are able to escape established logics, are sheltered from pressures from other internal stakeholders, and are given the time, flexibility and resources to immerse themselves fully in the research. This entry will analyse both the benefits of a skunk works model of innovation and discuss some of its potential costs and limitations.

Definition A ‘skunk works’ is a small group within an organization that receives a large degree of autonomy to work on a project of high strategic priority.

The origin of the term skunk works is a windowless facility built by Lockheed Corporation, a US aerospace company, at Burbank airport, California, where secret military projects were developed, starting from the Second World War and up until 1989 when the facility was relocated. Because the original Lockheed facility was adjacent to a malodorous plastics factory, it was referred to by its engineers as the ‘Skonk works’, a term from Al Capp’s satirical comic strip *Li’l Abner*, which was popular during the 1940s and 1950s. At the request of the comic strip copyright holders, Lockheed changed the name to ‘Skunk Works’ in the 1960s and registered it as a trademark.

Today, many companies are setting up groups of scientists, engineers, technologists, marketers

and support personnel to develop more original ideas or prioritize some technological achievements that might be considered highly strategic. The skunk works model was, for instance, the organizational design followed by IBM to nurture the-then revolutionary PC (Roberts 2004), by Ericsson Mobile Communications to develop the Bluetooth technology (Nobelius 2004), and it is currently used by companies such as Intel, HP and Apple.

The skunk works model has several advantages. First, it helps to isolate the researchers from corporate bureaucracy, where demands for regular activity reports and attention to other tasks destroy focus, speed and flexibility. Second, by identifying a specific goal of the skunk works, the company can establish it as a priority and signal the importance of this initiative inside the organization. This might increase support and bolster motivation within the selected team. Third, by isolating the researchers from the rest of the organization, the skunk works model can lead to more disruptive and original innovation that would otherwise find little support – or even be actively opposed – if the development were left to the main corporate R&D department. Finally, skunk works research enjoys greater ‘secrecy’ due its structural isolation, which might be useful in situations where the company is trying to launch new products and ideas in competition with rival firms.

The innovation management literature has investigated several reasons why large corporations find themselves at a considerable disadvantage in nurturing and adopting path-breaking innovations. The skunk works model provides a way for large corporations to compete in dynamic and changing environments by emulating the entrepreneurial spirit in small start-up firms. Dosi (1982) and Nelson and Winter (1982) have suggested that scientists and engineers in large companies tend to be short-sighted in their focus on existing technological trajectories and paradigms, overlooking opportunities that lie outside their search range. Christensen (1997) has advanced the view that the excessive focus on the needs of current customers causes large corporations to miss disruptive technologies that

initially appear uninteresting to their customer base. Other authors have suggested that the adoption of a major innovation may result in costly adjustments within the organization, which may cause both internal resistance and power struggles (Milgrom and Roberts 1988; Henderson and Clark 1990). Finally, organizational scholars have argued that large companies might get trapped into an exploitation circle (i.e., they aim at achieving maximal profits in the current situation) and thus put too little effort into exploring new ideas and technologies (March 1991; Levinthal and March 1993). A skunk works model might help the organization to break out of this myopic behaviour by giving a team of researchers the necessary autonomy to explore new avenues. Therefore, it represents one possible mechanism for building an ‘ambidextrous’ organization that is able to exploit existing capabilities while, at the same time, searching for new ones (Tushman and O’Reilly 1996).

While the skunk works model of innovation holds the promise of more radical innovation, it comes with a number of management challenges (Gwynne 1997). First, the researchers may use the autonomy to pursue projects that they perceive as interesting and challenging, disregarding the potential commercial value. This problem can be alleviated by including marketers in the team who care about and are able to judge the commercial prospects. Second, the skunk works must receive the necessary support from the rest of the organization without this interfering with the team’s crucial autonomy. Finally, reintegration of the skunk works ideas into the organization has its own problems and tensions. The implementation of the ideas might be resisted because it would result in costly adjustments or because the rest of the organization would perceive the ideas as ‘not-invented-here’ (Katz and Allen 1982).

Although the virtues of the skunk works model of innovation have been emphasized both in the specialized press and in management outlets, there is little formal analysis of this organizational solution for innovation. Fosfuri and Rønde (2009) provides one of the few economic analyses by developing a game-theoretic model to explain under what conditions companies find it beneficial

to employ a skunk works model. Their starting assumption is that innovation, especially path-breaking innovation, brings about important changes and readjustments within the organization and thus it tends to be resisted and opposed. Change is costly, not only for the company as a whole, but for each of its individual members. For instance, Morrill (1991) identifies several potential sources of costs: loss of power and prestige, need to retrain and relearn, changing definition of success and fear of new technology. In an attempt to avoid these costs, a company's employees may sometimes react to change by fighting it rather than adapting to it. Foreseeing this reaction, researchers engaged in the search for novel solutions and ideas, who are often given the freedom to choose among an array of research paths, might prefer to stay on well-travelled paths that do not substantially disturb the status quo. In fact, innovations resulting from more radical and path-breaking trajectories would tend to meet greater resistance from the rest of the organization (production and marketing divisions, middle managers etc.). Such innovations both require greater effort from the researchers' side to win the approval of the top management and entail greater risk of being shelved.

Fosfuri and Rønne (2009) show that there are two mechanisms through which a skunk works model encourages more radical, path-breaking trajectories for innovative research. First, there is a pure motivational effect. The researchers are more likely to identify with the project and feel obliged to deliver a radical, breakthrough innovation; perhaps to the extent of disregarding their own interest. This acts like a call to a higher degree of commitment. Second, the skunk works model changes the information flows within the organization. Because the researchers are isolated, it is more difficult to interfere in their activities and exert pressures on them not to pursue radical innovation.

This suggests that one key element of the skunk works model is that the information flows between the skunk works team and the rest of the organization should be minimized. This implies that secrecy and autonomy are both key for this organizational solution to function properly. Put

differently, once the skunk works is operative, it is essential to 'cocoon' it from the day-to-day work of the corporation, both in terms of physical location and mindsets. If it is possible to infer the type of project on which the team is working, for example from financial accounts or internal memos, the advantage of the skunk works model of innovation is lost. Thus, the skunk works personnel should be exempted from the need to prepare presentations or from regular visits by company representatives.

Another important aspect is the selection and reward of the team involved in skunk works. According to Fosfuri and Rønne (2009) the researchers' reward should include a sufficiently large non-monetary component. Researchers who are part of a skunk works model must have a liking for radical innovations; that is, they should enjoy working in an experimental, risky and exciting environment where major breakthroughs could emerge, but where there are many unresolved questions. Thus, the selection of the researchers is a critical task for the company's management and human resources department.

See Also

- ▶ [Exploration and Exploitation](#)
- ▶ [Not-Invented-Here](#)
- ▶ [Organizational Ambidexterity](#)
- ▶ [Research and Development \(R&D\) Organization](#)

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Sloan, Alfred P. (1875–1966)

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Abstract

In addition to architecting General Motors' multidivisional organization structure, Alfred Sloan helped to make one of the twentieth century's most pivotal strategic decisions: in the early 1920s, Sloan's General Motors began out-competing the dominant Ford Motor Company by offering a well-coordinated suite of branded products, each aimed at different customers and price points.

Alfred Sloan may have 'stood out as an "organization man"', but, with uncanny insight, he also helped to make one of the twentieth century's most pivotal strategic decisions (1937 *Fortune* magazine article, quoted in McCraw and Tedlow 1997: 280 n. 39). In the early 1920s, with the Ford

Motor Company accounting for more than 80% of the cars sold by the 'Big Three' carmakers (Chrysler, Ford and ► [general motors](#) (GM)), Sloan and GM hatched a strategy that turned the tables. By the end of the decade, GM was selling nearly one in two cars manufactured by the Big Three, and Sloan had earned business immortality.

One measure of Sloan's importance is the attention lavished on him by two of the twentieth century's seminal management theorists, Alfred Chandler and Peter Drucker. Chandler helped Sloan to write *My Years with General Motors* and used GM as one of the core case studies in *Strategy and Structure* (Chandler 2003). Drucker owed the launch of his career as a management writer to his book *Concept of the Corporation*, which was based on 18 months spent at Sloan's General Motors between 1943 and 1945. Much later in his career, Drucker devoted a chapter of his memoir to recollections of Sloan.

Sloan was born in 1875, grew up in Connecticut and Brooklyn, and earned a Bachelor of Science degree in electrical engineering from the Massachusetts Institute of Technology in 1895 (Drucker 1997: 260). Upon graduation, Sloan began working in New Jersey for the Hyatt Roller Bearing Company, a rapidly growing supplier to the booming automotive industry, and assumed the company's presidency at the age of 24. When William Durant bought Hyatt in 1916 as part of an auto parts supplier roll-up, Sloan became president of the newly formed United Motors. Two years later, United Motors merged with another of Durant's companies, General Motors, landing Sloan a vice-presidency and a position on the company's Executive Committee. Sloan also became a significant GM shareholder, thanks to his 60% ownership (with his father) in the Hyatt Roller Bearing Company and his decision to take half of his proceeds from the sale of Hyatt in United Motors stock.

When Sloan joined GM, it was a mess, 'a motley agglomeration of independent firms with little common purpose' (McCraw and Tedlow 1997: 279). Although that agglomeration included brands that would one day become household names, such as Buick, Cadillac,

Chevrolet and Oldsmobile, they were little match for Ford. In the words of Michael Porter, Henry Ford's company had perfected a 'cost leadership' strategy. Ultimately, GM countered with a strategy that Porter would have described as one of 'focus' on the needs of individual consumer segments, using all of GM's brands to collectively cover the full range of consumer needs – a car 'for every purse and purpose', as Sloan put it in the company's 1924 annual report to shareholders. But in 1918, with the Model T relentlessly moving down the cost curve in a virtuous cycle of economies of scale and rising demand from buyers, GM was an also-ran.

The situation worsened in 1920, when a severe recession cramped automotive demand and GM's finances. William Durant was forced out by the Dupont family, which had acquired a 25% stake in the company (a stake that would rise to 36% the following year), and Pierre DuPont became GM's president. Sloan became DuPont's chief assistant and one of just four members on a reformulated, streamlined Executive Committee.

In a remarkably short period of time, Sloan helped to design the strategy and structure that would allow GM to topple Ford from its throne, including product strategy (Chevrolet would aim at the heart of the market and Cadillac at the top, with Oldsmobile and Buick in-between, and the value proposition and target customer would be clearly differentiated for each); the annual model change (which stoked demand from repeat buyers and revolutionized automotive marketing); and the multi-divisional organizational structure (which balanced decentralization to create accountability for results in each of the product lines, with centralization, to exploit economies of scale and scope).

Sloan laid out much of this plan in a series of memos that play a key supporting role in *My Years with General Motors*. For example, his 'Organization study' attempted to harness GM's far-flung assets in a coordinated way. It called for each business unit to be headed by a 'chief executive' whose 'responsibility . . . shall in no way be limited'. But it also enumerated 'certain central organization functions' that would give the corporation as a whole 'proper control' (Sloan 1964:

53). Although the DuPont Company had adopted a similar structure a few years earlier, Sloan took pains in his memoir to clarify that his thinking was original and specific to GM. The companies reached their similar organizational solutions 'from opposite poles': DuPont had been excessively centralized, whereas General Motors suffered from the chaos of 'total decentralization' (Sloan 1964: Chap. 3).

The 1921 GM organization chart that Sloan included in his memoir outlines his solution. There in all their glory are the companies' big divisions – Buick, Cadillac and Chevrolet, as well as others, such as Sheridan, that did not stand the test of time – reporting to a vice-president in charge of operations. That executive also had responsibility for 'accessory' divisions (including Sloan's Hyatt Bearings and Delco), as well as a 'general advisory staff' (such as design engineering and purchasing). Subsequent chapters detail the creation of coordinating committees for shared functions. In a 1923 proposal, for example, Sloan laid out a plan for the 'co-operation of an engineering nature between . . . our Car Divisions, dealing as they do in so many problems having the same general characteristics. Activities of this type have already been started in the way of purchasing and have been very helpful . . . The activities of our Institutional Advertising Committee have been constructive . . . and there is no reason why the same principle does not apply to engineering . . .' (Sloan 1990: 105).

While this all may seem foreordained in retrospect, it was a dramatic departure from the strategy of standardization that had made the Model T dominant and Henry Ford rich (McCraw and Tedlow 1997: 277). Converting a cacophony of automotive products and brands into a coherent line-up, and orchestrating an organization to provide harmonious market coverage, as well as economies of scale and scope, represented a stunning achievement. Strategically, it is analogous to how Steve Jobs' Apple Inc. attacked the computing and electronics industries' models of open, interchangeable hardware and software with the closed ecosystems of iTunes, the iPod, the iPhone and iPad – an approach that seemed smart in retrospect because it

worked and played to Apple's strengths, but that also represented a sea change and a major roll of the dice.

From 1923 to 1937, Sloan served as GM's president, and then until 1956 as chairman. During that time, the company prospered, topping Ford in profits every year, and by the 1930s selling more Chevrolets, alone, than Ford sold cars. In this era, Sloan 'developed the concept of decentralization into a philosophy of industrial management', in the words of Drucker. Even at the end of Sloan's career, as Drucker conducted research inside GM, it was clear to him that Sloan was the company's 'superstar' and all other executives at the company the 'supporting cast' (Drucker 2008: 278).

Drucker was a fly on the wall during meetings where Sloan held court and was impressed by his rigorous, fact-based approach to [decision-making](#). At the close of the Second World War, for example, a great debate erupted within GM about whether to significantly expand the capacity of the company's accessory division. Sloan asked, 'What is this decision really about? Is it about accessory capacity? Or is it about the future shape of the American automobile industry? We all agree that we aren't likely to sell a lot of GM accessories to our big competitors, to Chrysler and Ford. Do we know whether to expect the independents – Studebaker, Hudson, Packard, Nash, Willys – to grow and why?' (Sloan 1990). After months of study, Sloan concluded that the independents historically had only grown rapidly during times of sluggish aggregate demand for cars and that postwar demographics strongly suggested a period of surging demand. 'The facts have made the decision – and I was wrong,' Sloan concluded. (Unbeknownst to GM's senior team, the idea of boosting accessory capacity was Sloan's.)

This devotion to facts and objectivity was one of Sloan's defining traits. It's often reported that he had few friends. An important reason was that General Motors, where he spent most of his time – often sleeping in a Spartan room at the company's Detroit headquarters – could not, in Sloan's view, be a source of personal relationships: 'If I have friends among the people with

whom I work, I'll have favorites. I am paid not to. I have a duty not to have friends at the workplace. I have to be impartial . . .' (Drucker 1997: 284).

Sloan's ownership stake in General Motors made him wealthy, and he became a great philanthropist. Sloan financed MIT's first management programme for seasoned executives; endowed the Sloan Foundation, which focuses on science, technology and education; and co-founded, with former GM colleague Charles Kettering, the Sloan–Kettering Cancer Hospital in New York. The fact that the Sloan School of Management at MIT is named after him is appropriate not only because of his investment in the institution, but because its ethos – melding management and technical expertise – was at the heart of the man who wrote, 'I happen to be of the old school who thinks that a knowledge of the business is essential to a successful administration' (Sloan 1964: 44).

Ultimately, Sloan's greatest legacy was General Motors itself, a company whose place in business history is complicated by its long decline, punctuated by its bankruptcy filing in 2008. By that time, the company's careful definition of each division's role in meeting the needs of target consumer segments had broken down, leading to the type of haphazard market coverage Sloan had worked to correct in the 1920s (see Rumelt 2011: 218–222, for a discussion of the devolution of GM's product strategy). In fact, the convergence of GM's brands was arguably a natural consequence of the company's decentralized structure; of rational, profit-seeking activity by business leaders in each division; and of GM's decision in 1937 to pursue no more than 50% of the US automotive market in order to avoid scrutiny by antitrust authorities. When Drucker commented in 1946 that 'General Motors has not worked out fully the organization of the large corporation', he was largely right (Drucker 2008: 129).

On the other hand, it is hardly fair to blame Sloan for creating an organization that was well suited to one set of market circumstances but not to others that subsequently arose. Perhaps Sloan's only mistake was to craft a strategic and

organizational blueprint so coherent that it created the illusion of perfection and immutability. It's hard to imagine, though, that this was Sloan's intent. As Drucker pointed out in his epilogue to the 1983 edition of *Concept of the Corporation*, 'Alfred Sloan and Charles Wilson [Sloan's successor as president of GM] had been highly innovative people who always asked, "What is the right question?"' (Drucker 2008 310–311). As he once said when defending an executive who had outraged his superiors by asking whether General Motors should spin off Chevrolet to promote the company's growth following the Second World War, 'We don't penalize people for their opinions – we want them to have opinions' (Drucker 1997: 283). Fortunately for General Motors, during the 1920s and 1930s, when the company and the US automotive industry were taking their modern form, it was Sloan's opinion that counted most.

See Also

- ▶ [Decision-Making](#)
- ▶ [General Motors](#)

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Slotting Allowances, the Effect of

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Abstract

The use of slotting allowances in the retail sector is controversial and has led to two divergent views of their effectiveness. The first view argues that these allowances enhance efficiency because they convey information that allows resources to be allocated in the most efficient manner. On the other hand, the second view argues that because these allowances can stifle competition at the retail level, they are anticompetitive. In this entry, we present the arguments from both sides of this debate.

Definition A slotting allowance is a lump-sum payment made by a manufacturer to a retailer in order to get the manufacturer's new product placed in the retail store. In return for the slotting allowance, the retailer agrees to stock the new product and keep it on the shelf for at least 4–6 months, the minimal amount of time needed for the product to gain traction.

Slotting Allowances, Slotting Fees

Not only are slotting allowances expensive for manufacturers, they are also controversial in that researchers, practitioners, and regulators continue to have differing views about their effect on the market, specifically whether these allowances stifle competition or whether they enhance efficiency. In this entry, we briefly highlight the key practical and theoretical issues raised over the years.

Slotting allowances or fees first began to appear around the early to mid-1980s (Supermarket News 1984; Smith 1989) and soon accounted for a significant proportion of new product introduction costs. According to Deloitte

and Touche (1990), slotting fees accounted for US\$9 billion in annual promotional expenditures and represented more than 16% of the new product's introductory costs; in contrast, product development amounted to 14% of the costs. The growing importance of these fees in the grocery industry prompted the Federal Trade Commission (FTC) to request an investigation into the practice of slotting fees, particularly to ensure fair competition in the retail grocery business. The resulting report (FTC 2003) highlighted the effects of slotting allowances based on detailed case studies of eight retailers. While it is difficult to extrapolate from this small sample, these preliminary results still shine a light on the costs associated with these fees. In particular, six out of eight surveyed suppliers stated that they pay slotting allowances for 80–90% of their new product introductions; for the five categories studied, the combined average amount of slotting allowances (per item, per retailer, per metropolitan area) ranged from US\$2313 to US\$21,768, depending on the particular retailer and metropolitan area. The bottom line is that a nationwide introduction of a new grocery product would require an average of US\$1.5 to US\$2 million in slotting allowances. The FTC currently takes a neutral stance on whether slotting fees are detrimental or helpful to fair trade in the grocery industry, noting that there is some evidence for both effects. In contrast, the Bureau of Alcohol, Tobacco, Firearms and Explosives banned slotting allowances in the alcohol trade in 1995 (Gundlach and Bloom 1998).

Given the significant cost and importance of slotting fees, academic researchers have developed stylized models to understand the effects of such fees. The central question is whether they make the market more efficient or whether they have an anticompetitive effect. Not surprisingly, depending upon the model, researchers find evidence for both. Below, we summarize the findings.

Slotting Allowances Aid Efficiency

Slotting allowances can play a role in conveying information from the manufacturer to the retailer

(or vice versa) and also provide an incentive to allocate resources appropriately.

Signaling and screening. It is generally believed that, although manufacturers possess better information about their new products than their retailers, manufacturers may also have an incentive to overstate the likely demand for the product; knowing this, retailers are skeptical of manufacturers' claims of high demand. A stream of models suggest that slotting allowances enable manufacturers to effectively communicate their new products' potential success to retailers and help retailers screen out less profitable products (Kelly 1991; Chu 1992; Desai and Srinivasan 1995; Messinger and Chu 1995; Lariviere and Padmanabhan 1997; Sullivan 1997; Desai 2000; Sudhir and Rao 2006). The basic argument is that a manufacturer that plans to introduce a new product with low market demand will find it unprofitable to offer a slotting allowance; as a result, if a manufacturer offers a slotting allowance, it credibly signals to the retailer that the product is of high demand.

Allocation of limited shelf space. Given the retail environment in which shelf space is fully utilized and fixed (at least in the short run), it stands to reason that placing a new product onto the shelf necessarily implies that an existing product has to come off the shelf. When the demand for the new product is uncertain, the opportunity costs of shelf space are high. As a result, retailers will not accept a new product without the inducement of slotting allowances. Thus, these allowances lead to an efficient allocation of the scarce shelf space (Lariviere and Padmanabhan 1997; Desai 2000). Sullivan (1997) finds empirical support for this proposition by analyzing time series data on new product introductions.

Risk-sharing. There is a general consensus that new product introductions are risky. Depending upon how the new product is defined, some estimates place the failure rate as high as 80% (FTC 2001) while others place the rate around 25% (FMI 2002). Given a substantial failure rate, retailers face the burden of a direct cost associated with introducing a new product on the shelves and a cost of unsold inventory if the product were to fail. In this case, a slotting fee can simply be

thought of as a fee to compensate the retailer for the costs of introducing a new product and the risk of taking on a product that has a high chance of failing (FMI 2002).

Distribution coverage. Competition among retailers often leads to a lower retail price. If the manufacturer had to pay a slotting allowance, then it would have to compensate by charging a higher wholesale price. This higher wholesale price would mitigate competition at the retail level and thus enhance distribution coverage (Desai 2000; Israilevich 2004; Kuksov and Pazgal 2007).

Slotting Allowances Are Anticompetitive

Because of the upfront payment associated with a slotting allowance, it is obvious that larger manufacturers may find it easier to make the payment than smaller manufacturers. But there are several other considerations, specifically the power of retailers and manufacturers, that also can have an anticompetitive effect. We highlight these below.

Higher retailer power. Concentration in the supermarket industry has increased steadily over time – the top five firms' market share increased from 20% in 1993 to 42% in 2000. In a standard negotiation between a manufacturer and a retailer, bargaining models would predict that the more powerful party should get the better deal. As such, as retailers become more powerful, they can demand lower wholesale prices or upfront fees such as slotting allowances (Chu 1992). Although higher retailer power can certainly explain the presence of slotting allowances, the empirical evidence on this issue is not conclusive (Farris and Ailawadi 1992; Messinger and Narasimhan 1995).

Lower retail competition. In a simple, linear price contract, the wholesale price is a reasonable lower amount of the retail price. If manufacturers pay slotting allowances to retailers, they also charge higher wholesale prices which, in turn, lead to higher retail prices. The correspondingly higher retail prices can be interpreted as tacit collusion among retailers, collusion that would

not be possible were it not for the slotting allowance paid by the manufacturer (Shaffer 1991; Foros and Kind 2008).

Dominant retailer. In retailing, more of the power has shifted towards a few powerful retailers such as Wal-Mart (e.g., Raju and Zhang 2005). A presence of a dominant retailer can have a strong anticompetitive effect. Marx and Shaffer (2007a) show that slotting allowances can contribute to a scarcity of shelf space. In particular, slotting allowances induce the dominant retailer to limit its shelf space when shelf space would otherwise be plentiful. Therefore, slotting allowances can be anticompetitive even if they have no effect on retail prices.

Dominant manufacturers. If retailers negotiate with manufacturers sequentially, then the more powerful and larger manufacturers will get first crack at the retailer's limited shelf space. In particular, a dominant manufacturer can use slotting allowances to bid up the price of shelf space and exclude fringe rivals. Excluding fringe firms from the market leads to higher prices, a decrease in choices for consumers and a decrease in overall welfare (Shaffer 2005). Furthermore, slotting fees can play a powerful role of locking up shelf space and deny distribution coverage to smaller rival manufacturers (Marx and Shaffer 2007b).

In summary, we note that slotting allowances play an important but controversial role in retail distribution. While the theoretical research predicts both a competitive and an anticompetitive effect, the empirical research in this area has been limited in scope – either based on simple surveys (Bloom et al. 2000) or with limited data. The most extensive empirical analysis is presented by Sudhir and Rao (2006) who find that slotting allowances efficiently allocate shelf space, balance risk, and mitigate retail competition; importantly, they do not find evidence for an anticompetitive effect. A caveat we note is that while the extensive dataset in their study is from 1986 to 1987, substantial changes in this industry have occurred after the period of analysis. This suggests that slotting allowances need to be explored further and largely from an empirical perspective.

See Also

- ▶ [Asymmetric Information](#)
- ▶ [Competition](#)
- ▶ [Market Power](#)
- ▶ [Price Leadership](#)

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Small World Networks: Past, Present and Future

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Definition The small world network is a network structure in which pairs of actors are not directly linked to each other but can reach each other via a small number of intermediaries (or paths).

The structure features a short average path length and high clustering among the actors.

The small world phenomenon refers to a social networks in which pairs of actors (or nodes) are not directly linked to each other but can reach each other via a small number of intermediaries (or paths). This concept corresponds to our everyday life experience of meeting a complete stranger with whom we have little in common and finding unexpectedly that we share a mutual acquaintance – ‘It’s a small world!’ (Watts 1999). Milgram (1967) used a letter-referral technique to trace acquaintance chains, and showed that it takes on average six intermediaries for a person in Kansas and Nebraska to deliver a letter to a complete stranger in Boston. This conclusion was also known as ‘six degrees of separation’. The television network ABC conducted and screened its own version of an experiment to test the same idea in 2006. What makes this concept of small world prominent is that the small world network affects many important social processes, such as diffusion of political concerns and personal influence as well as access to information and innovative ideas that have significant consequences for individuals, organizations and society as a whole.

The idea of small world phenomenon was first taken up by Pool and Kochen in 1958 (Pool and Kochen 1978), empirically tested by Milgram and formally modelled by Watts and Strogatz (1998). The Watts and Strogatz model, based on the graph theory, depicts a network structure with short average path length and high clustering among the actors. In other words, it is a network structure featuring clusters of locally dense interaction connected via a few bridging ties. It is a new approach to the formal modelling of small world networks which generated a new wave of empirical research (Watts 2004). The small world networks have been found to organize various social systems at both individual and organizational levels such as friendships, scientific collaborations, production teams, board interlocks, ownership linkages, corporate alliances, the Hollywood actor labour market and commercial airline hubs (Schnettler 2009). In the fields of strategic

management, small world networks have attracted much attention in the area of creativity and technical innovation.

The actors in small world networks are connected to each other through a relatively small number of intermediaries, despite their overall sparse connection. This feature has been argued to allow dense and clustered relationships to coexist with distant and more diverse ones (Watts 1999). This combination brings not only trust, information exchanges and knowledge diffusion but also fresh and non-redundant information to the cluster. Such a network structure has been demonstrated to be able to facilitate creativity and innovation in contexts such as Broadway musicals, the biotechnology industry, patent inventors’ collaboration networks and strategic alliance networks (Powell et al. 2005; Uzzi and Spiro 2005; Fleming et al. 2007; Schilling and Phelps 2007) as well as in computer simulation (Baum et al. 2010).

For the past 40 years, particularly since 2000, when more large-scale electronic data became available, research on small world networks has made major accomplishments (Schnettler 2009). However, there are pending issues that make certain studies promising in the future. First, while most of the existing works examine the impact of small world networks, few look at the origins of such network structure (Baum et al. 2003). As a result, our knowledge regarding where the small world network comes from remains limited. We are uncertain if the small world network prevails in most social contexts or only in certain settings. A related and equally important question is how the small world network evolves. Second, existing research also focuses on the collective, structural level, illuminating how the small world structure affects actors as a whole within the network. We have little understand of whether or not there is systematic variation among individual persons or organizations in terms of access to the resources and information available in the network; or, if there is, what explains the variation (Singh et al. 2010). Identifying the characteristics of individual actors or firms that have more access

to network resources will have significant implications to the literature of competitive advantage. Finally, while the current focus on innovation and creativities generates consistent empirical results, small world networks can also shape other key social and market processes such as collective actions and mobilization of individuals and firms in political events, and genesis and institutionalization of new strategy and organizational practices. Clarifying the role of small world networks in other areas helps provides a comprehensive understanding of the small world network concept and how it shapes actors and firms in their social environments.

See Also

- ▶ [Innovation Networks](#)
- ▶ [Knowledge Brokering](#)
- ▶ [Knowledge Networks](#)
- ▶ [Network Effects](#)

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Social Cognition

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Abstract

Social cognition, the process whereby individual and collective actors make sense of their world, is broad in its theoretical reach. Initially concerned with individual cognition, emphasizing how people create and use knowledge structures to navigate their social context, social cognition has widened to the macro level, and the shared, distributed and collective understandings that are both mental models and cultural tools of [sensemaking](#). Thus, social cognition describes not only the social embeddedness of cognition but the social nature of cognition. We review the ways in which the relationship between the social and the cognitive has been theorized.

Definition Social cognition is the process by which actors, at individual or collective levels, decode and encode their social world, using mental models, knowledge structures and cultural understandings to process information, extract meaning and determine appropriate action. Actors are assumed to operate on mental representations, be limited and biased in information processing, function mindlessly or mindfully, and draw on cultural resources.

Social cognition is the process by which actors, at individual or collective levels, decode and encode their social world, using mental models, knowledge structures and cultural understandings to process information, extract meaning and determine appropriate action. Actors are assumed to operate on mental representations, be limited and biased in information processing, function mindlessly or mindfully, and draw on cultural resources.

The genesis of organizational scholars' interest in social cognition can be traced to 1969 and the publication of Karl Weick's influential tome *The Social Psychology of Organizing*. A decade later, a 'cognitive turn' ensued, and by the early 1990s, '[f]ew areas of contemporary organizational science remain[ed] untouched by a cognitive agenda' (Meindl et al. 1994: 289). Today, the field is immersed in a "wave" of cultural analysis' (Weber and Dacin 2011: 1) and, with it, has honed in on the 'social' nature of social cognition (e.g., Weber et al. 2008; Wry et al. 2011).

Roots in Cognitive and Social Psychology

Initially, Neisser's *Cognitive Psychology* (1967) defined the field, diverting attention from behavioural, stimulus-response theories and instead to cognition, especially individuals' knowledge structures – that is, 'mental template [s] that individuals impose on an information environment to give it form and meaning' (Walsh 1995: 281). Organizational scholarship focused on the *content* of individuals' knowledge structures (e.g., Gioia and Manz 1985) and their *functionality* for management (e.g., Gioia and Poole 1984; Ashforth and Fried 1988). This forged a link between social cognition and behaviour, a theme that has endured. For example, cognitive scripts – 'schematic knowledge structure held in memory that specifies behavior or event sequences that are appropriate for specific situations' (Gioia and Poole 1984: 449) – have been used to explain both automatic or 'mindless' behaviour (e.g., Ashforth and Fried 1988) as well as more deliberate monitoring of behaviour

to match situational demands (Gioia and Manz 1985). Beyond content, organizational scholars have also examined the *structure* of knowledge (e.g., Weick 1979; Kiesler and Sproull 1982), as well as those social processes that enable organizational members to 'know the environment' (Daft and Weick 1984: 285). As Walsh makes clear, knowledge structures are not conceived of in isolation; rather, they consist of 'organized knowledge about an information domain' (Walsh 1995: 282) that enables 'subsequent interpretation and action' (Walsh 1995: 281). By conceiving of organizations as systems of interpretation, scholars attended to how organizational members function as cognate social actors who obtain, filter and process information in order to make interpretations and guide actions (Daft and Weick 1984). This approach to social cognition emphasizes how cognition affects behaviour; the reverse – how behaviour affects cognition – has also been under study.

► **Sensemaking** – 'the ongoing retrospective development of plausible images that rationalize what people are doing' (Weick et al. 2005: 409) – has helped to define social cognition in organizational scholarship (e.g., Gioia and Chittipeddi 1991; Weick 1993, 1995; Maitlis 2005). Sensemaking (Weick 1995) is grounded in ideas of enactment and retrospect, such that people can enact their way into understanding their environment. Action is guided by existing knowledge structures only when the present situation is perceived as similar to the past; when this is not the case, actors engage in cognitive processes to make sense of the new environment (Weick 1995). This suggests that the primary role of knowledge structures is to make sensible the past so that it can inform the present. It is in this sense that action can be considered to precede interpretation.

Increasing Influence of Cultural Sociology

Although the 'social' in social cognition implies collectivity or shared mental processes, the theory's origins in psychology has led to an

emphasis on individual cognition, leaving ‘organizational theorists ill-equipped to do much more with the so-called cognitive revolution than apply it to organizational concerns, one brain at a time’ (Weick and Roberts 1993: 358). In this view, ‘cognition’ and ‘social’ are distinct aspects. This was made clear in a special issue of *Organization Science*, in which the editors posed five key questions for future research; four of which focused on cognitive structures and processes, invoking the ‘social’ as either antecedent or outcome of a particular level of analysis (Meindl et al. 1994). More generally, the ‘social’ aspect seems to have privileged its ability to constrain rather than enable. Recent work, drawing on reformulations of culture as a toolkit of resources (Swidler 1986), has begun to change this. Weber and Glynn (2006), linking institutions and sensemaking, theorize the existence of three mechanisms – priming, editing and triggering – by which ‘people make sense *with* institutions, not *in spite of* them’ (p. 1657). In other work, Glynn (2008) has shown that institutions supply organizational actors with the elements necessary to construct, make sense of and legitimate identities. Interestingly, this redounds to Weick’s (1995) early work that emphasized how cognitive processes and content are inherently social. In this view, it is impossible to separate social and cognition: *cognition is social*, occurring outside the individual and as a property of the social or cultural system, rather than an aggregation of individuals (Jepperson and Swidler 1994).

Culture, as defined by Swidler (1986: 273), refers to those ‘publicly available symbolic forms through which people experience and express meaning’. Thus, culture is essential to cognition because it supplies the tools with which actors can make sense of their environment and determine strategies of action; moreover, it is essential to how other social actors perceive and interpret other actors (e.g., Zuckerman 1999). Although there has been increasing attention to collective meaning-making (e.g., Rao et al. 2003; Navis and Glynn 2010), there are significant opportunities for expanding social cognition at this level of analysis. Jepperson and Swidler (1994) make clear that cognition does not have to be shared to be

collective; rather, it can be the property of the social systems. A deeper understanding of how these properties, and the underlying mechanisms, influence and result from cognition, particularly in organizational contexts, may open new perspectives on researching social cognition.

To conclude, our overview of social cognition in organizational studies highlights how its early beginnings in psychology led to its initial emphasis on cognition (rather than the social) and individuals’ creation and use of knowledge structures (Gioia and Poole 1984; Gioia and Manz 1985). From here, a focus on interpretative processes (e.g., Daft and Weick 1984) led us to consider cognition in a social context. Finally, in recent years we have begun to move towards the collective level and emphasizing the social in cognition (e.g., Weber and Glynn 2006; Glynn 2008). What this work suggests is that a deeper understanding of social cognition may benefit from treating it as a singular term, rather than as two separate nouns. Our hope is that our ideas provoke future research in these areas.

See Also

- ▶ [Cognition and Strategy](#)
- ▶ [Cognitive Dissonance](#)
- ▶ [Heuristics and Biases and Strategic Decision-Making](#)
- ▶ [Hindsight Bias, the](#)
- ▶ [Sensemaking](#)

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Social Entrepreneurship

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Abstract

Social entrepreneurship entered the academic lexicon in the 1990s to capture the idea of entrepreneurship with particular kind of ► **strategic intent**. It represents the innovative and resourceful pursuit of opportunities with the primary strategic intent to achieve a particular improvement in social or environmental conditions. Some authors require that the methods used in this pursuit be based on earned income, as opposed to donations or grants, but others remain open about the business model used. Researchers have argued that the concept is sufficiently distinct from entrepreneurship in general so as to justify its own research agenda.

Definition Social entrepreneurship is the innovative and resourceful pursuit of opportunities with the primary strategic intent to achieve a particular improvement in social or environmental conditions.

Social entrepreneurship is the innovative and resourceful pursuit of opportunities with the primary ► **strategic intent** to achieve a particular improvement in social or environmental conditions. On some accounts, it also requires the use of business methods and perhaps a profit objective alongside the social objective, but this is an area of debate.

The concept entered the academic lexicon in the 1990s, picked up from the ‘first-order

theorizing of practitioners' (Schultz and Hatch 2005). The academic literature reflects both the agreements and disputes inherited from the practitioners. They tend to agree that social entrepreneurs: (1) deliberately aim to create positive societal impact as a primary objective; (2) can use different legal forms of organization (non-profit, for-profit, or some mix) to achieve this objective; and (3) behave in ways that are appropriately described as 'entrepreneurial'. The main element of dispute revolves around the meaning of 'entrepreneurial'.

Innovation, Enterprise, or Both

The language of 'social entrepreneurship' came out of two overlapping schools of practice and thought. One school emphasizes ► *innovation for a social purpose*, in the spirit of ► Schumpeter, Joseph (1883–1959). The other school emphasizes *enterprises created for a social purpose*, namely starting and running a social-purpose business (even if it is legally a non-profit). Both schools settled on the term 'social entrepreneurship' in the 1980s and 1990s.

The social innovation school emerged from the work of Michael Young, founder of what is now the Young Foundation (see Mulgan 2006), and Bill Drayton, founder of Ashoka: Innovators for the Public (see Bornstein 2004). Many academics have embraced this emphasis on innovation. This approach fits well with the views of Drucker (1985), who wrote about innovation and entrepreneurship throughout society, not just in the economy. While Schumpeter never wrote about social entrepreneurship, Richard Swedberg (2009) has proposed a Schumpeterian account, drawing on comments about 'non-economic entrepreneurship' in the 1911 edition of the *Theory of Economic Development*. Swedberg's account includes a mission to achieve social change, innovation in the form of certain kinds of new combinations, resistance to those changes, with 'profit' – defined as achieving the desired social change, and a macro-level process of creative destruction that contributes to the evolution of society. The innovation school has evolved to

focus on effective strategies for lasting social change (see Martin and Osberg 2007).

The social enterprise concept grew out of the drive for non-profit organizations to find new, reliable sources of revenue (Skloot 1983) and a push to position social problems as business opportunities, led by William Norris, the founder of Control Data (see Worthy 1987). These agendas merged to encompass any social-purpose business ventures, regardless of legal form. Interestingly, several early social enterprise practitioners who did the first-order theorizing later took positions at major universities: Skloot at Duke, Boschee (1995) at Carnegie Mellon; Shore (1995) at NYU; Emerson at Harvard, Stanford and Oxford (Emerson and Twersky 1996). The first issue of the *Social Enterprise Journal* laid out a research agenda for this school (Haugh 2005). The enterprise school has evolved to encompass market-based solutions to social problems and new legal forms of organization, helping to create the 'community interest company' in the UK and inspiring 'benefit corporation' legislation in the US.

The tensions and overlaps between these two schools have enriched discussions. Some (e.g., Elkington and Hartigan 2008) have integrated elements from both schools. Innovative enterprises designed to achieve significant social impact with minimal or no dependency on outside subsidies are particularly appealing in practice, and they pose intriguing research questions about strategies for aligning social benefits and economic wealth creation (Dees and Anderson 2006).

Academic Response

A number of academic centres have been created to build bridges between academic researchers and active practitioners in this area. Two of the most prominent are the Skoll Centre for Social Entrepreneurship at Oxford and the Center for the Advancement of Social Entrepreneurship at Duke. Two academic journals are now dedicated to the field, the *Journal of Social Entrepreneurship* and the *Social Enterprise Journal*.

The *Stanford Social Innovation Review* covers social entrepreneurship among other topics, but in a more practitioner-oriented way. The Ashoka University Network has become a general resource for interested academic institutions.

Research Issues

Much of the early academic work has been concerned with definitions and typologies (see Zahra et al. 2009). This work has confirmed that social entrepreneurship generates a number of fruitful research topics distinct from those raised by commercial entrepreneurship (see Anderson and Dees 2006; Austin et al. 2006), such as identification of opportunities for social impact, social ► [innovation strategies](#), designing business models that align with social impact, resources strategies for social ventures, the effects of legal forms, financing, governance models on social venture strategies, competitive and collaborative strategies for social entrepreneurs, methods of measuring social impact and linking this to strategic decisions in a timely way, alternative strategies for scaling social impact drawing on resource-based and capabilities-based strategy literatures, contextual and institutional factors affecting social entrepreneurship and more. The literature is growing rapidly. Select examples at the time of writing include Christensen and colleagues (2006), which applies a disruptive innovation construct to social entrepreneurship; Zahra and colleagues (2008), which analyses how key attributes of social opportunities affect decisions regarding timing and geographic scope of operations; Mair and Marti (2009), which illustrates how social entrepreneurs can fill institutional voids; and Nicholls (2010), which maps the evolving landscape of financial resources available to social entrepreneurs.

The overlap with corporate strategy appears to be increasing. Austin and colleagues (2006) have argued that it is advantageous for corporations to engage in social entrepreneurship in response to increasing expectations for social engagement. Porter and Kramer (2011: 65) echoed this theme in their call for companies to create ‘shared

value’ – economic value that also benefits society, noting that social entrepreneurs ‘are often well ahead of established corporations’ in this regard (p. 70). Companies wishing to operate profitably in what Prahalad and Hart (2002: 54) have termed ‘the bottom of the pyramid’ may benefit from exploring social entrepreneurial business models in developing economies (Mair and Schoen 2007). Drayton and Budnich (2010) have argued that value chain partnerships between larger corporations and social entrepreneurs can open up new strategic options.

See Also

- [Drucker, Peter: The Drucker Strategic Management System](#)
- [Innovation](#)
- [Innovation Strategies](#)
- [Porter, Michael E. \(Born 1947\)](#)
- [Prahalad, C. K. \(1941–2010\)](#)
- [Schumpeter, Joseph \(1883–1950\)](#)
- [Strategic Intent](#)

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Sociology and Strategy

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Abstract

Sociological theory offers many possible contributions to strategic management, although most of these are not widely recognized as such. Sociological ideas about sustainable advantage among firms involve both capability-based and position-based approaches. Key mechanisms include organizational structure, organizational change, organizational culture, producer status, category-based identity and social networks.

Definition Sociology is a major discipline of the social sciences, focused especially on questions about the emergence and impact of social structure on the behaviour of individuals, groups, families, organizations, institutions, nation-states and societies. Variations in social structure create, sustain and destroy strategic opportunities for firms.

At its core, strategy concerns the origins and dynamics of sustained performance differences between firms. Strategy shows a natural affinity with sociological theory and is often influenced by sociological thinking. Nonetheless, most business school faculty see strategy as grounded mainly in economics, rather than sociology. The economic emphasis comes through clearly in Michael Porter's classic framework for strategy, which builds on ideas from industrial organization. Similarly, the resource-based view of strategy relies heavily on economics of scope for its explanatory power.

The peripheral standing of sociology in strategy carries great irony. While economics provides an unparalleled framework for analysing strategic competition, theoretical ideas within sociology provide a strong basis for identifying and understanding actual sustainable sources of strategic advantage.

Most economic approaches to strategy carry an (often implicit) assumption that the underlying economizing forces are strong and sometimes even immediate in their impact in generating outcomes, including firm success and dominance. By contrast, sociologists typically try to assess the balance between economizing forces and other, perhaps cultural or institutional, forces. Many sociologists also think that even if economizing forces dominate, the time lag to weed out inefficient social entities may be long. In either case, the implication is that, in the sociologist's eyes, the world seen at any point in time would not be as efficient or as close to equilibrium as economics would imply. Accordingly, sociologists often develop theories and research about strategy that emphasizes the dynamics among firms rather than only their eventual equilibrium outcomes. Most notable among the relevant theoretical perspectives is ► [organizational ecology](#), which maps firms' positions and behaviours to market success and failure.

Sustained competitive advantage can be understood as a social transmission problem: how can a firm's competitive advantage in one period be passed on to subsequent periods? The organizational sociologist believes that transmission occurs through the structural elements of an organization and the ways in which these elements institutionalize the behaviours supporting the firm's distinctive organizational capabilities (those activities a firm does much better than its competitors). That is, the organization sustains particular patterns of interaction between individuals within productive units. Sociological work on organizations is also the basis for insights about strategic implementation.

An alternative approach to the transmission question emphasizes beneficial position: advantages embedded in market structures that allow some firms to secure economic rents independent of their capabilities. Sociological theory contributes to strategy's understanding of market structure, and its supporting institutions. Moreover, sociology enables understanding of the general social processes that sustain inequality in outcomes, allowing positional advantages to persist.

Sociological mechanisms that play out in strategy include organizational structure, social status, category-based identity and networks. Of these, organizational structure typically yields capability-based advantages while the others usually provide positional advantage. Each mechanism can yield distinctive sustainable (and largely inimitable) strategic advantages. Although not ignored by strategy analysts, these processes do not command great attention in the research and practice of strategic management. Conversely, sociologists would benefit from engaging more with strategy scholars.

Organization and Capability-Based Advantage

Sociology's recognized contributions to strategic management often begin with Philip Selznick's notion of distinctive competence, which provides a basis for understanding how an organization can generate ► [Sustainable competitive advantage](#). Today, distinctive competence is commonly interpreted almost mechanistically to mean an activity the organization can do better than its competitors. This narrow reconceptualization, however, obscures the role of organizational processes in creating and sustaining such advantages. Selznick's original meaning was broader, and was explicitly linked to his notion of institutionalization, which he famously described as an 'infusion with value beyond the technical requirements of the task at hand' (Selznick 1957: 17). This infusion with value leads to distinctive competence:

As an organization is 'institutionalized', it tends to take on a special character and to achieve a distinctive competence, or perhaps a trained or built-in capacity ... Such patterns must be understood as response to both internal and external environments. (Selznick 1996: 271)

In other words, the cultural or symbolic meanings attached to organizational procedures give them their sociological character; understanding their origins and persistence cannot be fully explained by economic calculations. Moreover, the process of institutionalization exhibits path dependence and this explains why firms in the

same market may differ, despite facing common economic forces.

Heterogeneity among firms originates in the myriad decisions that are involved in creating and maintaining organizations to implement a strategy. Starting with Alfred Chandler's classic structure-follows-strategy thesis, scholars emphasize how decisions about the formal structure of the organization can be critical in determining the fate of even well-conceived strategies. Almost all contemporary strategy analysts demand not just a 'good' organizational structure but a well-aligned one, a structural design that supports the chosen strategy in crucial ways.

Organizational Change/Inertia and Evolution

Organizational alignment involves both the chosen strategy and the environment. As environments change, organizations need to respond accordingly in order to stay aligned with their markets. Much organizational sociology assumes that individual organizations change as environments change. However, organizational ecology posits that major change within an organization is generally difficult to enact and often deleterious in its effects when it can be enacted (Hannan and Freeman 1984). This assumption implies a selection model of organizational evolution whereby change over time in a domain occurs through the replacement of some forms of organizations with other forms as environmental conditions shift. In selection imagery, the environment acts as a sieve that causes poorly aligned organizations to fail. Strategy researchers such as Clayton Christensen have made inertia and its causes a major concern of strategic management. Moreover, ecology has brought the study of firm dynamics and failure to the centre stage of strategy. Accordingly, research designs now often follow single populations of firms over long periods of time, modelling the ways competition affects founding, growth, transformation and failure.

Informal Structure and Organizational Culture

Early analysts of bureaucracy such as Alvin Gouldner and Peter Blau recognized the importance of an organization's informal structure – the networks of interpersonal relationships, for

example – as well as an organization's culture. This view holds that to understand how an organization works, the analyst needs to know who talks to whom, and to understand their dominant norms and values. Although these insights were originally used to account for the 'pathologies' of bureaucracy, in the 1980s ► [organizational culture](#) and social networks came to be widely seen as potential sources of advantage for organizations through the research of sociologists such as Rosabeth Moss Kanter and William Ouchi.

In analysing culture, it helps to distinguish between the content of the culture and the distribution of content among organizational members. Content refers to the actual norms, attitudes and behaviours that one finds in an organization. Alignment of cultural content with strategic direction is generally regarded as beneficial, but it has proven difficult to define such alignment in a consistent and falsifiable manner. As a result, the same content is seen as beneficial when it apparently works, and as harmful when it does not. For example, risk-taking was a cultural trait at Enron and Bear Stearns, and was believed to be responsible for the companies' successes, but also their downfalls.

Following the 1980s, organizational theorists have focused on the distribution of cultural content, which refers to the variations of content across individuals, units and time. O'Reilly (1989) defines a strong culture by two distribution-related factors independent of content: (1) high homogeneity of content among individuals, and (2) high intensity of involvement and feelings about content by individuals. Empirical studies have established an association between strong cultures and firm performance (Sørensen 2002).

Organization as Advantage

A well-aligned organization not only allows for successful implementation of strategy, it also comprises a central component of the strategy itself. In other words, organizational decisions about a firm can hold the same importance *qua* strategic value as do decisions about market positioning, investment and competitive interaction, for example. Why? First, once in place,

organizational structure can be robust, and difficult if not impossible to imitate, borrow or transfer with similar results. The complex and subtle interdependencies typically found between an organization's features usually prove difficult for competitors (and even insiders) to understand, and cannot simply be transferred by hiring a firm's workers. Second, an organization's design may itself be the structural source of new ideas and competencies. In particular, certain structural features of organizations may interact to encourage or discourage specific kinds of exploratory learning (March 1991). So, an organization's structure – formal and informal – may prove invaluable for sustainable strategic advantage. At the same time, a potential irony often arises in these instances: competitive advantages embedded in an organization may not only be harder for competitors to understand – the interdependencies involved may not be well understood by the managers of the firm themselves, making it possible for them to squander their advantages inadvertently.

Sociological Models of Competition and Positional Advantage

The sociological view of positional advantage differs markedly from that of economics. The notion of entry barriers perhaps best exemplifies the economic conception. Here positional advantages derive from differences among actors in their relationships with material resources – in particular, ownership of physical or intellectual capital. In the sociological conception, by contrast, positional advantages derive from differences among actors in where they stand in relationship to other actors in the market. These other actors may be a firm's identifiable exchange partners, as in network approaches, or they may be a more generalized set of market participants whose perceptions of firms (and their interrelations) define the structure of the market and constrain and enable different strategic opportunities.

Anchoring positional advantage in social relationships in the market opens up a rich terrain for sociological theorizing. In particular,

sociologically inclined ideas about positional advantage profit from theory and research on what Max Weber termed social closure: the processes by which access to resources and opportunities is restricted to a limited number of parties. In strategy, the most prominent sociological approaches to positional advantage emphasize producer status, category-based identity and social networks.

Producer Status

In the past two decades, status gained a central role in sociological accounts of market processes (Podolny 1993). Status is defined as 'the prestige accorded to individuals because of the abstract positions they occupy rather than because of their immediately observable behavior' (Gould 2002: 1147). Thus, firm status reflects expectations about the relative esteem or honour of a firm. What makes status positional, and not simply a function of the firm's capabilities, is that those expectations are shaped by an evaluator's assessment of the extent to which others esteem or honour the firm. Differences in status arise in almost every social context, but the strength and sources of these differences vary widely across contexts.

For firms in a market organized by prestige, the status of a producer is consequential – it sorts firms hierarchically and provides potential strategic advantage, producing tangible differences in outcomes despite its purely relational construction. Joel Podolny's research documents a 'Matthew Effect', described initially by Robert Merton in his study of scientists, whereby high-status actors gain more for the same actions than lower-status actors. Among firms, similar benefits occur because other organizations (producers, suppliers, buyers) are eager to do business with them and offer better terms of trade. The eagerness comes from the relational nature of status; an entity's status is a function of the status of its regular interaction partners, making exchange with higher-status partners more attractive. So, highstatus firms often get better-than-usual deals, talent and supplies for the prices they pay.

While the benefits of high status are clear, it is worth noting that status processes shape market structures more generally, since status processes

are self-organizing. Similar statuses attract each other and maintain boundaries with other statuses, and high status is lost if not protected by interacting primarily with other high-status actors. As a result, other positions in the status ordering are potentially viable – middle- and even low-status positions may be attractive places to build and sustain strategic advantage.

Categories and Identities

The effects of status derive from the constraints imposed by generalized expectations about how actors relate to each other along a vertical dimension. By contrast, theory and research on institutionalized categories emphasizes expectations about horizontal differences among firms, that is, definitions of who they are and what they do. By institutionalized category, we mean a collectively recognized social identity associated with expected images, behaviours and performance characteristics, usually tied to some underlying cultural schema. When it comes to organizations, categories are often recognizable by the name (formal or informal) of the form, type or kind of organization that applies to an organization (e.g., liberal arts college or military academy).

The expectations rooted in institutionalized categories play a role in strategic behaviour and thus affect performance. In particular, while most organizations belong to multiple categories simultaneously and only fit any given one partially, tangible benefits flow to those firms that are judged to conform to categorical expectations. Sometimes these benefits result from intended effects of official certification, as with endorsement of a medical school by the American Medical Association. At other times, the category-fit outcomes occur because they facilitate cognitive processing among the relevant institutional gatekeepers. Finally, at times various audiences seem to reward the consequent purity of the organization as perceived by its fit to the category. A special version of purity underlies the modern appeal of authenticity.

Violation of an organization's claimed identity typically lowers its perceived value and attracts negative sanctions. These sanctions can come

from the reactions of many observers and resource providers: for example, judgements by employees about whether an organization remains faithful to its traditions and culture, or calculation of pecuniary value by outsiders. Zuckerman (1999) documents this process among securities analysts, whose valuations of securities depend heavily on the conformity of a firm with the institutionalized category schemes used by the analysts. Firms operating in multiple markets that do not sit neatly within the categories are less likely to be followed and analysed properly. Accordingly, their attractiveness to investors falls, their stock market returns do as well, and in the long run these firms take actions (e.g., acquisitions and divestitures) to conform more closely to the institutionalized categories.

The strategic value of an identity based on authenticity can be seen in the US craft beer market. Mass producers of beer face few if any technical hurdles to producing beers of the same style and quality as microbreweries, and indeed would appear to have major advantages in the form of capital, technological expertise and distribution networks. Yet mass producers find themselves at a positional disadvantage in this market segment, and microbreweries have succeeded in establishing a sustainable niche in the market. The reasons are rooted in categorical expectations. The microbrewery identity dictates that a brewer makes and sells malt beverages according to traditional methods and using natural ingredients. In addition, by these expectations a microbrewer must be small and not be connected to a mass brewer. Consumers who invoke the microbrewery code shun beverages brewed by large corporations using modern methods of mass production, and even reject craft beers if a large corporation produced them. This 'social fact' previously led mass producers and contract brewers attempting to sell in the craft market to conceal their true identities from consumers.

The salience of identity-based organizational forms in the craft beer market allows operators of microbreweries and brewpubs to deploy their form identities strategically. As with social movements, identity is used to educate and challenge mainstream consumers' perceptions of beer, and

to criticize the values and practices of the dominant generalist firms and deviant specialist firms. Small specialty brewers try various tactics to differentiate and distance themselves from other types of brewing firms, which are presumed to pursue baser goals. Many modern consumer product markets, especially those related to lifestyle, show signs of assigning high value to authenticity (Carroll and Wheaton 2009). If so, then strategic advantage in these arenas will probably depend as much or more on firm identity as on the characteristics of the products or services offered.

Social Networks

Much contemporary strategy research uses network imagery and analysis to understand differences in firm performance. Network models and methods provide strong analytical tools to measure precisely and elegantly an actor's position in a network, thereby allowing systematic assessment of positional advantage. Despite this strength, no clearly defined 'network theory' of strategic advantage exists that relies on a unique sociological process; rather, network metaphors, information and methodology are typically used to analyse other theoretical ideas such as information asymmetry or homophily (something often lost in the translation to network concepts). It matters a great deal that the ideas examined through networks are often central to the theories involved, and that network methods prove extremely powerful in cutting through massively complex detailed data.

A prominent example of this would be the structural holes theory of competition of Burt (1992). Powerful as this development has been, it serves mainly to formalize and provide methodological power to accepted theories of resource dependence. Moreover, the critique of structural holes theory by Podolny and Baron (1997) does not so much provide an alternative network-based theory of competition as use network concepts to analyse other bases of competition, most notably social status and identity. The exception to this claim about networks comes from those sociologists who argue that specific network-based social ties of friendship with a competitor provide strategic advantage (Uzzi 1996).

Conclusion

Close association of strategy with economics should raise eyebrows, as the core concerns of strategic advantage are typically phenomena that reflect a departure from the normative economic model of market competition. Indeed, scepticism about the sustainability of performance differences among firms persists among some mainstream economists, and many models of market competition and structure still treat firms as undifferentiated black boxes. By contrast, much of sociology focuses on phenomena that cannot readily be accounted for by simple rational action or economizing processes. Here we have tried to highlight some ways that sociological thinking has informed and might continue to advance strategic management theory, research and practice.

See Also

- ▶ [Competitive Heterogeneity](#)
- ▶ [Institutional Environment](#)
- ▶ [Organization Theory](#)
- ▶ [Organizational Change](#)
- ▶ [Organizational Culture](#)
- ▶ [Organizational Ecology](#)
- ▶ [Resource-Based Theories](#)
- ▶ [Strategic Organization Design](#)
- ▶ [Sustainable Competitive Advantage](#)

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Software Industry

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Abstract

The software industry produces a pervasive technology with a large share of software being developed by users in different sectors. An independent software industry emerged from vertical disintegration of the computer industry and IT-intensive users such as financial organizations and telecommunications. With the diffusion of the Internet, the strategies of software firms converge with those of information technology services (e.g., data processing and outsourcing market, IT consulting) and Internet software and services. Although the sources of competitive advantage in these markets remain different, several traditional software firms diversify in the service sector by offering software applications as a service.

Definition The software industry produces two categories of goods: packaged software (e.g., operating systems, web server software, middleware, business applications and video games) and custom software. Software cannot be easily distinguished from information

technology services (e.g., data processing and outsourcing market, IT consulting) and Internet services because the boundaries between these markets are blurred.

An independent software industry emerged in the late 1960s with a growing demand for computer programs and services, the introduction of mini-computers and ‘unbundling’ – the separation of software and services pricing from hardware sales, introduced by IBM. In the early stages of computing, hardware manufacturers and users developed most of the operating systems and applications (Dorfman 1987; Flamm 1988; Steinmueller 1996). Distributed computer architectures in the 1970s and personal computers in the 1980s sparked a wave of vertical disintegration and new entry of specialized firms (Torrisi 1998). However, today, a large share of software is still produced by users that develop custom software or adapt commercial applications to their specific needs (e.g., supply-chain management and customer relationship management). In fact, a large share of software engineers and other ICT-specialists are employed by non-ICT sectors such as financial services and car manufacturers (OECD 2010).

The boundaries between software, information technology (IT) services (data processing and outsourcing market, IT consulting and other services) and Internet software and services are blurred for various reasons. First, it is not obvious whether software can be considered as a product or a service. Packaged software can be viewed as a product because it is typically developed for the mass market (e.g., the financial sector). Instead, custom software can be considered as a service because it is developed for a specific customer. Second, software delivery mode is changing from the licensing of packaged applications hosted by customers’ facilities to online access of application services (e.g., credit card payment systems and security solutions) hosted by the providers’ servers. In the traditional delivery model, revenues accrue from the payment of licence fees. In the application service model, referred to as cloud computing or software-as-a-service, customers share the costs of server facilities and services

through the payment of annual subscriptions fees or per-use tariffs. This model is similar to the office bureau model of the 1960s when General Electric and Electronic Data Systems pioneered the supply of time-sharing services. The fundamental difference with office bureau and traditional IT services is Internet and the interactive access to applications by users. The diffusion of Internet has favoured the growth of new Internet services targeted to end customers. In this market segment, specialized firms such as Google and the Internet divisions of diversifiers like Microsoft draw their revenues from the sale of online advertisements. Internet services firms offer (largely) free software and services such as web search and webmail to end consumers. The costs of services and underlying software (e.g., the software for ranking web pages) are subsidized by advertisers and publishers. This is a typical two-sided market where purchases in one market generate a spillover effect on the other market (Parker and Van Alstyne 2005).

Despite the difficulty in distinguishing software from services, there exist significant differences between these two market segments in terms of demand characteristics, cost structure and the importance of network externalities. These differences have implications for market concentration, profitability and firm strategy.

The demand for IT and Internet services is very fragmented compared with the demand for software, especially system software and cross-industry applications, where network externalities lead to standardization. Network externalities imply that a consumer's utility increases with the number of consumers of the same good (e.g., an operating system) or complementary goods (applications). Network externalities reinforce the increasing returns due to the high fixed R&D costs of software. The average R&D intensity (R&D expenditures over sales) of software firms is about 15% against 3.5% of the IT service firms. The returns on sales (net income/revenues) of the world largest software firms are also large (20–21%) compared with those of service firms (5–7%) (OECD 2010). The economies of scale due to high R&D fixed costs and network

externalities give software firms like Microsoft (operating systems and office applications), SAP (ERP) and Oracle (database management systems) a sustained competitive advantage. The most important sources of competitive advantage for services firms like IBM, Fujitsu and Accenture are skills, powerful (hardware and software) Internet platforms, and reputation. The latter is particularly important for outsourcing and application system providers.

Although economies of scale, network externalities and reputation lead to high concentration of some market segments, the market overall remains fragmented with the largest global competitors – IBM, Microsoft, HP and Oracle, accounting together for 9–19% of the world market according to total market estimates (Datamonitor 2010; OECD 2010). Moreover, the competition remains intense because of high technological and market opportunities, which favour the entry of new competitors, and continuous product and service innovations by incumbents. Of the world top 20 software and services firms in 2000 only ten were still among the top 20 in 2010. Among the new entries in the top 20 in 2010 there are two Indian firms, Wipro Ltd (outsourcing services) and Tata Consultancy (system integration services).

The convergence between computers, the Internet and consumer electronics has also affected competition by generating new threats and opportunities for software firms. The convergence between software and Internet services has intensified the competition between software publishers like Microsoft and Internet providers like Google (Internet browsers and mobile operating systems). It has also attracted new competitors from the ► [computer industry](#) such as Apple (Internet services and mobile software) and IBM (Internet-based collaborative software), which traditionally compete with Microsoft in the market for computer operating systems. Competition is intensified by aggressive external growth strategies such as Dell's acquisition of Perot Systems, Xerox's acquisition of Affiliated Computer Services, Oracle's acquisition of Sun Microsystems and PeopleSoft, and HP's acquisition of EDS.

The intense competition among large, world producers of technology platforms and services generates new windows of opportunity for new firms specializing in various business and entertainment products such as Internet software and video games.

Moreover, the Internet has eased the access to distribution channels and favoured the entry of ► [open source](#) software suppliers whose revenues are drawn from integration, updating and maintenance services rather than upfront licences. By giving up licence revenues open source firms have limited resources for R&D. But, unlike the traditional IT service providers, they rely on open source communities such as Linux Foundation (operating systems) and Apache Software Foundation (web server software). Traditional software firms like IBM and Novell sponsor the open source software to contrast Microsoft's market power in operating systems and office suites. The future expansion of open source software, however, is constrained by the difficulty to coordinate virtual R&D teams made of individuals who contribute on a voluntary basis.

This industry is dominated by US firms, with only two European firms (SAP and Amdocs) and one Japanese (Konami) ranking among the world largest ten software producers. Few non-US firms are listed among the largest ten IT service providers (Fujitsu, Capgemini and Atos Origin). The links with a leading computer industry, an excellent scientific infrastructure, a large domestic market and a strong intellectual property rights regime are key sources of competitive advantage for the US software industry (Torrise 1998). The importance of a strong IPR regime as a source of competitive advantage is testified by the share of software-related and business methods patents accounted for by US firms (Graham and Mowery 2003; Bessen and Hunt 2007; Hall et al. 2007, 2009).

The rising demand for software and IT services in the 1990s caused an excess demand for skills in the most advanced markets and opened a new window of opportunity for emerging countries such as India and Ireland whose software industry grew rapidly, led by software and IT service exports. The sources of the initial competitive advantage of these regions were the relative

abundance of skills and international openness that were fostered by linguistic and cultural ties with the world largest markets (Arora et al. 2004; Giarratana and Torrisi 2010). These two countries remain the largest sources of IT services exports, although new competitors such as China, Brazil and the Philippines (OECD 2010) have entered the market.

While insisting on the environmental conditions that affected the evolution of this industry, we should not overlook the role of organizational capabilities and strategy. For instance, IBM and Apple have reshaped their core business, sometimes anticipating and leading the changes of industry structure. Microsoft leveraged its expertise in operating systems, standard interfaces and system architectures to succeed in the market for office suites. The competitive advantage in PC software may explain Microsoft's late entry in Internet software and services (Cusumano and Selby 1995).

See Also

- [Competitive Strategy](#)
- [Computer Industry](#)
- [Innovation](#)
- [Network Effects](#)
- [Open Source](#)

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Stakeholder

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Definition Contemporary scholarship on stakeholders marks its origin with the publication of R. Edward Freeman's (1984) *Strategic Management: A Stakeholder Approach*. In that work, Freeman defines a stakeholder as 'any group or individual who can affect or is affected by the achievement of the organization's objectives' (p. 46).

Supporting this definition, stakeholder theory is a pragmatic approach to understanding how the interests (including well-being) of a broad, but

nevertheless limited, set of organizational constituencies affects, or should affect, leaders' decisions. Elaborated as a theory of strategic management by Freeman in 1984, it has also gained currency as arguably the leading theory of normative ► [business ethics](#) over the last 25 years.

Freeman is careful to credit predecessors for providing the foundation on which he builds his theory. Giles Slinger (1999) provides additional historical antecedents. Prominent questions spawned by Freeman's work in general, and his definition of stakeholders in particular, include:

1. On what conceptual principles might we further establish and delimit the basis for stakeholder status?
2. What does this status imply for managers?
 - (a) How do (or should) managers treat stakeholders?
3. What does this status imply for stakeholders?
 - (b) How do (or should) stakeholders behave?
 - (c) How are stakeholders likely to react to differences in managerial actions?
4. What are the effects (or likely effects) on firm performance of varying managerial and stakeholder action?
 - (d) How do we measure firm performance in a way that includes ► [value](#) created for all stakeholders?
5. What is the relationship between stakeholder and other theories of strategic management (e.g., agency, resource dependence, resource-based view (RBV))?

Though universal consensus remains elusive, these questions have received extensive attention, including: for 1 and 2, Phillips (2003); for 3, Goodstein and Wicks (2007) and Elms and Phillips (2009); for 3 and 4, Phillips and colleagues (2010); for 4, Coff (1999, 2010) and Greenwood et al. (2010); for 5, Asher et al. (2005), De Luque and colleagues (2008), Bosse et al. (2009), and Harrison et al. (2010).

For very recent reviews/collections, see, in particular, Freeman and colleagues (2010), Parmar and colleagues (2010), Phillips and Freeman (2010) and Phillips (2011), and earlier, Donaldson

and Preston (1995) and Walsh (2005). For current issues, including the content (rather than just establishment) of corporate and stakeholder obligations, as well as the role of ► [managerial discretion](#) and norms of reciprocity and conceptions of fairness, see Elms and colleagues (2010).

See Also

- [Business Ethics](#)
- [Capitalism](#)
- [Managerial Discretion](#)
- [Measurement of Social Value, The](#)
- [Strategic Objectives](#)
- [Value](#)

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Stalk, George, Jr (Born 1951)

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George Stalk is a Toronto-based senior advisor of the Boston Consulting Group (BCG). He holds a BS in engineering mechanics from the University of Michigan, an MS in aeronautics and astronautics from Massachusetts Institute of Technology and an MBA from Harvard Business School.

Since 2008, he has been a BCG Fellow, which allows him to spend significant time developing thought leadership on a topic that will create value for the firm's clients. Beyond BCG, he serves as an Adjunct Professor of Strategic Management for the Rotman School of Management at the University of Toronto, is a Fellow of the Strategic

Management Society and the Asia Pacific Foundation, and is a member of the Board of Directors of Intuitive Surgical, Inc.

A long-time member and former senior partner of BCG's strategy, consumer, organization and operations practices, George has focused his consulting career on helping companies create ► [sustainable competitive advantage](#). He has advised the top management of a range of companies – mostly in manufacturing, technology and consumer products – throughout the Americas, Europe and Asia.

George started with BCG in Boston in 1978. During more than a decade in Tokyo, he studied the sources of Japanese competitive advantage in cost, quality and, most importantly, time. That research led to BCG's breakthrough thinking on the use of time as a competitive weapon and the creation of a practice called ► [time-based competition](#).

From 1998 to 2003, George led BCG's worldwide innovation efforts, making thrusts into almost all aspects of e-commerce strategy, pricing innovation and exploiting strategic discontinuities. Today, he works with clients to integrate emerging threats and opportunities from rapidly developing economies into their strategies.

George is the co-author of three bestselling books on time-based competition, *Kaisha: The Japanese Corporation* (1985), *Competing against Time* (1990) and *Hardball: Are You Playing to Play or Playing to Win* (2004). His articles have been published by many leading publications including *Harvard Business Review*, where one of his features won the McKinsey Award for being the best of its year. He writes a monthly column for the *Globe and Mail* in Toronto and speaks regularly to business and industry groups. *BusinessWeek* identified him as one among a new generation of leading management gurus. *Consulting* magazine named him one of the industry's top 25 most influential consultants in 2000, 2001 and 2002.

His book *Hardball: Are You Playing to Play or to Playing to Win?* (2004) argued that companies are obligated to compete, to win and to create losers. His *Harvard Business Review* article on this topic was rated by readers as one of the

magazine's five best articles on strategy in the last 10 years.

George's book, *Five Future Strategies You Need to Know Now* (2008), was the first in Harvard Business Press's 'Memos to the CEO' series.

In his *Harvard Business Review* article 'The threat of global gridlock' (2009), Stalk warned of a potential crisis as a result of what he termed a 'critical shortage' in global transportation capacity. The economic malaise of the past few years, he believes, masks the full extent of the problem. In his usual entrepreneurial fashion, he sees an opportunity for those who fashion creative responses to the crisis in transportation he predicts following the eventual recovery of the global economy.

More recently George has been working with family businesses as his research interest. In a study of family-controlled, publicly traded businesses, he has shown that, across business cycles, family-controlled businesses performed better in poorer times, but not as well as in boom times as publicly controlled businesses. In his 2012 *Harvard Business Review* article, 'Avoid the traps that can destroy family businesses', he sets out what he and his coauthor, Henry Foley, term as best practices designed to bridge the gap in generational succession for family-controlled businesses.

Any resume of George's life has to take note of his near-death experiences encountered in 2003 and well reported in *Fast Company* (February 2009), which reveals that George had been declared dead three times during a period when he was comatose for nearly 3 months. It took him over a year to return to any semblance of his former life, but he did eventually return to his extremely creative role as an insightful observer of business, exploring how better management practices could be identified, created and, best of all, practically applied.

See Also

- [Public Policy: Strategy in the Public Interest](#)
- [Strategies for Firm Growth](#)
- [Sustainable Competitive Advantage](#)
- [Time-Based Competition](#)

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Standards

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Abstract

Standards are specifications for products or processes. They range from basic quality standards to detailed compatibility standards for products that work together in networks. Standards occupy a central role in product design, and control of a standard may be critical to competitive advantage. However, standards do not describe all aspects of a product, only core requirements. Firms may compete by leading standards development and including their technology in a standard, whether proprietary or open. Once standards are established firms may try to differentiate their products by other features, ensure low-cost access to essential technology and lead enhancements to the standards.

Definition Standards are core specifications for products or processes. They range from basic quality standards, such as health and safety, to detailed compatibility standards for interfaces between products used in networks, such as computer components or mobile phones. They do not describe all aspects of a product, but occupy a central role in product design.

Standards are specifications for products or processes. They include quality standards, such as health and safety that set material and performance requirements for a product to be approved for sale, and compatibility standards, such as interfaces for computer components or mobile phone networks that ensure that products from different manufacturers can be used together. Compatibility standards are most evident for high-technology ‘systems’ industries such as information and communication technology (ICT) but also apply to more mundane items such as lamp batteries, electrical voltages, typewriter keyboards and service networks. Many standards combine quality and compatibility. Pharmaceutical standards ensure that products are of high quality and that physicians know how to prescribe them. Standards may include processes, such as quality management standards.

Standards have a critical influence on the development of products and may be crucial for participating in a market. They do not describe all aspects of a product and many other features are needed to bring products to market. However, standards are central to product design and often set the framework for competition.

How Standards Work

Quality standards ensure that products are reliable, safe and consistent. They may be set by regulation, industry agreement or custom. Products must meet minimum requirements to be sold in a market. The effect is to protect and reassure customers. By reducing consumer risk they increase the value of products and expand demand. Quality standards also mean that users have common information on products and lower search costs, so producers are more certain of a market. A firm that is best able to conform to the standards may be able to claim a large market share.

Compatibility standards define the technical interfaces between products to enable products from different manufacturers to interoperate in systems. They allow DVDs to work in media players, computer memory in PCs, mobile phones

in communications networks and software in web pages. Standards make products more valuable by ensuring they can access a larger pool of complementary products. These ► **network effects**, as they are known, lead to increased choice and competition amongst component makers, lowering costs and increasing the value of the system. Firms may specialize in producing pre-recorded DVDs, knowing that there is a ready market of players to use them, and reduce costs accordingly. Compatibility also allows products to interoperate in direct networks, such as telecommunications or airlines. The larger the network of people to call or airline routes to connect with, the greater the value of each product. These aspects work together, so that large networks may both increase the supply of components and make each product more useful (David 1987; David and Greenstein 1990).

The larger the installed base of standardized products the greater the value of belonging to a standard. This sets up important dynamics in establishing standards. Each new user of a standard expands the installed base and attracts more complementary goods, making the standard more attractive to existing and new users and accelerating further adoption. Once a standard reaches a critical mass of acceptance and credibility there is often a bandwagon effect and the market may tip rapidly in its direction as producers and users try to avoid being stranded with a losing standard. In a standards contest the first standard to reach a critical level of adoption and credibility is likely to win. A single standard often predominates; if it does not, the market may be fragmented into incompatible niches, each too small to realize the full potential value.

A major standards contest took place between VHS and Betamax for video cassette recorder (VCR) standards in the early 1980s. This was resolved in favour of JVC's VHS as soon as it became clear that VHS had more credible support from other manufacturers and would provide greater availability of pre-recorded tapes, even though the picture quality of Sony's Betamax was considered superior. This left many early adopters of Betamax stranded with obsolete equipment (Grindley 1995).

Other factors that affect standards adoption include:

- Proprietary or open. A key distinction is between proprietary standards controlled by a single firm and open standards available without restrictions (Windows versus Linux). Users may be unwilling to adopt a proprietary standard unless it is exceptional, and an open standard has greater chance of broad acceptance.
- Backwards compatibility. If a standard is compatible with the previous standard users may upgrade without abandoning the existing base (Blu-ray players also play DVDs).
- Gateways. Converters or adaptors may allow products to be used to access existing networks (dual-mode mobile handsets).
- Entrenched standards. An established standard may be technically obsolete but persist because of network effects (QWERTY keyboard).

Setting Standards

Standardization is a problem of coordinating the adoption decisions of many individual producers and users. A common standard will usually enable the whole market to grow but there are likely to be winners and losers. The task for standards setting is how best to resolve these conflicts.

One way to set standards is via market competition (*de facto*). Contests are often 'winner-takes-all' as customers and other producers tip to the leading standard. Market standards can be set quickly since firms are motivated to make investments. However, they also involve duplicated effort and possible standards fragmentation and the stranding of users of obsolete standards. If a design is attractive enough it may be possible to establish a proprietary standard, with other firms either excluded or required to take a licence. However, to win support a sponsor may need to assure other adopters that the standard will be open and available on reasonable terms. It may form a coalition of manufacturers to support the standard and to reassure users that there will be product competition. Open need not mean free, since

producers may still need to pay for the use of intellectual property to operate the standard.

Standards may also be set by committees (*de jure*), usually before the technology is fully developed. Anticipatory standards are a fact of life in telecommunications or other ICT industries where huge investments are needed for each new technology generation, and the need for interoperability makes fragmentation very costly. Standards are set in standards setting organizations (SSOs) by groups of producers, users and other organizations. These may be formal standards development organizations (SDOs) or informal industry consortia (Lemley 2002).

Formal SDOs include national and international organizations such as the American National Standards Institute (ANSI), Institute of Electrical and Electronics Engineers (IEEE), European Telecommunications Standards Institute (ETSI), International Organization for Standardization (ISO) and International Telecommunication Union (ITU). They have well-defined procedures based on consensus and voluntary agreement. Their intellectual property (IP) policies typically require participants to disclose IP they believe may be essential to practise the standards. The owner of 'essential' [patents](#) is asked to commit to license them on fair, reasonable and non-discriminatory (FRAND) terms for use in operating the standard. If a licensing commitment is not forthcoming the standard may not be approved. If it is forthcoming, standards are almost always approved even if they implicate patents.

Consortia are informal ad hoc groups of firms drawn together to develop specific standards, such as VITA (computer bus), OASIS (web services) and World Wide Web Consortium (web standards). They range from small special interest groups (SIGs) to major industry associations. Consortia decide their own policies and have more flexibility than SDOs. Participants might be required to license their essential technology royalty-free to other members or to license this in a patent pool.

SDOs have an advantage in that they are open to all interested parties, have transparent procedures and standards may be international. They

add credibility to a standard. Against this, formal standards setting can be very slow, often taking many years – a problem in fast-moving technical fields. The contests that take place in the marketplace for *de facto* standards essentially take place in committee for *de jure* standards. Compromises and trade-offs take time. Consortia set standards more rapidly than SDOs and have greater flexibility to respond to market forces. Their use has increased over the past few decades. However, they do not have the inclusiveness of SDOs and their standards may not be adopted so widely. Which is most appropriate depends on the technology and industry.

In practice, standards setting may combine aspects of markets and committees. This may be faster than either method alone. Firms sponsor their own technology in committee and try to back this up in the marketplace. Market success speeds committee decisions while the need for consensus avoids fragmentation. Being adopted as a formal standard is no guarantee of market success, however. Users are free to implement a standard or not, products need to be developed and there may be competing standards.

Strategies for Standards

A fundamental strategic question for a firm is whether it should try to establish its technology as the standard and compete 'for the market' or, alternatively, support a common standard and compete 'within the market' with rivals. Which is more profitable is likely to depend on the potential advantage of leading a standard and the chance of winning a contest compared with the cost and delay of a standards war, the state of competition within the market and the importance of compatibility for total market growth (Besen and Farrell 1994).

Distinct strategies apply for standards setting and for competing within a market once standards are established. In standards setting, a firm is likely to obtain significant competitive advantage if it can ensure that its technology is adopted in a new standard. Possible strategies include building an early lead, attracting components suppliers,

product pre-announcements to influence the standard's credibility and a public commitment to low long-term prices.

Leading a proprietary standard may be attractive but is likely to be strongly resisted by other firms and users. Standards wars are expensive and may disrupt the potential market. In some industries, such as telecommunications, compatibility may be so important that agreeing a single standard is vital, providing a role for SSOs. The firm's choice may be between a large share of a small proprietary niche and a small share of a large open market with higher volumes but more competition. For wide adoption a firm may contribute its technology to an open standard then hope to out-license this or have a first mover advantage in product competition. Sometimes technology may be offered royalty-free to ensure its adoption. If technology from several firms is needed to operate the standard, owning some essential IP gives the firm leverage in ► [cross-licensing](#).

Once a standard has been established a firm may compete by product differentiation within the standard and by trying to lead further technological developments. In either case, the firm should maintain compatibility with the installed base. Attempts to differentiate products in a proprietary standards niche isolate the firm and may be self-defeating. Incompatibilities between quasi-proprietary versions of the Unix computer operating system in the 1980s contributed to its limited adoption (Grindley 1995).

Antitrust Issues

Standardization requires firms to agree on key product characteristics before competing in the marketplace. Standards can be strongly pro-competitive as they encourage innovation and market growth. Firms cooperate to compete. However, discussions in SSOs must be limited to those needed to establish standards and should not include other aspects of competition or pricing which might lead to antitrust concerns. Most SSOs have procedural rules and guidelines aimed to avoid such concerns. Changes in policies

may be submitted to antitrust authorities for review prior to implementation (Layne-Farrar 2009).

See Also

- [Backward Compatibility](#)
- [Cross-Licensing](#)
- [Network Effects](#)
- [Patents](#)

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Strategic Business Unit (SBU)

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Definition A strategic business unit is a semi-autonomous division or department that usually has a set of functional departments, a unique market (or markets) and set of competitors, and is run by a senior executive who reports directly to the CEO or the top management team.

In a Harvard Business School case, Aguilar and Hamermesh (1981, n. 3) define a strategic business unit (SBU) as having: A unique set of competitors, a unique business mission, a competitor in external markets (as opposed to internal supplier), the ability to accomplish integrated strategic planning, and the ability to “call the shots” on the variables crucial to the success of the business.’ The case details how, in the late 1960s, General Electric (GE) struggled to manage a fragmented organization. To better evaluate their businesses they organized into strategic business units. Each SBU had an executive team responsible for the majority of management decisions.

Three topics merit some consideration: the SBU at General Electric, the SBU and portfolio planning: ► a valuable strategic tool, and the multi divisional organization as one of the major business organizational innovations of the twentieth century. DuPont and then General Motors decentralized a great deal of operational authority to allow headquarters and the CEO to focus on corporate level strategy. Central to this reorganization was the semi-autonomous business unit. Yet the SBU used by GE and the business unit as described by Chandler are very different approaches to both corporate strategy and corporate structure.

Organizing divisions by SBU was recommended to General Electric by McKinsey consultants in the late 1960s (Aguilar and Hamermesh 1981). GE wanted ideas on how to manage their extremely dispersed organization. At the time, GE had 190 departments and had no process for deciding what businesses to enter and no means of deciding when they might exit a business.

By reducing the number of departments requiring executive supervision from 190 to 43 GE greatly reduced the workload of its senior executives. However, as Reginald Jones, GE CEO from 1973 to 1981, points out, this still left him with serious problems. In particular, Jones found that he still was attempting to sort through far more information than he was able to. He could not ‘achieve the necessary in-depth understanding’ to have 43 SBU executives report directly to him and GE’s vice chairman. One solution GE adopted

under Jones was to add another layer of hierarchy between top management and the SBUs.

Another component of GE’s use of SBUs that became extremely well known and popular in the 1970s was *portfolio planning*. Portfolio planning simplifies the process of evaluating SBUs.

If we use the term SBU to connote a stand-alone business that is held as part of a portfolio of businesses, as used in portfolio planning models like the BCG or McKinsey matrices, the many criticisms of unrelated diversification should then include the SBU. The fundamental problem with unrelated diversification is that it is not clear why a collection of businesses should have common ownership. One of the basic premises of the BCG ► [growth share matrix](#) was that the individual SBUs were independent operations and the role of corporate headquarters was to decide which businesses to be in and to manage the cash flow across businesses. The trend in corporate strategy since the early 1980s, however, has been to look for economies of scope. Economies of scope across divisions would presumably give the divisions a cost benefit for being part of the organization.

Over time the term SBU came to be used more generally (e.g., Govindarajan 1986). Chandler (1962) describes the evolution of large businesses organized by functional departments to multi product multi-division organizations. Each division created departments based on functional expertise. DuPont, General Motors, Sears and Standard Oil each moved to a multi division organization to better manage their broadening strategies.

In Chandler’s narrative, divisions would share resources and exploit economic efficiency through large-scale production (economies of scope) and through sharing resources across businesses (economies of scale). Corporate strategy through Chandler’s lens is different from that using portfolio planning matrices. The portfolio planning matrices envision highly decentralized strategy and structure. Whereas the firms Chandler describes would coordinate activities across divisions, the SBU as described by Aguilar and Hamermesh and the use of the portfolio planning matrices offer a completely different perspective on corporate strategy from Chandler’s description of strategy and structure.

See Also

- ▶ [Growth Share Matrix](#)
- ▶ [Portfolio Planning: A Valuable Strategic Tool](#)

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Strategic Decision-Making

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Abstract

Strategic decision-making is the process of developing and putting into action choices that will influence the long-term welfare of the organization. These choices often involve major ▶ [organizational change](#) and large resource commitments that are difficult to reverse once they are implemented. Strategic decision-making reflects decision makers' experience, the positions they occupy and their organizational environment. Work on improving strategic decision-making has focused on the content of decision outcomes and the process that produces these outcomes. Strategic decision-making takes place within a context defined by the organization's strategy and varies according to the extent to which this strategy is a deliberate, as opposed to an emergent, process.

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Strategic decision-making is the process of developing and putting into action choices that will influence the long-term welfare of the organization. These choices often involve major ▶ [organizational change](#) and large resource commitments that are difficult to reverse once they are implemented. At the most basic level, strategic decision-making is a response to the environment in which organizations operate. Each environment creates its own strategic issues, which depend upon, among other elements, the products, technologies, competition and regulatory frameworks that are prevalent. In a manner of speaking, one could say that decision makers receive their strategic decision-making agenda from the environment in which they do business. From an organizational perspective, however, the strategic decision-making agenda of decision makers is set by the position they occupy within the organization. Let us take as an example the head of a business unit in an automotive manufacturing group with responsibility for producing and marketing heavy trucks. This manager will focus on strategic issues that are relevant to the heavy trucks industry. Her corporate superior, who is managing multiple units that span a variety of automotive products, from trucks to sports cars, is more likely to regard decisions that involve service agreements with truck owners as tactical or operational.

The strategic decision-making process would pose less of a challenge if managerial positions came with a preset strategic agenda and if business environments were predictable. In practice, environments can throw up threats and opportunities that transform routine operational issues into urgent strategic decisions. Within the organization, we often find the same unpredictability. Decisions that are normally relegated to lower levels in the organization can suddenly become strategic and hence require involvement by top managers. By the same token, strategic decisions that are normally tackled only by top managers are

delegated to lower-level managers when the need arises.

While the nature of the business and managers' position in the organization helps them identify and separate what is strategic from what is not, ultimately their effectiveness as strategic decision makers is deeply personal. Experienced decision makers are perceptually attuned to issues, problems and opportunities that are potentially strategic. They bring this skill to bear when scanning the business environment or when reviewing operations. Once they turn their attention to issues that have arisen, they likewise use their experience to guide the decision-making process towards desirable outcomes.

The Content/Process Distinction in Strategic Decision-Making

Effective strategic decision-making does not require a fully developed strategy. Organizations can pursue a purely opportunistic strategy that evaluates business prospects on their intrinsic merits without following a long-standing plan. A purely opportunistic strategy, however, runs into difficulties when strategic decisions that are undertaken independently begin to have a negative impact on each other. For instance, organizations may decide to pursue attractive opportunities in one market niche only to discover that this puts undue burden on recently acquired distribution systems that are tailored to service completely different products. For this reason, most strategy scholars argue that strategic decision-making should ensure a minimal level of consistency across decisions and, if possible, should go further and encourage decision-making in which choices reinforce each other.

Research in strategy has highlighted two ways of achieving this consistency (Schendel and Hofer 1979). The first, as noted above, is to explore the linkages among the content of different strategic choices. For example, starting a new business unit often involves multiple activities, such as launching new products, establishing new facilities and defining hiring policies. The venture stands a much better chance of success if the

organization focuses decision-making not only on each activity but also on how these activities can support each other. This means collecting and analysing information on issues such as consumer preferences, production costs, distribution channels and salary scales from the perspective of the venture as a whole.

A content view of consistency leaves open the question of how the analysis is carried out in the first place. Many researchers argue that process consistency, or the way that organizations normally go about making decisions, shapes not only the content of each choice but also how the linkages are evaluated and established. Some researchers go even further and argue that in all circumstances the decision-making process dominates decisional content. In other words, the cognitive, cultural and political processes in which decision makers operate will determine all facets of the strategic decision-making process, from the way that information is collected and analysed to the manner by which intentions become concrete goals, to the selection of criteria used to monitor and judge performance.

Improving Strategic Decision-Making

The study of strategy is strongly motivated by the belief that strategic decision-making can be improved. Broadly speaking, work in this direction has generally followed content or process perspectives. Content approaches have focused on models and techniques that enhance the ability of decision makers to analyse information, derive valid conclusions and organize effective action. Since the 1960s, various tools and techniques have emerged, including experience curves, portfolio analysis, scenario planning, technology S-curves, market segmentation and real options analysis, to mention only a few. What they all have in common is the assumption that selecting and applying the right tools or techniques is relatively straightforward once the decision-making problem has been correctly analysed.

By contrast, process approaches to improving decision-making argue that neither the selection of the right tools and techniques nor their

application – nor, for that matter, the correct analysis of the decision-making problem – can be separated from the environment in which decision makers function. To improve strategic decision-making, therefore, it is necessary to put in place a process that takes into account the inherent tension between normative precepts that prescribe the best way of making decisions and the less-than-ideal environment in which decision-making takes place.

Early research on strategic decision-making placed considerable emphasis on developing normative decision-making rules and guidelines. Specifically, researchers argued that strategic decision-making is better when: (a) it is rational, generally defined as following systematic process of analysis (Schwenk 1995), and (b) when it is comprehensive, defined by the extent to which decision-making includes all relevant information and exhaustively examines all possible options (Forbes 2007). At the same time, researchers have shown that time pressures, resource constraints, cognitive biases and interpersonal conflict often prevent decision makers from following these precepts. A variety of tools and techniques have therefore emerged to aid decision makers in following normative decision-making precepts. Some researchers, however – most notably Lindblom (1959) and Quinn (1980) – have opposed forcing strategic decision-making into a normative strait-jacket. They have argued that an incrementalist approach that emphasizes adaptation and trial- and-error process will produce better outcomes than conformity to normative decision-making rules.

Regardless of where researchers stand on this debate, there is agreement today that strategic decision-making cannot be detached from the cognitive, political and cultural matrix in which decision makers operate. Contextual factors such as organizational structure, managerial norms, key leadership style and inter-unit coordination have a strong influence on strategic decision-making. Positively aligning these factors with strategic decision-making is therefore essential for improving decision-making outcomes. In direct terms, this means providing decision makers with the resources and political support

they need to deliberate effectively. In practice, however, the resources and political support provided to strategic decision makers will often depend on the strategy pursued by the organization, a strategy that decision makers may not be able to influence.

The Relationship of Strategic Decision-Making to Strategy

There is a chicken-and-egg quality to the relationship between strategy and strategic decision-making. A retrospective analysis of existing strategy points to the formative influence of past strategic decisions. At the same time, tracing the factors that decisively influenced these strategic decisions to when they were made points to the framing and directing influence of the strategy the organization was pursuing at the time. Thus, while strategic decisions may create strategy, over time strategy also creates the strategic decisions that perpetuate or alter strategy.

There are two views of how the reciprocal relationship between strategy and strategic decision-making manifests itself over time. The first view sees strategy as a deliberate process that sets the terms by which future strategic decisions will be made, while the second sees strategy as emerging from the lessons that strategic decisions impart to the organization. The first view is generally associated with strategy as a planning system that begins with analysis and proceeds to formulation of plans with defined milestones and performance criteria. The second view, by contrast, suggests that strategy is a process of cumulative learning from strategic decisions that tackle problems and opportunities as they arise. Both views assume that as an organization's strategy takes shape, it exercises increasing influence over the strategic decision-making process. Where the two views differ is in how organizations get to this point. The deliberate planning view assumes that successful strategic decision-making depends on formulating strategies that will frame and direct future strategic decision-making early in the life of the business venture. The emergent view, on the other hand,

argues that successful strategic decision-making must postpone integration between strategic decision-making and nascent strategies until the fit between the strategy and the environment in which the organization operates has been convincingly established.

Individual Versus Collective Strategic Decision-Making

The first generation of strategy scholars saw deliberate ► [strategic planning](#) and emergent strategizing as irreconcilable opposites. Later research, however, showed that many organizations pursue strategies that combine these two approaches in different measure, and that this in turn can create different interactions between strategy and strategic decision-making. We therefore have organizations where strategy is the product of deliberate strategic planning, but strategic decision-making at the business-unit level follows an ► [emergent strategy](#) process. Other organizations, such as diversified corporations with unrelated business lines, pursue emergent strategies for the organization as a whole but follow a process of careful analysis and planning for specific strategic decisions.

The range of different relationships between strategy and strategic decision-making that arise from combining deliberate strategic planning with emergent strategizing corresponds to a large extent to the ten schools of strategy identified by Mintzberg et al. (1998). The survey of strategy by these authors suggest that the relationship between strategy and strategic decision-making will be strongly influenced by whether the strategy process is concentrated in the hands of a single individual as opposed to many. When individuals control the strategy process, the relationship between strategy and strategic decision will depend on individual psychology and personal management style. When the top management group, or even the entire organization, is involved in the strategy process, collective forces such as culture and politics will have decisive influence on the interaction between strategy and strategic decision-making.

See Also

- [Emergent Strategy](#)
- [Organizational Change](#)
- [Organizational Design](#)
- [Process-Oriented Strategic Theory](#)
- [Sensemaking](#)
- [Strategic Learning](#)
- [Strategic Planning](#)

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Strategic Factor Markets

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Definition Strategic factor markets are markets in which firms obtain resources necessary for the implementation of their product market strategies.

Introduction

Strategic factor markets are markets in which firms obtain the resources to implement their product market strategies. Barney’s (1986) paper sheds light on the importance of the strategic

factor market for the creation of a competitive advantage. If all firms acquire resources at competitive prices in strategic factor markets, it would be difficult for any of them to generate abnormal profits above average. Therefore, the cost of acquiring resources in strategic factor markets needs to be an important consideration in any discussion about creating a competitive advantage. The prices of resources in strategic factor markets are determined by firms' perception of the potential value of the resources. If the values of resources are equally perceived by all firms, competitions among firms would increase the cost of acquiring resources, and therefore the price of resources would be determined at competitive prices. However, if only a small number of firms recognize the true value of resources, the price of resources would be determined at below competitive prices. Thus, firms acquiring the resources would be likely to generate a competitive advantage.

Implications of Strategic Factor Market Theory

Literature on mergers and acquisitions (M&As) focuses on mechanisms of how firms obtain economic returns through M&As. If an acquiring firm can accurately anticipate the true economical value that an acquisition can create, the acquisition is likely to generate above-normal profits. This logic is consistent with the strategic factor market theory. If a firm can recognize the true value of resources and acquire them at below competitive prices, its ability to recognize the true value of resources becomes a source of competitive advantage. Disequilibrium resource prices in strategic factor markets are the outcome of firms' asymmetrical information skills. Some firms have superior information skills to predict the true value of resources, which enable them to acquire those resources at below competitive prices and generate high profits from the resources in product markets. Other firms, which do not have superior information skills, would pay equilibrium prices and thus generate a competitive parity.

Criticisms and Extensions of the Theory

Dierickx and Cool (1989) question the strategic factor market theory by arguing that some critical resources must be accumulated within firms over time. They demonstrate that firms need to build resources inside their organizations due to certain resource characteristics, such as time-compression diseconomies, interconnected asset stocks, asset mass efficiencies and causal ambiguity. Although their argument highlights the importance of developing critical resources inside firms, the implication of the strategic factor market theory cannot be discarded. The strategic factor market theory emphasizes the cost-factor consideration to explain the source of a competitive advantage (Barney 1989). In fact, firms must consider the cost of developing resources when they accumulate resources inside the firms.

Strategic Factor Market Theory and the Resource-Based View

In sum, the strategic factor market theory emphasizes the cost factor of acquiring and/or developing resources for the creation of a competitive advantage. The strategic factor market theory becomes the essential basis of the ► [resource-based view](#). Other extensions of the strategic factor market theory include Adegbesan (2009), Denrell et al. (2003), Makadok and Barney (2001), and MacDonald and Ryall (2004).

See Also

- [Resource-Based View](#)
- [Sustainable Competitive Advantage](#)

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Strategic Fit(ness)

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Abstract

A key assumption in the field of strategic management is that strategic fit or alignment of a firm's internal strategy, structure, capabilities and resources with the external environment is beneficial and positively related to performance. As external environments have become more turbulent and unpredictable, the notion of fit embedded in equilibrium assumptions has evolved from strategic fit to dynamic strategic fit to strategic fitness to incorporate this increased complexity and uncertainty. Recent work reconceptualizes the firm, its context, the drivers and outcomes to allow more in-depth examination of the emergent dynamics underlying the relationship between fit(ness) and performance.

Definition Strategic fit refers to aligning the firm's strategy, structure, capabilities and resources with its external context to positively impact performance.

A central assumption underlying much of the field of strategy is that strategic fit with the

external environment is beneficial and positively related to performance (Venkatraman and Camillus 1984; Ginsberg and Venkatraman 1985; Burgelman 1994; Zajac et al. 2000). Scholars working within this stream emphasize the importance and necessity of maintaining co-alignment between the firm's strategy, structure, resources and capabilities, and the environmental conditions or context in which the firm operates (Venkatraman 1989).

Building on the work of Chandler (1962) and Lawrence and Lorsch (1967), the concept of fit played a key role in the development of strategic management and organization theory (Zajac et al. 2000) and has taken two broad approaches. Grounded more within an organization theory perspective, the configuration approach emphasizes fit among the internal elements of the organization (e.g., Miller and Friesen 1984; Miller 1986). Fit, in this view, focuses on organizational design and is based on consistency between choices of activities that lead to optimal performance (Siggelkow 2001). Complementarities exist when the interrelated activities each increase the value of the other (Milgrom and Roberts 1995).

In contrast, the strategy literature takes a contingency approach and emphasizes *strategic fit* between the strategy of the firm and its external context. The remainder of this entry will focus specifically on strategic fit.

Early Conceptualization of Strategic Fit

The driving question in much of the early work on strategic fit is to discover what strategies yield the highest performance in different contexts (e.g., Miles and Snow 1978). In most of this literature, fit is defined as the state of achieving optimal performance through alignment between the strategy of a firm and its environment. However, there are exceptions, such as Venkatraman's (1989) idea of 'fit as gestalts'. The environment in these views is typically based on static equilibrium assumptions and captured by dichotomous assessments of variables such as complexity, dynamism, munificence and heterogeneity (e.g., Dill 1958;

Lawrence and Lorsch 1967; Osborn and Hunt 1974; Aldrich 1979; Dess and Beard 1984). The firm operates as a single, coherent entity as it reacts to these environmental forces. Agents of fit are mostly top managers and/or executive teams, who conduct environmental assessments and choose the appropriate strategy, enabling the firm to achieve fit and the best possible performance. According to this stream of work, performance will be sustained until an exogenous force emerges that creates instability and forces the firm to adapt their strategy to match the environment, thereby achieving fit and equilibrium once again (Miles and Snow 1978; Venkatraman 1989; Zajac et al. 2000: 431).

Thus, this early work implies that the organization leaps from one fit state to the next in a step-like fashion as top managers intentionally respond with rationality to external opportunities and threats to optimize profits and performance (Venkatraman and Camillus 1984; Ginsberg and Venkatraman 1985; Gresov 1989; Burgelman 1994; Zajac et al. 2000).

Dynamic Strategic Fit

In 2000, Zajac, Kraatz and Bresser introduced the concept of dynamic strategic fit (DSF). The driving question underlying DSF is to understand ‘which, when, in what direction, and how much [should] organizations change their strategies’ given specific environmental and organizational contingencies that vary across time (Zajac et al. 2000: 430).

Whereas traditional discussions emphasized a static model of matching organization strategy to a homogeneous context, DSF examines the simultaneous multidimensionality and dynamics of fit (Drazin and Van de Ven 1985; Kraatz and Zajac 2001). Organizational idiosyncrasies such as existing resources and competencies, and more complex environmental contingencies impacting on the firm at a specific point in time (Zajac et al. 2000) are incorporated into the DSF view. An underlying premise of equilibrium still persists although it is shorter-lived. Agents of dynamic strategic fit are now boundedly rational top

managers and executive teams who conduct deliberate analysis and forecasting to generate strategic choices in the face of uncertain and turbulent environments.

Where fit can be based on ‘beneficial inertia’ or ‘beneficial purposeful strategic change’, the concept of dynamic *misfit* is also introduced in DSF. Dynamic misfit is defined as ‘an organization with a strategy that has become obsolete, outdated or otherwise inappropriate in light of changing conditions’. Misfit can occur when an organization engages in ‘excessive change’ or ‘insufficient strategic change’ given the environment (Zajac et al. 2000: 433). Insufficient change is more common and is the result of ‘either an organizational inability or unwillingness to change or perhaps, an unawareness of the need to change’ (Zajac et al. 2000: 434). Thus, in the DSF view, firms achieve ‘quasi-fit’ intermittently and shifts in fit are required more frequently to create beneficial (but not necessarily optimal) performance (Donaldson 2001).

More recent work attempts to move beyond simple, linear models of the strategy–fit–performance relationship and capture a more complex perspective on the dynamics of strategic fit. It takes a ‘fit-as-system perspective’ to develop a multi-contingency model of the situational factors (organizational size, climate, strategy, technology, environment and management style) and contingency factors (organizational structure and design) that impact organizational performance (efficiency, effectiveness and viability) (Burton et al. 2002; Parker and van Witteloostuijn 2010).

Strategic Fitness

Springboarding from these more complex conceptualizations of fit, Auster et al. (2011) introduce the concept of ‘strategic fitness’. More specifically, drawing on complexity, disequilibrium, stakeholder and cognition research, they propose that strategic fitness is the continuous process of value creation for diverse stakeholders by leaders throughout the organization. The dynamics of fitness are further developed by weaving in an extension of the resource-based

Strategic Fit(ness), Table 1 From fit to dynamic strategic fit to strategic fitness: a comparative analysis

Comparative dimensions	Fit (early conceptualizations)	Dynamic strategic fit (Zajac et al. 2000)	Strategic fitness (Auster et al. 2011)
Driving question	What strategies yield the highest performance in different contexts?	What strategies should organizations pursue given more multifaceted environmental and organizational contingencies that vary across time?	How do change leaders throughout the organization create value for diverse stakeholders in complex, heterogeneous, enacted contexts?
Conceptualization of context	Analysable, simple, with limited contingencies under equilibrium conditions	Analysable, complex and turbulent systems, impacting the firm under equilibrium conditions	Enacted, complex, dynamic, porous, and heterogeneously impacting the firm under far from equilibrium conditions
Conceptualization of the firm	The firm as a homogenous entity	Relatively homogeneous firm with idiosyncratic contingencies, such as resources and capabilities	A constellation of loosely coupled units and capabilities differentially impacted on by contextual forces
Agents of fit(ness)	Rational top managers and executive team, or 'the firm'	Boundedly rational top managers and executive team acting under conditions of uncertainty	Leaders (anywhere in the organization) morphing and moulding enacted contexts
Fitness process	Process is a 'black box'	Top managers alter strategies when any internal and external contingencies become misaligned over time	Leaders continuously create value for diverse stakeholders through the evolution of resources, routines, capabilities and capability portfolios
Outcomes	One optimal solution that intermittently changes through leaps of strategy, which yields the best possible performance	Punctuated, relatively finite range of solutions that change intermittently, with positive (but not optimal) performance impacts	Idiosyncratic, near infinite possible paths of value creation

Adapted from Auster et al. (2011): 193

view and work on dynamic capabilities to conceptualize the internal organization. Research on cognition is drawn upon to open up a dialogue on the agents of fitness, bringing people more explicitly into the picture, and to include a wider range of strategic change agents (Weick et al. 2005; George et al. 2006). Incorporating a stakeholder approach broadens the notion of fitness outcomes beyond financial performance to include value creation at multiple levels (Freeman 1984; Freeman et al. 2010). Disequilibrium and complexity theory is used to move towards a portrayal of the environment that is more porous and heterogeneous. Integrating these views, they suggest that strategic fitness occurs as leaders across various units engage in the evolution of resources and routines via dynamic capabilities in the face of enacted contexts under far from equilibrium conditions. This conceptualization of strategic

fitness provides deeper understanding of the micro-dynamics that produce the macro patterns and relationships between strategy and financial performance (Beinhocker 2006; Reay et al. 2006).

Thus, the evolution of the concept of strategic fit to strategic fitness mirrors the changing nature of the external context from one that was stable and predictable to one that is turbulent and hyper-competitive. Table 1 offers a comparative analysis of the three views: (1) fit (early conceptualizations), (2) dynamic strategic fit and (3) strategic fitness.

See Also

- ▶ [Business Strategy](#)
- ▶ [Concept of Strategy and Organizational Evolution](#)
- ▶ [Strategic Resilience](#)

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Strategic Groups

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Abstract

Strategic groups provide a mid-level of analysis between industry-level analysis and firm-level analysis that can help explain strategic choices, rivalrous interactions, and firm and industry performance. Although methodological problems impeded early efforts to identify groups that were more than the sum of their individual firm parts, recent advancements on both theoretical and methodological fronts

have proved more fruitful. Cognitive approaches to strategic groups as well as economic approaches centring on interactions among firms have paved the way for researchers to distinguish spurious groups from those that have effects that cannot be attributed to either firm-level or industry-level attributes.

Definition While strategic groups have been defined variously, they are most often defined as intra-industry clusters comprising firms that follow strategies that are similar in terms of key competitive decision variables (Porter 1979), or as sets of firms competing within an industry on the basis of similar combinations of scope and resource commitments (Cool and Schendel 1987).

While strategic groups have been defined variously, they are most often defined as stable intra-industry clusters comprising firms that follow strategies that are similar in terms of key competitive decision variables (Porter 1979). The concept was introduced to provide a level of analysis between the firm and the industry that could help explain intra-industry heterogeneity in firm behaviours and performance. It has been used to shed light on a variety of topics, including competitive ► [positioning](#), firm and industry profitability, patterns of rivalry, entry paths, industry evolution and competitive dynamics. The concept is distinct from others that bear some resemblance, such as configurations, ► [generic strategy](#), collective strategies, organizational niches, vertical groups and industry clusters.

Early theoretical work (Hunt 1972; Caves and Porter 1977; Porter 1979) posited that the presence of strategic groups in an industry was likely to increase the level of rivalry in an industry and to reduce industry profitability accordingly. This ► [structure–conduct–performance](#) hypothesis has received consistent empirical support. Strategic groups were also thought to have an impact upon firm performance, a hypothesis that has received only mixed empirical support (although more recent evidence is less equivocal). In brief,

the argument is as follows: firms belonging to groups with high bargaining power over customers and suppliers, which are protected from entry by high ‘mobility barriers’ (an intra-industry counterpart to entry barriers) and experience-reduced levels of rivalry (within and between groups), will have higher profits than other firms. The argument concerning the way in which within-group and between-group rivalry affect firm performance is somewhat more complicated. Between-group rivalry has an impact upon firm performance asymmetrically through the interaction of three structural features: the number and size distribution of groups, the strategic distance between them and their market interdependence (or degree to which they vie for the same customers). Other factors remain constant: the more numerous and equal-sized the groups, the greater the strategic distance and the more market interdependence, the greater the rivalry is between groups. Within-group rivalry depends upon the degree to which the firms recognize their interdependence, and on structural features that facilitate this, such as group size, group diversity in terms of risk profiles and other strategic choice drivers, and the degree of heterogeneity within the group. While subsequent research has focused on the question of whether between-group rivalry is greater than within-group rivalry, what is of theoretical importance is simply that both sources of rivalry can have an indirect dampening effect on firm and industry profitability (Cool and Dierickx 1993; Peteraf 1993).

Strategic group mapping is often viewed as having valuable practical relevance in that it can help managers to size up their ► [competition](#) and make choices about positioning their firm strategically within the competitive landscape. This exercise can also assist in shedding light on the strategies of individual firms for which complete information is lacking, because an individual firm’s strategy can be inferred from the common observable behaviours of the strategic group (Hatten and Hatten 1987). Thus, much of the early empirical work in the field of strategic management focused on identifying groups rather than on how knowledge of groups clarifies our knowledge of firm conduct and performance.

Although strategic group research proliferated in the 1980s, early group studies of the relationship between firm performance and group membership were data-driven and theoretically underdeveloped. Interpreting the mixed results of these studies was problematic, owing to a lack of clarity regarding the nature of groups and confusion regarding the appropriate level of analysis to use in studying them.

By the late 1980s, criticisms of strategic groups research began to mount. The most devastating critique came from Barney and Hoskisson (1990), who demonstrated that if researchers employ cluster analytic methodologies that identify groups irrespective of whether the data is distributed randomly, then they will likely conclude that groups exist and are important even though the identified groups are artifacts of measurement and irrelevant to the actual behaviours and choices of firms in the groups. Any observed performance effects of groups so identified are more properly attributed to firm-level phenomena rather than to the groups. These criticisms had been raised by others, but never as powerfully.

Researchers have responded to this challenge in a variety of ways, on both theoretical and empirical fronts. Since tests of group effects depend foremost on the correct identification of groups within an industry, some have attempted to sharpen the definition of strategic groups, more narrowly circumscribing the attributes by which groups can be identified. Cool and Schendel (1987), for example, identify strategic groups as sets of firms competing within an industry on the basis of similar combinations of scope and resource commitments. Others have argued for an identification of groups based on the mobility barriers that maintain their boundaries. Still others have argued for using a deductive rather than an inductive (clustering) basis for identifying groups (Ketchen et al. 1993). While each of these methods improves on earlier approaches, they are still liable to identify firms that merely share common characteristics but are otherwise independent as a strategic group, and then misattribute firm-level effects to such groups.

If a grouping approach is to be meaningful, in that it can be plausibly linked to the behaviours or outcomes of group members, then there needs to be some collective basis for firm activities. Membership in the group needs to affect how group members behave towards one another or towards non-members. If there is no collective basis for membership, then group membership can have no practical consequence for group members. Given such a collective basis, whether group membership is associated with performance differences in a given situation is an empirical question.

Two theoretical approaches have been developed for identifying groups that are consistent with this type of understanding of what constitutes a meaningful strategic group – one capable of inducing effects on firm behaviours and outcomes that are not reducible to firm-level effects. The first of these is an economics-based approach that builds on the original strategic groups construct; the second is a cognitive or social-constructionist approach to strategic groups. These two different approaches are compatible in their understandings and offer complementary ways to resolve the methodological problems that critics exposed, and to move the field forward.

Dranove et al. (1998) offer an economic framework and methodology for resolving the question regarding the existence of strategic groups based on the new economics of industrial organization. They argue that true group-level effects are a by-product of strategic interactions among members, and develop an empirical model to distinguish true from spurious group effects, which controls for firm-level and industry-level effects. They present a series of propositions, suggesting, that while strategic interactions are critical for a group-level performance effects, mobility barriers are needed to preserve both groups and their effects.

Reger and Huff (1990) introduce the idea of cognitive strategic groups, arguing that managers in an industry develop a shared sense of group structure and adjust their behaviours in the light of evolving expectations regarding the behaviour of others. This can have tangible effects not only on

firm performance but on subsequent industry structure and the evolution of industries as well. Fiegenbaum and Thomas (1995) argue similarly that strategic groups act as reference points for group members in formulating strategy, and can influence the evolution of industry structures in a dynamic fashion. Peteraf and Shanley (1997) develop a theory of *strategic group identity* that explains how groups emerge in an industry and how group identities can affect firm behaviours and outcomes. Like Reger and Huff (1990), they argue that managers cognitively partition their industry environment to reduce uncertainty. As managers act on the basis of their shared perceptions of similarities and differences among firms, the perceived groups coalesce into meaningful substructures with nascent shared identities, which can vary in strength. Groups with ‘weak identities’ are no more than transient agglomerations of firms and do not exist in any meaningful sense, while groups with stronger identities have the potential for beneficial collective action.

Recent empirical research into strategic groups has provided some evidence that the new economic and cognitive approaches to strategic groups are bearing fruit. Some of it has followed up on methodological advances in efforts to sort out firm, group and industry levels of analysis (Short et al. 2004). Others have sought to test the model put forth by Dranove et al. (1998) (e.g., Nair and Filer 2003; Leask and Parker 2007). Still others have taken a cognitive approach to explore issues such as the relationship between the complexity of cognitive strategic groups and subsequent firm performance (McNamara et al. 2002). Although results are still limited, recent findings are relatively consistent in their support for the existence of strategic groups, and for their potential to have meaningful effects on the behaviours, performance, competitive dynamics and evolutionary paths of industries.

See Also

- ▶ [Competition](#)
- ▶ [Cooperation and Competition](#)

- ▶ [Generic Strategy](#)
- ▶ [Positioning](#)
- ▶ [Rivalry and Collusion](#)
- ▶ [Strategic Imitation](#)
- ▶ [Structure–Conduct–Performance](#)

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(vicarious learning) or unfilled market demand. Imitative behaviour has also sometimes been assumed – though may not be actual purposeful duplication – when firms respond to the same external shock.

Strategic Imitation

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Abstract

Strategic imitation occurs when one firm purposefully copies the products, processes, managerial methods, organizational form, market entry and/or investment timing of another firm with the intention of fulfilling a strategic goal. This imitation can be purposeful and take various forms, such as counterfeiting, reverse engineering or the adoption of best practices, or it can be accidental, such as when rival firms respond to the same external shock. External drivers such as globalization, the codification and commodization of knowledge, advances in technology and communication, and recent phenomena such as imitation clusters and private labelling serve to propel imitative behaviour. While motives for imitation vary for specific firms, scholars have suggested theoretically based motivations, such as the need for information, risk minimization and culturally based collectivistic behaviour.

Definition Strategic imitation occurs when one firm purposefully copies the products, processes, managerial methods, organizational form, market entry and/or investment timing of another firm with the intention of fulfilling a strategic goal. This imitation can vary in form from straight duplicative efforts, such as counterfeiting, reverse engineering or the adoption of institutionalized practices, to more creative imitative efforts that take advantage of knowledge spillovers

Theoretical Explanations

Business scholars have used several theories from different fields to explain the phenomenon of strategic imitation. Lieberman and Asaba (2006) have attempted to group these theories into two broad categories: informationally based and rivalry/risk-based. Informationally based theories are applied in uncertain environments where managers may have difficulty in establishing cause-effect relationships (Milliken 1987), and therefore may be more likely to be open to information implicit in the actions of others (Lieberman and Asaba 2006). In such environments, managers may also imitate in order to signal their firm's quality to others. Informationally based theories are further categorized as a result of their source discipline of economics and institutional sociology, while rivalry/risk-based theories of strategic imitation find their roots in the ► [structure–conduct–performance](#) (SCP) framework (Porter 1979) and ► [game theory](#) (Motta 1994). In the rivalry/risk-based theories, firms imitate other firms in order to neutralize aggressive behaviours or to maintain competitive parity with rivals (Axelrod 1984; Lieberman and Montgomery 1988; Klemperer 1992; Fiegenbaum and Thomas 1995; Garcia-Pont and Nohria 2002; Lieberman and Asaba 2006). Other scholars have also used cultural differences to explain strategic imitation, particularly with regard to cross-border imitative activity (Martin et al. 1998).

Herd Behaviour

The economics theory of herd behaviour, where firms follow the actions of other leading firms, has been used to explain imitative behaviours. This falls into two types: 'rational herding', which describes how such behaviour can be considered rational by duplicating routines that have produced favourable outcomes in the past, and

‘information cascades’ or ‘social learning’, wherein firms duplicate behaviours despite any counter-information they may possess (Bikchandi et al. 1992; Lieberman and Asaba 2006).

Institutional Theory

The sociologically based institutional theory argues that ► **isomorphism** is a restricting process, forcing a firm to behave like other firms operating within the same environmental conditions (Hawley 1986). Specifically, mimetic isomorphism is the process through which firms rationally model themselves after a leading firm considered to be legitimate or successful (DiMaggio and Powell 1983). When enough firms adopt a certain process or behaviour a threshold is reached, and other firms will imitate these institutionalized ‘best practices’ without additional consideration (Galaskiewicz and Wasserman 1989). Once such a behaviour is institutionalized, firms may become slow to respond to new information (Lieberman and Asaba 2006). In their study of the Portuguese banking industry, Barreto and Baden-Fuller (2006) demonstrate how, when firms undertake such institutionalized imitative behaviour against their own *ex ante* information, it has a negative effect on firm profitability.

SCP Framework

The structure-conduct-performance (SCP) paradigm is used to examine imitative behaviour in several ways. Porter (1979) suggests that firms within the same group will imitate each other’s actions in order to enforce tacit collusion between rival firms. This is particularly seen in oligopolistic industries. Studies on multi-market contact seem to suggest that imitation across markets, such as across different geographical markets, may be used to blunt competitive behaviour through the concept of ‘mutual forbearance’ – to prevent retaliatory forays into these other markets (Scherer 1980). Multi-market contact theories suggest that firms may engage in imitative behaviour by responding to a rival’s move in one market with a similar move in another market, or match specific market-entry behaviour in order to

increase contact points between firms (Lieberman and Asaba 2006). The ‘bunching’ of FDI, when firms match each other’s entries into foreign markets, has also been explained as a method of risk minimization where firms can maintain competitive parity with each other (Knickerbocker 1973). In ‘winner-take-all’ competitive environments, rivals may imitate in order to keep any one firm from gaining the lead (Leibenstein 1950; Katz and Shapiro 1985).

Game Theory

Game theory has also been used to explain the ‘follow the leader’ aspect of imitative behaviour (Motta 1994), though Head et al. (2002) suggest that this is only sustainable when managers are risk averse.

Cultural Theories

Theories that make use of the concept of cultural dimensions have been used to explain strategic imitation as well. In particular, collectivistic societies tend to have a communal view of property, specifically intellectual property rights (IPR), which can facilitate technology sharing to the detriment of the innovative firm (Herbig and Miller 1992).

Advantages of Strategic Imitation

The advantages to strategic imitation include those often described as second mover advantages. For example, innovation can be costly and time-consuming; these costs are mostly absorbed by the innovating firm, thus saving the imitator resources and time. While imitation is not costless, it is estimated that imitators’ costs are approximately 60–75% of innovators’ costs, which can be a distinct advantage for the imitator (Schwartz 1978; Mansfield et al. 1981). This gap gives the imitator the opportunity to competitively undercut the innovator’s prices and offer higher quality and service, as well as other differentiating attributes, in order to gain a higher market share. Imitators can take advantage of the groundwork laid by the innovator (Rogers 1995), and target existing customers of the innovator or similar

customers who are aware of the product type through the innovator's advertising and educating efforts, thus saving on search and advertising costs (Shenkar 2010). Rapid technology changes and changing consumer tastes can leave the innovator struggling to keep up with current market preferences, while the imitator can take advantage of hindsight, bide its time and choose a strategic market-entry moment or offering (Mathews 2006). A global market can signify a large demand for a product or service, demand that the innovator firm does not have the capacity to fulfil; the imitator can capture this excess demand. In addition, imitators can often attract venture capital for their imitative endeavours; given that these imitators are adopting a proven business model and a desired product, the risk is lower for investors (Shenkar 2010).

Methods of Imitation

Strategic imitation can be purposeful, accidental or incidental, or institutionally directed.

Purposeful

Purposeful imitation includes such activities as counterfeiting and reverse engineering, activities which frequently bear negative connotations in the literature, though typically only counterfeiting is considered illegal (Minagawa et al. 2007). Counterfeiting, also referred to as forgery, occurs when an imitated product is introduced to the market with the intention of passing it off fraudulently as the genuine (innovated) item. Counterfeit products are those that have been revealed, typically by a legal entity, to infringe on the patent, trademark or IPR belonging to another firm (Minagawa et al. 2007). Reverse engineering, on the other hand, involves the analysis of another firm's product in order to gain knowledge of the design and processes involved in the construction of the product, with the intention of producing a replica or even an improved version.

Accidental

Accidental or incidental imitation can often occur when firms are responding to the same external

shock, such as a change in consumer references or a new technology. This is often seen between rival firms that share similar backgrounds, have similar resource constraints and compete in the same markets as they both attempt to develop the next market offering (Lieberman and Asaba 2006). Such imitation can also be the result of ► [knowledge spillovers](#) and vicarious learning.

Institutionally Directed

Institutionally directed imitation typically involves processes and procedures, and is the result of firms adopting universal standards, benchmarking or best practices within an industry.

Drivers and Means of Imitation

Globalization

Globalization is one of the primary drivers of imitation. New firms from emerging economies often lack the experience and expertise required for innovation, and rely on strategic imitation to enter into competitive markets (Kale and Little 2007; Minagawa et al. 2007). These efforts are frequently aided by the home environment within the emerging economies, which may include lower costs of labour, lenient regulations such as those controlling the violation of IPR and patents, the strong protection of the domestic market and government subsidies for domestic firms (Shenkar 2010). In addition, legal systems that include 'first to file' rather than 'first to invent' engender more risk for an innovator, and give imitators the ability to move first in 'first to file' environments (Shenkar 2010).

Methods of Information Capture and Dissemination

Imitation is enabled by new technology such as the Internet, which provides new methods of communication and data storage, leading to quicker dissemination, sharing and capture of information. Imitation is further enabled by the codification of knowledge; what is helpful to knowledge transfer also aids in imitative efforts. Codification of knowledge both lowers the cost of imitation and enhances its viability (Shenkar 2010).

Through such codification knowledge is becoming a commodity, which can then be bought, sold, stolen and replicated. When codification is combined with employee turnover, the likelihood of imitation increases (Zander and Kogut 1995).

Imitation Clusters

While Porter and others have discussed the concept of innovation clusters, proposing that geographical areas with a high concentration of industry players and their suppliers around research universities can give rise to a competitive edge to these players, more recently business scholars have put forth the idea of imitation clusters (Campos and Brazdil 2005). Imitation clusters are similar to innovation clusters in that they consist of a high concentration of industry players and their supporting industries, but instead of research universities they tend to cluster around technical schools and secondary research centres that focus on implementation rather than innovation (Shenkar 2010). Imitation clusters are frequently specialized by value chain activity; for example, in China certain provinces and cities serve as centres for different links along the value chain for counterfeiting, namely the manufacturing, wholesale, retail and exportation of counter-feit products (CAEFI 2004).

Partnership Agreements

Partnerships between firms may be necessary to enter otherwise impenetrable markets, gain complementarities or fulfil a gap within a firm's capabilities, but such action leaves the firm vulnerable to technology leakage. Alliances, joint ventures and distribution networks may be used by one partner in the agreement to gain access to the necessary knowledge in order to imitate the selected behaviour or product innovated by the other partner (Shenkar 2010). In fact some Chinese executives admit that partnership agreements in the form of distribution contracts have been used as a Trojan Horse to gain access to original equipment and manufacturers' technology and processes, stating that the Western firms in question were fully aware of the risks involved and considered that the rewards of gaining market entry into China outweighed the risk of

counterfeiting (Minagawa et al. 2007; see also Yang 2005).

Private Label Agreements

Private labels are a way for imitators to quickly gain access to retail shelf space while avoiding the need to build a brand name and develop support services for the product. In some product categories in the US, private labels account for a third of the market (ACNielsen 2005). This phenomenon is even more acute in the prescription drug market, where generics represent the majority of sales in the US market (Parvis 2002). The move towards 'disposable societies' where consumers do not expect products to last a lifetime has helped to erode brand loyalty, and allowed imitators more room in the market.

The Impact of Strategic Imitation

Strategic imitation has impact on many levels. It affects the specific firms involved, both imitator and imitated. The reach of this behaviour can extend beyond the boundaries of the original firms to affect pricing structures and establish industry standards, which can shape the industry and market in which the behaviour occurs. The trickle-down effect of this behaviour can even impact societies, and imitation at the firm level has been used strategically by governments to improve societies. Japan used imitation to catch up with China in the first millennium, and with the West in the second, for example, selectively imitating elements from the US banking system and reverse-engineering US-made automobiles post-Second World War (Shenkar 2010). The development of imitative skills has helped to make Korea into a technological leader (Hobday et al. 2004).

Why Imitators Fail

Imitators can fail for several reasons. Some arrive to the market too late, and the first movers with their early mover advantages have already established an intractable foothold in the competitive space (Lieberman and Montgomery 1988).

Others fail because they blindly replicate the products and processes of others without trying to determine why their predecessors have succeeded (or failed to succeed). Still others fail, lacking the capabilities and resources to understand the causal ambiguity inherent in the procedures of the innovator firm (Shenkar 2010).

Empirical Work

See Lieberman and Asaba (2006) for a good overview of empirical work in this area.

See Also

- ▶ [Game Theory](#)
- ▶ [Imitability](#)
- ▶ [Isomorphism](#)
- ▶ [Knowledge Spillovers](#)
- ▶ [Risk Aversion](#)
- ▶ [Structure–Conduct–Performance](#)

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Strategic Implementation

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Abstract

If we assume that a firm begins with a well-articulated strategy and clear objectives, to implement that strategy it must be organized in a way that efficiently executes the associated central tasks and activities. The choice of organizational form responsive to any strategic setting consists of a comprehensive design of formal structure, information and decision processes, and human capital-related activities. Formal structure must generally align the firm's hierarchy with the primary tasks derived from the strategy. As implementation-related activities unfold, information must be collected

and shared to coordinate tasks, track performance and adjust activities according to intermediate outcomes. Human capital requirements must be well articulated, with appropriate selection, socialization, development and retention processes carefully planned for employees at all levels. Each of these elements must be responsive to the organization's strategic intentions, but must also comprise an internally consistent package of design choices which are mutually reinforcing.

Definition Strategic implementation refers to the organizational and managerial actions required to realize a firm's stated goals and objectives. This entails designing the organization to effectively and efficiently execute the central tasks inherent in the strategy while also executing short- and intermediate-term functional and business initiatives that will achieve expected competitive advantage and customer value.

To implement strategy, a firm must be organized in a way that effectively and efficiently executes its associated central tasks and activities. Over the past four decades, several different theories and related research streams have informed the question of why firms organize as they do. Transactions cost theory (Williamson 1975), agency theory (Jensen and Meckling 1976) and institutional theory (Scott 1995) have all offered distinct perspectives on this question. Strategic implementation relies most heavily on contingency theory, particularly the work of Thompson (1967) and Galbraith (1973). Within this perspective, comprehensive and detailed overviews of strategy implementation have been developed by Galbraith and Kazanjian (1986) as well as by Hrebiniak and Joyce (1984).

The central argument of contingency theory is that a firm's form should be contingent upon its circumstances, and that performance is a function of 'fit' or the internal consistency of the organization's design. Technology (Woodward 1965), size (Blau and Schoenherr 1971) and environment (Burns and Stalker 1961) were all theorized as prime contingencies. The general nature of these studies and their early interpretation were

deterministic; organization form was seen as the result of these situational variables. Work by Child (1972) challenged this view by proposing that strategic choice on the part of top managers is a critical variable that influences organization through the selection of competitive domains in which the firm chooses to compete, and of the goals and objectives to be pursued. By this logic, a firm's strategy emerges as its prime contingent factor, making contingency theory particularly suited for strategic implementation.

Aligning Organization to Strategy

The choice of organizational form responsive to any strategic setting consists of a comprehensive design of formal structure, information and decision processes, and human capital-related activities. Formal structure must generally align the firm's hierarchy with the primary tasks derived from the strategy. As implementation-related activities unfold, information must be collected and shared to coordinate tasks, track performance and adjust activities according to intermediate outcomes. Human capital requirements must be well articulated, with appropriate selection, socialization, development and retention processes carefully planned for employees at all levels. Each of these elements must be responsive to the organization's strategic intentions, but must also comprise an internally consistent package of design choices which are mutually reinforcing.

Formal Structure

Early and influential research by Chandler (1962) described how, as organizations changed their growth strategy, new administrative problems arose that were solved when the organizational structure was redesigned to fit the new strategy (Galbraith and Kazanjian 1986). For example, a functional structure is seen as an appropriate configuration to implement a strategy of competing in a single or dominant business. A functional structure is one where the central functions of R&D, engineering, manufacturing or operations,

marketing, finance and other prime activities of the company comprise the main organizing units of the firm. The heads of these functions typically report directly to the chief executive of the organization. The functional structure provides specialization and standardization, which deliver efficiency, economies of scale and tight control of outcomes. Centralized functions also provide the opportunity for the aggregation of a critical mass of expertise and degrees of sub-specialization, which generate a depth of knowledge not typically available when functions are fragmented across product or geographic divisions. Given the focus on a single business with a relatively narrow product or service offerings, interfunctional coordination is more straightforward and direct.

Strategies of diversification present distinct administrative challenges. Firms that have diversified into related businesses must provide focus to the individually distinct businesses while also pursuing the economies of scope and potential synergies presented by cross-divisional cooperation. Economies of scope emerge from common activities at the corporate level, such as shared procurement, research or administrative services. Synergies might take the form of transferring elements of distinctiveness in functional or business practice across divisions. Multi-divisional structures (Chandler 1962; Williamson 1975) provide decentralized focus, authority and accountability at the business unit level. Each business unit has the functional resources critical to implement their tasks, allowing rapid response to market and competitive demands. The structure also facilitates resource allocation as each business unit offers a distinct investment opportunity which can be assessed relative to other businesses in the portfolio. However, the strategy of related diversification also requires a sizeable corporate office to pursue and deliver the associated economies of scope and synergies which are central to the strategy. These might take the form of shared procurement or R&D activities that benefit multiple business units. Within such a related portfolio, divisional activity would therefore also be influenced by corporate policies and direct involvement of corporate staff. Of course, for

economic value to be created the administrative costs of the corporate centre must be less than the economies and synergies realized.

Alternatively, firms that diversify into unrelated businesses require a different structural form. Such firms, often called conglomerates, function more effectively in a holding company form (Dundas and Richardson 1982). Similar to related diversified firms, successful conglomerates organize each business in its own, largely self-contained and independent, operating entity. Given that the businesses of the firm are not related, there are few to no opportunities for economies of scope or synergy. Therefore, the corporate office is composed of a much smaller staff who concentrate on finance, control and capital allocation, both across the internal portfolio of existing businesses as well as for potential new acquisitions. Typically, financial controls and corporate review processes are tight and the reward system for business unit managers is used to align the business outcomes with corporate goals and objectives assigned to the business unit.

Information and Decision Processes

Formal organizational structures create differentiated subunits to pursue a defined task with focus and accountability. However, these subunits cannot operate in isolation as they are often interdependent with others. Therefore, the organization must also establish processes for information-sharing and decision-making, providing mechanisms to integrate and coordinate the differentiated subunits (Galbraith 1973). In almost all settings, the hierarchy of roles embedded in formal structure is the principal mechanism to resolve inter-unit disagreements – the problem gets referred upwards to a common superior who oversees the affected units. For regularly recurring issues, standard operating procedures or rules may be established as a substitute for hierarchical referral. Additionally, budgets, goals and schedules may be established to clarify expected outcomes. As issues emerge, units may contact each other to seek a mutually

agreeable adjustment to resolve problems. Such processes are necessary in all settings, regardless of strategy.

However, some strategies may require additional process capability. For example, a single business firm may decide to compete through innovation and new product development. Such a strategy is characterized by uncertainty regarding market acceptance, technological feasibility and operational delivery. Given the potential number of problems that may well arise in the development of a new product, and the high degrees of functional interdependence, traditional coordinating processes will probably be insufficient. Therefore, the organization may designate a coordinating liaison for each function, or go further by creating a team of functional representatives to work interdependently on the project. This team may well be reviewed by the senior management of the business on a regular basis to gauge progress and resolve disagreements. Multiple new product initiatives may require multiple teams and corresponding review time with senior management. In summary, given greater uncertainty and subunit interdependence of the central tasks associated with the strategy, the firm must create additional information and decision-processing capability.

For related diversified firms, value creation may rest on the ability to transfer knowledge and experience, typically residing at the functional level, from one business unit to another. For example, manufacturing process advances developed within one business unit might have applicability to manufacturing processes in other business units. The same might be the case for advances in practice related to marketing, engineering or other functional areas. The sharing of such knowledge could be accomplished in part by the regular rotation of certain personnel across businesses. Additionally, however, it also will be advisable to establish regular processes of exchange among members of relevant functional groups, allowing them to share and discuss common problems and solutions, which could be accomplished through regularly scheduled meetings, teleconferences or electronic communities of practice.

These examples establish the fact that information exchange, managerial and review processes, and decision-making processes must be tailored to the central tasks of the strategy. However, regardless of strategy, it is critical that senior management maintain clear focus on the primary initiatives central to strategy that must be accomplished over a 1- to 3-year time horizon. These initiatives might include entering a new geographic market, identifying a new distribution chain, building additional operations capacity, refreshing a brand with a new marketing campaign or creating a new business through the cooperation of existing business units. Effective strategic implementation requires that these issues are regularly reviewed by senior executives, with managerial adjustments made as necessary. This concept has been termed the operations process by some authors (Bossidy and Charan 2002).

Human Capital Factors

The relationship of strategy to various elements of human capital has been widely researched. The overarching logic is that specific strategies are enabled through the recruitment, development and retention of individuals with critical skills that are responsive to the tasks of that strategy. Much of this work centres on the role and demographic composition of the top management team (Hambrick and Mason 1984). Functional background, gender (Dezso and Ross 2012), education, industry experience, managerial experience, and individual propensities such as risk orientation and tolerance for ambiguity (Gupta and Govindarajan 1984) of senior executives at both the individual and team level, have all been linked to successful strategic implementation. More recent work has also identified the effect of specific individuals to firm performance, suggesting that performance in organizations vary as the individuals in the firms vary (Mollick 2012), again highlighting the need for processes to identify, select and retain such individuals.

Incentives also play a central role in aligning the motivations and behaviours of individuals

with their assigned objectives derived from strategy. The most relevant and extensive work on this topic has emerged from the development of the ► [balanced scorecard](#) (Kaplan and Norton 1992). Within this approach, strategies are deconstructed into specific short- and medium-term objectives assigned to specific managers. In addition to traditional financial objectives and measures, there are others associated with the customer outcomes, internal process performance and personnel development. The objectives focus individual managerial behaviour that is compatible with the objectives of other interdependent parties and consistent with the strategy. The measurement process, with regular updates, alerts the individual when performance deviates from expectations. Finally, with rewards linked to performance, desired behaviours and outcomes are reinforced.

Achieving Organizational Fit for Effective Strategic Implementation

The concept of organizational fit or congruence among all elements of an organization has been empirically demonstrated and is well accepted (Hrebiniak and Joyce 1984; Galbraith and Kazanjian 1986; Gresov and Drazin 1997). Germane to strategic implementation, strategy determines a priority of primary tasks the organization must complete to achieve its goals and objectives. The organization must be designed with the appropriate formal strategic implementation structure, information and decision processes, and human capital assets, to form an integrated whole. These activities must be internally consistent and mutually reinforcing in their effect on the behaviour of individual employees. Numerous studies have linked fit to strategic implementation and organizational performance (Drazin and Van de Ven 1985; Govindarajan 1988; Tushman et al. 2010).

See Also

- [Balanced Scorecard](#)
- [Matrix Organization](#)

- ▶ M-form Firms
- ▶ Organizational Design
- ▶ Seven-S Framework
- ▶ Structural Differentiation and Integration

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Strategic Intent

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Definition Strategic intent includes the ability to envision a desired leadership position, to establish the criterion used to chart organizational progress towards that end, and the active management process required to accomplish the intent. This process focuses attention on the essence of winning, motivates people by communicating the target, recognizes individual and team contributions, sustains enthusiasm and consistently guides resource allocations.

Strategic intent includes the ability to envision a desired leadership position, to establish the criterion used to chart organizational progress towards that end, and the active management process required to accomplish the intent.

The concept 'strategic intent' was first popularized in a 1989 *Harvard Business Review* article by Gary Hamel and Prahalad (1989). These authors argued that Western companies using traditional competitor analysis had continued to focus on the fit between current resources and opportunities, while Asian companies that had risen to global leadership were leveraging available resources to achieve nearly unattainable goals and encouraged corporations to revitalize their performance by adopting this new model of

strategy. Using the documented examples of Komatsu's efforts to 'Encircle Caterpillar', Cannon's to 'Beat Xerox' and Honda's efforts to become a second Ford – an automotive pioneer – Hamel and Prahalad called this obsession to win and the related 10- to 20-year commitment required to attain global leadership 'strategic intent'. According to them, strategic intent included the ability to envision a desired leadership position, to establish the criterion used to chart organizational progress, and the active management process required to accomplish that intent. They described this process as one that focused the organization's attention on winning; motivated people by communicating the value of the target; recognized individual and team contributions; sustained enthusiasm by providing new operational definitions as circumstances changed; and used intent to consistently guide resource allocations.

'Strategic intent' as a concept was quickly accepted by managers, who had experienced the limitations of traditional competitor analysis with its focus on the current fit of firms' resources with opportunities and threats, and incorporated it into strategic management texts and training modules used to educate students and managers (Hitt et al. 1995). Both educators and practitioners sought to encourage corporate managers and employees to focus on a future vision and make the necessary investments required to develop or acquire the resources and capabilities their firm needed to attain their goal and actively change the competitive environment. Although the value of strategic intent and the steps required to accomplish it were laid out by Hamel and Prahalad (1989), since the late 1980s efforts by managers to establish strategic intent in the minds of their employees and accomplish their goal has revealed many challenges in the implementation of strategic intent in practice, such as, for example, the need to provide a clear and consistent vision and consistently make investments. Still, consultants, managers and educators continue to recognize the value proposition of strategic intent.

The academic strategic management literature has commonly evaluated the empirical reality of

strategic intent through the lens of the ► [resource-based view](#) theory (Barney 1991), or ► [dynamic capabilities](#) theory (Teece et al. 1997). These theories emphasize the need of the firm to consider where it intends to be in the future and to develop or acquire the resources and capabilities needed to attain their intended competitive position. As strategic intent was envisioned by Hamel and Prahalad (1989) as a process, it is not surprising that academic research that has used the term strategic intent has typically considered the strategy-making process in organizations that use more qualitative methods. For example, Noda and Bower (1996) contrasted the evolution of two regional Bell holding companies created by the breakup of the Bell system to investigate how top management's strategic intentions set the strategic and structural context that defines the environment for front-line and middle managers. Likewise, Lovas and Ghoshal (2000) studied the interrelationship between strategic decision-making and administrative systems at a Danish hearing aid company to develop a model of strategy as guided evolution. The limited academic work that has directly focused on strategic intent as a construct suggests that future studies of the link between strategic intent and resource and capability development/acquisition and the strategic decision-making process within organizations would enrich the academic strategic management literature.

See Also

- [Dynamic Capabilities](#)
- [Resource-Based View](#)

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Strategic Learning

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Abstract

To survive, firms must adapt to their changing environments. Strategic learning is a process by which firms notice environmental change and develop the capacity to alter their strategies in order to prosper under new environmental conditions. Firms often prove inept at strategic learning. They have significant difficulty noticing environmental change, forecasting the implications of the environmental changes they do notice and disrupting established routines and power structures as necessary to adapt to these changes. These difficulties are reflected in high mortality rates.

Definition Strategic learning is a process by which firms notice environmental change and develop the capacity to alter their strategies in order to prosper under new environmental conditions.

To survive, firms must adapt to their changing environments. Strategic learning is a process by which firms notice environmental change and develop the capacity to alter their strategies in order to prosper under new environmental conditions. Firms often prove inept at strategic learning (Starbuck et al. 2008). They have significant difficulty noticing environmental change, forecasting the implications of the environmental changes they do notice, and disrupting established routines and power structures as necessary to adapt to these changes (Hedberg et al. 1976; Kiesler and Sproull

1982; Pant and Starbuck 1990). These difficulties are reflected in high mortality rates. Few firms survive over long periods of time (Louca and Mendonca 2002; Nystrom and Starbuck 1984).

Firm survival is a central concern of the strategic management and organization theory literatures, and so many scholars have addressed firm adaptation to environmental change. Often, they have addressed this topic using terminology other than that of strategic learning. As a result, much of the task of clearly defining strategic learning entails explaining its similarities to and distinctions from myriad other terms.

The term most commonly muddled with strategic learning is organizational learning. Though many have used these terms interchangeably, strategic learning is a distinct type of organizational learning. Organizations learn in ways that allow them to better exploit their current environment, and they learn in ways that allow them to effectively explore and adapt to future environments. Organization learning encompasses both types of learning (Levitt and March 1988). Strategic learning is specifically the latter (Kuwada 1998).

Some have made a clear distinction between these types of learning, but often they have used different terms. Kuwada (1998) distinguished business learning from strategic learning, and Argyris and Schon (1978) distinguished single-loop from double-loop learning, for example. Whatever the terms used, it is important to distinguish learning that enables a firm to fine-tune its existing strategy from learning that enables a firm to craft new strategies. They are fundamentally different types of learning (March 1991). Given the longer-term nature of the latter, it seems fitting to coalesce the various terms into a single term, strategic learning.

Strategic learning is also distinct from individual learning. For a firm to learn, individuals within the firm must learn (Nonaka 1994). However, individuals may learn things that do not become part of what the firm learns. There may be resistance to the transmission of lessons learned at lower levels of a firm up to higher levels (Burgelman 1983; Porter and Roberts 1976). In contrast, a firm's structure and processes may allow it to learn more than the sum of its members.

Sandelands and Stablein (1987) developed the concept of an 'organization mind' to describe memory, thought and decision-making at a level above that of the individual. Weick and Roberts (1993) developed the concept of 'collective mind' to explain the sort of 'heedful interrelating' underlying the near error-free performance of a high-risk, complex system.

Also distinct from the process of strategic learning is the implementation of adaptive strategies. Firms must learn if they are to be in a position to adapt to changing environments. But implementing a new strategy presents a different set of challenges than does realizing the need to change. Thus, learning and adaptation are better analysed as separate processes. The line of separation is fuzzy. Barriers to strategic learning such as power struggles and cognitive dissonance are also barriers to implementation of adaptive strategies. In general, strategic learning can be treated as an input to, but not an act of, adaptation. If we consider innovation to be the process of bringing what has been learned into use within the firm (Kanter 1983; Mezas and Glynn 1993), then strategic learning ends where innovation begins.

Learning in organizations is 'routine-based, history-dependent, and target-oriented' (Levitt and March 1988). Exploration for new ideas and implementation of new strategies yields more distant and less certain returns than continued exploitation of current strengths (March 1991). As a result, firms face a strong inertial pull towards continued exploitation that can lead them into a competency trap. A competency trap 'can occur when favorable performance with an inferior procedure leads an organization to accumulate more experience with it, thus keeping experience with a superior procedure inadequate to make it rewarding to use' (Levitt and March 1988: 322).

A firm can set up a reliable routine to assess whether or not it is achieving its goals, such as daily production numbers or defect rates. Based on what it learns from this routine, the firm can then continuously fine-tune its production process so as to maximize production and minimize defects. However, a firm typically cannot set up a reliable routine to assess whether or not it is

pursuing the proper goals. Though a firm may manufacture large numbers of defect-free products, it may be manufacturing products that are becoming obsolete. For example, Nystrom and Starbuck (1984) tell the story of a calculator manufacturer's decline as it focused on improving the efficiency of its mechanical calculators while technology changed and the market moved to electronic calculators.

Strategic learning is recognition of a problem with current goals rather than recognition of the lack of achievement of current goals. As such, it requires a break from routines and an ability to look beyond established mindsets. Many have recognized the difficulty of getting beyond myopic learning tendencies (Levinthal and March 1993). Some argue that, before a firm can effectively engage in strategic learning and adjust its strategic orientation, it must first 'unlearn' (Hedberg 1981) past lessons or 'unfreeze' (Lewin 1947) existing mental models.

Strategic learning is often described as a higher level process (Argyris and Schon 1978), with the implication that it is more novel and complex than the lower level, routine process of fine-tuning an existing strategy. But some describe strategic learning as a non-reflective process in which knowledge accrues as a byproduct of lower-level single-loop learning. According to Kuwada (1998: 733), 'accumulation of myopic learning or lower level learning leads to higher level learning. Strategic learning occurs as the culmination of a series of incremental changes . . . it occurs in a natural way without questioning . . . unlearning was not assumed to precede strategic learning.' Starbuck et al. (2008: 9) distinguished cognitive from noncognitive approaches to strategic learning: A cognitive approach says firms learn, or fail to do so, voluntarily, so they exert strong influence on their individual fates, whereas a noncognitive approach views firms as puppets under environmental control.'

Whether more or less complex than routine learning, or cognitive or noncognitive, strategic learning proves difficult. Firms are more attentive to threats than opportunities (Jackson and Dutton 1988). They may notice and muster the effort necessary to overcome competency traps

following an abrupt environmental jolt (Meyer 1982). If threatened firms adjust their strategies quickly, they may survive. However, even when confronted with failure, defence mechanisms may lead managers to discount its causes and so they may learn little from it (Baumard and Starbuck 2005). Moreover, while readjusting their strategies and taking on new activities with which they have little experience, firms face a liability of newness that increases their risk of failure (Amburgey et al. 1993).

Some have shown that these tendencies in organizational and strategic learning lead firms to engage in long periods of convergence followed by abrupt reorientations – a punctuated equilibrium model (Tushman and Romanelli 1985). However, firms may be unable to engage in reorientations if they have not devoted adequate resources to exploration during the lengthy preceding period of convergence (March 1991). Thus, rather than engage in a sequential process of incremental followed by radical change, some argue that adaptive organizations need be ‘ambidextrous’ (O’Reilly and Tushman 2004), continuously advancing their abilities to simultaneously exploit current competencies and explore for new competencies.

Though effective strategic learning helps firms adapt to changing environments, ineffective strategic learning need not doom firms to failure. To achieve competitive advantage, a firm need only do better than its rivals, and its rivals may be equally bad or worse at strategic learning (Starbuck et al. 2008). Moreover, firms can exert some control over the environments in which they operate (Barnett et al. 2003; Barnett 2006). Thus, adaptation is not only a matter of the readjustment of a firm’s strategy to fit its changing environment; it also entails developing strategies to change a firm’s environment to fit its strategy.

See Also

- ▶ [Cognition and Strategy](#)
- ▶ [Exploration and Exploitation](#)
- ▶ [Inter-organizational Learning](#)
- ▶ [Learning and Adaptation](#)

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Strategic Management Journal

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Abstract

The article refers to the *Strategic Management Journal* as an academic publication specialized in the discipline of strategic management. It provides a description of its birth and evolution, mission and scope, and the editors responsible for its development over time. Moreover, the article analyses some key aspects of the journal such as its main statistical data, the role in the development of the discipline, its importance and impact in the context of the broader field of management, and its growing

international profile as it became a global publication. Finally, the article describes the history of the SMJ Best Paper Prize in recognition of the most outstanding papers published in the journal.

Birth and Evolution

Strategic Management Journal (*SMJ*, <http://smj.strategicmanagement.net>) is an academic journal that was founded in 1980, at the same time as the strategic management society (SMS, <http://strategicmanagement.net>), being the latter's flagship publication. Strategic management is a young discipline within the broader field of management. It emerged in the early 1960s, based on different final courses in business schools on the problems of general management in firms, under the name of ► **business policy**. Over the following years it gradually defined itself, consolidating new concepts and witnessing the appearance of the first major instances of research. It was towards the end of the 1970s when the discipline eventually found its rightful place as a major component of management with a research focus, being referred to as 'strategic management'. It was this context that saw the birth of SMS and *SMJ*, as the brainchild of ► **Schendel Dan**, (born 1934) and Mary Lou Schendel and other scholars, with the aim of creating a new academic community and channelling the latest research in this field, thereby contributing to the fledgling discipline's growth and development.

SMJ's evolution cannot be understood without considering the parallel development of SMS and, briefly, of the academic community in strategic management. Accordingly, *SMJ* and SMS are mutually reinforcing: today, the journal has around 4,000 readers who are also members of SMS, as well as counting on numerous individual and institutional subscribers worldwide.

Mission and Scope

The journal's mission is to contribute to the development of strategic management from both a

theoretical and a practical perspective. To do so, it seeks to create an arena for discussion and debate by publishing research on almost any subject that can be included within the discipline of strategic management. The main topics are strategic resource allocation, organization structure, leadership, entrepreneurship and organizational purpose, methods and techniques for evaluating and understanding competitive, technological, social and political environments, planning processes, and strategic decision processes, among others.

The journal's first editorial already considered the dual remit of appealing both to academics and business professionals (Schendel et al. 1980). Although this policy has been upheld from the very beginning to the present, it should be noted that *SMJ* has had an eminently academic approach, becoming the flagship for the discipline of strategic management. García-Merino and Santos-Álvarez (2009) highlight this research-based, and therefore scholarly, approach by *SMJ*, as well as its importance in terms of the originality of the papers published.

Editors

SMJ began its journey with three co-editors of recognized prestige within the ambit of the new discipline: Dan Schendel (Purdue University), ► Ansoff, Igor H. (1918–2002) (European Institute for Advanced Studies in Management) and Derek Channon (Manchester Business School). They founded the journal and oversaw its initial growth and focus. At the end of 1984, Igor Ansoff ceased to be a co-editor, with the other two continuing through to 1993. From 1994 onwards, Dan Schendel remained as the sole editor, although he was joined by Edward Zajac (Northwestern University), Karel Cool (INSEAD), ► Bettis, Richard A. (born 1947) (University of North Carolina at Chapel Hill), John McGee (Warwick Business School) and Will Mitchell (University of Michigan and University of Toronto) as associate editors.

Following Dan Schendel's retirement in 2006, the journal was run by the co-editors Richard Bettis, Will Mitchell and Edward Zajac, and new

associate editors were appointed to help with the increasing workload in the journal's orientation and the selection of the papers submitted. The team of co-editors and associate editors is supported by a group of around 250 members of the Editorial Board, who are involved in reviewing papers for possible publication, and by hundreds of ad hoc reviewers.

Key Statistical Data

The journal is organized by volumes or series of issues included in a year. Between 1980 and 1987, four issues were published each year. Towards the end of the 1980s, special issues began to be published on specific topics in the field. Between 1988 and 1990, the number of issues per year began to grow, and by 1991 there were eight, a rate that was maintained until 1995. The ensuing years saw further growth in the number of issues per year until 1998, when it stabilized at 12 standard issues and 1 or 2 special issues. In total, excluding editorial notes and book reviews, between 1980 and 2011 (volumes 1–32) the journal has published almost 1,800 papers, involving a total of 3,530 authorships.

Table 1 features the journal's main descriptive data, both for the 32 volumes considered and for the four 8-year periods in which we have divided the analysis. These data enable us to deduce the following: (a) constant growth in scientific output (number of papers) over time, although it has levelled off over the last two stages (column 2); (b) constant growth in the number of authorships (column 3); (c) constant growth in the number of authors per paper, which suggests greater cooperation between researchers (column 4); and (d) constant growth in cooperation among institutions.

As can be seen, the papers published by a single author have been decreasing in relative terms (columns 5 and 6). Something similar, albeit to a lesser extent, has occurred with the papers published in intra-cooperation, that is, by several authors from the same institution (columns 7 and 8). However, inter-institutional cooperation (involving authors from two or more

Strategic Management Journal, Table 1 Key data on SMJ

Stage	Articles	Authorships	Aut./ Art.	1 author	%	Intra- coop.	%	Inter- coop.	%
I (1980–1987)	238	374	1.57	123	51.68%	46	19.33%	69	28.99%
II (1988–1995)	471	850	1.80	181	38.43%	107	22.72%	183	38.85%
III (1996–2003)	537	1,084	2.02	151	28.12%	73	13.59%	313	58.29%
IV (2004–2011)	550	1,222	2.22	114	20.73%	79	14.36%	357	64.91%
Total	1,796	3,530	1.97	569	31.68%	305	16.98%	922	51.34%

institutions) has grown constantly from 28.99% in the first stage to 64.91% in the fourth (columns 9 and 10).

This constant growth in specialized scientific production in strategic management has opened the doors to new researchers and created a community of academics for the generation, development and dissemination of knowledge on the discipline. This circumstance, together with growing cooperation between authors and institutions, has led to the creation of a global knowledge network in this field.

Importance in Business Management and Strategic Management

Some authors have referred to *SMJ* as the ‘flagship’ of the discipline of strategic management. The above data reveal some of the reasons for this moniker. The significant role played by *SMJ* in this field is highlighted by Furrer et al. (2008), whose study of the main lines of research in strategic management based on the four main management journals reveals that 65% of the papers on strategic management and 20 of the 41 most influential papers in the discipline’s history have been published in *SMJ*. A further indication of *SMJ*’s importance is that it is used as a source in 76.47% of the 18 studies conducted by different authors for characterizing specific aspects of the evolution of management as an academic discipline.

An important aspect for the discipline’s development involves the special issues on monographic topics published since the journal’s early days. These special numbers have focused the debate on original lines of research and subject matter, thereby fostering scholarly discussion and

advances in knowledge by exploring the field’s boundaries and its links to other disciplines. The subjects addressed include networks and alliances, organizational capabilities, entrepreneurship, global strategy, strategic process, resource-based view, evolutionary approaches, technological competences, strategy and economics, and the psychological fundamentals of strategic management.

A further aspect that defines *SMJ* is the importance it gives to the publication of work that reflects upon and analyses the discipline itself. Thus, it has published papers on the definition of strategic management (e.g., Nag et al. 2007), the concept of strategy (e.g., Ronda-Pupo and Guerras-Martin 2012), the intellectual structure, the leading and most influential authors and papers (e.g., Ramos-Rodriguez and Ruiz-Navarro 2004; Nerur et al. 2008), methodological problems in research into strategic management (e.g., Godfrey and Hill 1995; Boyd et al. 2005; Newbert 2007), and researchers’ publications (e.g., MacMillan and Stern 1987; Franke et al. 1990) or academic careers (e.g., Park and Gordon 1996).

Academic Importance and Impact

SMJ’s significant position in the rankings of journals has meant that the actual discipline of strategic management now occupies a distinct and important place within the broad field of management. Thus, it is included in the *Journal of Citation Reports*’ Social Science Citation Index (ISI) in the categories of Business and Management, appearing in the ranking for the first time in 1983. Since then, it has almost always been among the top ten journals in both categories according to its impact factor, which has ranged

from a minimum of 0.789 in 1983 to a maximum of 4.464 in 2009.

When we extend a journal's study scope, ISI's database 'Essential Science Indicators' compiles a ranking for the disciplines included in the extensive field of 'Economics and Business', classifying the journals by their overall number of citations and of citations per article for a period of around 10 years. According to revised data at 1 May 2012, regarding a list of 285 journals, *SMJ* stood in seventh position in terms of the overall number of citations and in 11th for the average number of citations per paper.

Azar and Brock (2008) selected the 15 leading journals specialising in strategic management, finding that *SMJ* is the number one publication, a long way ahead of the second one, both in the overall number of citations and in terms of its impact factor. This privileged position has been maintained both for a long period of 10 years (1997–2006) and for each one of the four 4-year periods analysed between 1991 and 2006.

Its importance is furthermore reflected by the fact it is used for compiling the research rankings of the best business schools, being included for this purpose in the *Financial Times* 45 Top Journals and in the *Bloomberg-Business Week* 20 Top Journals.

International Profile

SMJ was founded in the United States, which constitutes its main focus, as occurs also with other ambits in management. Nevertheless, over the course of time it has acquired a more international profile by including authors and institutions from other countries. In view of this, we can affirm that *SMJ* is an increasingly global publication on the discipline of strategic management.

The 1980–2009 period saw work published by authors from institutions pertaining to 38 different countries. The bulk of the research is conducted in the US, accounting for 72.9% of the authors, followed at some considerable distance by the United Kingdom (5.88%), Canada (4.36%), France (3.59%), Hong Kong (1.37%), Spain

(1.30%) and the Netherlands (1.08%). None of the other countries (31) individually reached a 1% participation. In order to observe the steady and constant evolution towards the journal's greater internationalization, certain indicators are analysed by stages (Ronda-Pupo and Guerras-Martin 2010):

- (a) The first stage (1980–1989) involves institutions from 18 countries, with the second stage (1990–1999) having 26 countries, and 34 in the third stage (2000–2009). Only 13 countries participated in the three stages, so there is a growing involvement of new countries in the scientific network in strategic management represented by *SMJ*.
- (b) Those papers in cooperation between institutions from two or more countries are growing constantly and sharply. The first stage had only 22 papers in international cooperation, accounting for 6.7% of the total. However, the figure for the second stage is 77 papers (13.1%), and for the third it is 167 (23.8%). This trend continues to grow, as the data for 2010 and 2011 show that international cooperation now amounts to 32% of the papers published.
- (c) Whereas the US position in the first two stages represents the sole reference point or core of the discipline, the third stage sees the strong emergence of such focal points as the UK, Canada and France, with other countries recording sustained growth in their involvement: Spain, Germany, Hong Kong and the Netherlands.

SMJ Best Paper Prize

The award for the best paper was introduced in 1993, and was called the 'SMJ Best Paper Prize' for honouring those articles that have made a significant contribution to research into strategic management. In order to be selected, a paper needs to have been published at least 5 years before the selection and also have made a proven contribution of significance to the discipline. The prize is announced each year during the SMS

conference and is accompanied by a major financial award sponsored by John Wiley & Sons and SMS through its Strategy Research Foundation. In 2007, the name of the prize was changed to ‘The Dan and Mary Lou Schendel Best Paper Prize’, in honour of the contribution the Schendels made to SMS and *SMJ*.

Up to 2011, 21 prizes had been awarded. These papers have also been widely acknowledged by the scientific community in strategic management. According to the ISI Web of Science, 20 of the 21 papers honoured were among the 70 most cited out of the approximately 1,800 papers published in the journal up to the end of 2011. Furthermore, nine out of the journal’s ten most cited papers have received the prize, as well as 16 of the top 25. This is a good indicator of the quality of the papers awarded.

See Also

- ▶ [Ansoff, H. Igor \(1918–2002\)](#)
- ▶ [Basic Research](#)
- ▶ [Bettis, Richard \(Born 1947\)](#)
- ▶ [Business Policy and Strategy](#)
- ▶ [Schendel, Dan \(Born 1934\)](#)
- ▶ [Strategic Management Research in Management Journals](#)

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Strategic Management of Knowledge

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Abstract

The entry argues and provides evidence that strategic management of knowledge is an important issue that organizations need to address, and that it therefore warrants a place in strategic management research.

Definition The strategic management of knowledge refers to the utilization of an organization's capabilities to leverage internal and external knowledge sources to create value and sustainable competitive advantage.

Knowledge and Its Strategic Management

Knowledge is the core of an organization and many activities at work revolve around acquiring, using and storing knowledge (Hansen et al. 1999). Organizations are an effective instrument for integrating various forms of specialized knowledge possessed by employees to create value and sustainable competitive advantage (Grant 1996). The basis of this assumption is that competitive advantage derives from the tacit knowledge of individual employees. As tacit knowledge includes know-how and experiences that are difficult to communicate and codify, it is largely inimitable (Zack 1999). Therefore, the premise of sustainable competitive advantage lies in the effective integration and usage of knowledge in general and tacit knowledge in particular.

Organizations are increasingly aware of the role that knowledge plays in creating competitive advantage. Zack (1999) highlights that organizations are actively managing knowledge, either through information technology (IT) applications to digitize explicit information for easy storage and reuse, or through improving infrastructure to facilitate communication between employees located at geographically dispersed locations, especially when they deal with tacit knowledge. This increased awareness is not only confined to knowledge-intensive industries such as management consulting and medical services, but other industries and sectors as well (Hansen et al. 1999). A suitably well-planned, structured knowledge strategy complements business strategy and reinforces an organization's competitive position in the market because it ensures that specialized knowledge and best practices are accessible and retrievable by members of the organization, and can be utilized by them to create value. Thus,

knowledge is indeed strategically important to organizations.

Strategic management of knowledge is the utilization of an organization's capabilities to leverage internal and external knowledge sources, and, through this, create value and sustainable competitive advantage. In particular, knowledge management can contribute to create either supply-side economies of scale (e.g., in the form of reducing operating cost) or demand-side economies of scale (e.g., by significantly increasing product qualities) (Ofek and Sarvary 2001). Internal knowledge sources are normally in the possession of individual organizations, such as tacit and explicit knowledge held by individual employees and commonly embedded in organizational routines, directives and procedures (Grant 1996). Organizations, however, do not possess their own external knowledge sources, which include publications, universities and inter-organizational strategic alliances (Zack 1999).

One could challenge the importance of sound knowledge management strategies in organizations, let alone their relevance to strategic management research. This is due to the countless tools developed by researchers and practitioners that seem to focus heavily on using IT to store and disseminate information, for instance by establishing and utilizing information databases. However, it would be misleading to conclude that knowledge management is narrowed down to tactical strategies and tools to store documents. In the following sections, I argue, with supporting evidence, that the strategic management of knowledge is an important issue that organizations need to address and that, therefore, it merits a place in strategic management research.

Linking Knowledge to the Resource-Based View and to Dynamic Capabilities

The basis of competitive advantage in the framework of the ► [resource-based view](#) (RBV) is the notion that, through optimal deployment of idiosyncratic resources and capabilities, organizations are able to create more value from these resources over competitors and thus create and sustain

competitive advantage (Teece et al. 1997). However, these resources need to meet certain criteria such as being heterogeneous, inimitable and at least imperfectly mobile or firm-specific.

Following an RBV logic, although traditional resources provide certain competitive advantages, they can be easily substituted by other resources. Knowledge, on the other hand, is less susceptible to substitution and/or imitation. This is especially so for context- or firm-specific tacit knowledge. As mentioned earlier, knowledge is normally embedded in organizational routines and processes (Grant 1996) and hence not easily imitated by competitors. With superior knowledge in the form of know-how and best practices, organizations can reconfigure traditional resources to yield higher value (Zack 1999). Therefore, knowledge is a sustainable resource that organizations could exploit to increase their competitive position in the market.

After establishing that knowledge is a strategic resource to organizations, it is also relevant to explore the role it plays in ► [dynamic capabilities](#). Zack (1999) concludes that the capability of organizations to acquire, use and store knowledge is essential to exploit knowledge as a strategic resource. Organizations are capable of reconfiguring traditional resources to create new, unique resources. Dynamic capabilities research focuses on explaining how organizations create and capture value in rapidly changing technological environments (Teece et al. 1997). The nature of environments with rapid technological change renders traditional resources obsolete faster as organizations are constantly reconfiguring traditional resources to create new competitive advantages. This gives rise to the importance of routines and processes that enable organizations to reconfigure resources (Eisenhardt and Martin 2000). The firm-specific knowledge embedded in organizational routines increases the ability of firms to compete in these environments.

Dynamic capabilities also refer to organizations acquiring new knowledge to merge with existing organizational knowledge or to complement existing know-how. The combination of new knowledge with existing information would provide unique insights and knowledge to

organizations. Organizations can use this knowledge to improve organizational performance and competitive position. The role knowledge plays in dynamic capabilities, then, encompasses not only using existing organizational routines and procedures to reconfigure traditional resources to better create value, but also the enhancement of existing capabilities through acquiring and merging new knowledge to create unique capabilities.

The discussion in this entry so far has focused on the importance of knowledge and its role in RBV and dynamic capabilities, reinforcing the argument that it is paramount for organizations to not only have sound knowledge management strategies but also to view knowledge as part of their unique resources and capabilities that shape business strategy. Naturally, the next question is how organizations can formulate an effective and efficient knowledge management strategy.

Knowledge Management Strategies

Before even contemplating the formulation of a strategy, organizations need to perform strategic mapping of existing strengths and weaknesses in organizational knowledge. The mapping of knowledge into three typologies, of core, advanced and innovative, can determine the competitive positioning of an organization relative to competitors in the respective industry (Zack 1999). Having only core knowledge is insufficient to create long-term competitive advantage; organizations need both advanced and innovative knowledge to succeed in the long term. The knowledge gap between what an organization knows and what an organization must know to create competitive advantage acts as a guide to formulating knowledge management strategies.

There is also a need to determine the overall knowledge direction of the organization before deciding on a strategy. Although internal knowledge is a strategic resource, it is also important for organizations to source knowledge externally, especially in rapidly changing technological industries (Eisenhardt and Martin 2000), in order to close the knowledge gap and to complement existing organizational knowledge. Merging

internal and external knowledge has the potential to provide distinct new (in extreme cases unique) knowledge and the edge required by organizations to create and sustain a competitive position.

The importance of setting a knowledge direction, strategically identifying knowledge typologies and performing knowledge gap analysis is to ensure that a fitting knowledge management strategy is implemented. Hansen et al. (1999) conducted studies in the consulting, medical services and high-technology manufacturing industries and concluded that organizations in those industries are pursuing two distinctively different knowledge management strategies: codification and personalization, based on their knowledge direction and requirement. The choice of strategy is dependent on the organization's existing sources of knowledge and competitive position. Whereas a personalization strategy is useful if organizational knowledge consists of mostly tacit and firm-specific knowledge, codification strategy is relevant if knowledge is predominantly explicit. In personalization strategy, organizations use IT to facilitate communication between employees in the form of email, video-conferencing and instant messaging. In a codification strategy on the other hand, organizations use IT as a knowledge repository where employees can easily store and retrieve required knowledge.

Organizations also need to determine their competitive positioning before deciding which strategy to employ. For instance, Dell, as a computer producer that focuses on scale and standardization, pursues a codification knowledge management strategy, where components of computers are codified and stored in a database. This enables Dell to build and market computers with different configurations based on the components that are available in the repository. This allows for modularity and standardization of products, thus reducing costs. Hewlett-Packard, on the other hand, places emphasis on innovative products and pursues a personalization strategy, with IT applications that facilitate the transfer of context-specific knowledge between the research, marketing and production teams (Hansen et al. 1999). The work by Ofek and Savary (2001) suggests that the firm's ability to leverage its customer base

has an impact on whether the firm should apply knowledge management for cost-saving purposes or product quality-improvement purposes. Indeed, the choice of appropriate knowledge management strategy is dependent on the underlying competitive strategy and the typology of knowledge that resides in the organization.

Codification and personalization strategies are just two of the many possible strategies that organizations can use to manage knowledge. The underlying objective of knowledge management strategies is to efficiently and effectively acquire, store and retrieve explicit and firm-specific tacit knowledge. The strategic management of knowledge requires that organizations realize the role of knowledge as a strategic resource and capitalize on using knowledge effectively in creating value.

Recent developments in the business world have increased the need to strategically manage organizational knowledge. Organizations are now more permeable and absorb external knowledge into the organization more frequently (Lichtenthaler 2011). Although this phenomenon of open innovation is beyond the scope of this review, it is worth mentioning that these events have profound implications on knowledge management. Organizations are now required to develop the capabilities and knowledge management strategies to strategically acquire and disseminate relevant knowledge. Failure to manage this strategic resource will have serious consequences for an organization's ability to create, let alone sustain, competitive advantage in an increasingly competitive business landscape.

In conclusion, knowledge is an important, strategic resource to organizations. It is paramount that organizations manage knowledge resources effectively and efficiently in line with the strategic direction of the organizations, to create unique value and sustainable competitive advantage in a challenging business environment.

See Also

- ▶ [Dynamic Capabilities](#)
- ▶ [Knowledge Sourcing](#)
- ▶ [Resource-Based View](#)

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Strategic Management Research in Management Journals

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Abstract

Strategic management research has developed significantly in the last 30 years but especially so since the turn of the century. Some relatively new journals have expanded the outlets for strategic management research as the field continues to mature. First, we summarize the strategic management research in the past 2–3 years in management journals. These summaries identify the characteristics and development of strategic management research in each journal. Future research directions are provided in the conclusions.

Strategic management research has shown considerable promise in the first decade of the new

century. There are several well-established journals that publish work in this area. Some new journals also enhance strategic management research by integrating multiple disciplines or subdisciplines into the research framework.

We reviewed articles published during the last 2–3 years in 11 major management journals, including *Academy of Management Journal*, *Academy of Management Review*, [► *Strategic Management Journal*](#), *Administrative Science Quarterly*, *Organization Science*, *Journal of Management*, *Journal of Management Studies*, *Journal of International Business Studies*, *Management Science*, *Strategic Entrepreneurship Journal* and *Strategy Organization*. The main purpose of this entry is to summarize the characteristics of strategic management research in each journal and to introduce recent developments in these journals.

Academy of Management Journal (AMJ)

The *Academy of Management Journal* is a [► general management](#) journal which publishes research on all topics in management. *AMJ* emphasizes the importance of a strong theoretical and empirical contribution. Thus, articles published in *AMJ* extend existing or build strong theoretical frameworks, which are then tested to provide an empirical contribution.

Strategic management research in *AMJ* commonly extends our knowledge of existing theoretical approaches such as institutional theory, agency theory, ecological theory, upper echelon theory and competitive dynamics (see Kennedy and Fiss 2009; Dobrev and Gotsopoulos 2010; Zhang and Gimeno 2010). *AMJ* is also an effective outlet for research that questions our current thinking or knowledge.

Academy of Management Review (AMR)

The *Academy of Management Review* is a theory-centric journal publishing conceptual articles which are novel, insightful and carefully crafted. The content is different from *AMJ* in that it is

exclusively theoretical and encourages challenges to conventional wisdom. More specifically, *AMR* publishes novel theoretical articles providing explanations for phenomena for which no good explanatory models exist (Okhuysen and Bonardi 2011).

AMR aims to publish interesting and important theoretical advances that incorporate thinking from multiple disciplines and/or subdisciplines within management. *AMR* also encourages work that integrates micro and macro perspectives with compatible underlying assumptions. Furthermore, the work published in *AMR* often extends the current established theories and/or identifies limitations or even negative attributes of current theoretical approaches, such as agency theory, institutional theory, organizational learning and innovation (see Sydow et al. 2009; Cornelissen and Clarke 2010; Lan and Heracleous 2010).

Strategic Management Journal (SMJ)

The mission of the *Strategic Management Journal* is to improve and further develop the theory and practice of strategic management. The *SMJ* is the most prominent scholarly journal specializing in the publication of strategic management research. It publishes both theoretical and empirical strategic management research. It sometimes also publishes research to introduce new methods and/or tools and articles critiquing a popular theoretical approach or specific research, such as work that tests unrealistic assumptions (Lam 2010).

Such major topics as strategic resource allocation; organization structure (strategy implementation); strategic leadership; entrepreneurship, technology and innovation; methods and techniques for evaluating and understanding competitive, technological, social and political environments; planning processes; and strategic decision processes are examined in research published in the journal.

Articles published in *SMJ* primarily develop and test existing theories to extend our understanding of them and to identify contingency

conditions under which the theoretical approach is most appropriate to apply. For example, Surroca et al. (2010) extend our understanding of the traditional linkage between corporate responsibility and financial performance by introducing intangible resources as a mediator of the relationship.

Administrative Science Quarterly (ASQ)

The *Administrative Science Quarterly* is 'dedicated to advancing the understanding of administration through empirical investigation and theoretical analysis'. Strategic management topics in *ASQ* often integrate a sociological perspective into strategic management theories (e.g., Hiatt et al. 2009; Sine and Lee 2009). Thus, some of the macro research appearing in *ASQ* cannot be easily categorized into traditional strategic management topics. Also, *ASQ* encourages multi-level research that explores the potential factors influencing a certain phenomenon at more than one of the following levels: individual, group/unit, organization, industry and institutional (e.g., country). Likewise, the research published in *ASQ* includes a healthy mix of profit-seeking and non-profit organizations.

Organization Science (OS)

Organization Science publishes research covering a broad cross-section of work on organizations to include organizational processes, structures, technologies, identities, capabilities, forms and performance. *OS* is interested in multidisciplinary and multi-level research and both qualitative and quantitative empirical research. Its 'perspective' section highlights work reporting new organizational phenomenon or redirecting a line of enquiry/research.

Compared with other journals, *OS* is more focused on knowledge-related research. For example, approximately 15% of the work published in 2010 examines some phenomenon (e.g., innovation) using a knowledge-based perspective (e.g., Argyres and Bigelow 2010).

Journal of Management (JoM)

The *Journal of Management* is a wide-ranging journal publishing research in all management domains. Among them are strategic management, entrepreneurship and organization theory.

The *JoM* has published several seminal literature reviews and theory development papers. One of the most well known is Barney's (1991) article on the resource-based view, which has been cited 4266 times (Web of Science 2011). However, the recent work in the journal emphasizes multi-disciplinary, multi-level and dynamic research frameworks. Also, *JoM* publishes studies that extend existing theoretical approaches exemplified by Barreto (2010), who enhanced our understanding of dynamic capabilities.

Journal of Management Studies (JMS)

The *Journal of Management Studies* provides a forum for the development, critique and debate of strategic management theory and practices. *JMS* is a good destination for both theoretical and empirical research. Common macro topics in *JMS* articles include structural contingency theory, strategic archetypes, organizational learning, internationalization and entrepreneurship. *JMS* also publishes methods-related work exemplified by the article on meta-analysis in strategic management research by Combs and colleagues (2011).

Journal of International Business Studies (JIBS)

The *Journal of International Business Studies* is a major journal in the international business field. It publishes research that centres on six sub-domains of international business: (1) the activities, strategies, structures and decision-making processes of multinational enterprises; (2) interactions between multinational enterprises and organizations, institutions and markets; (3) the cross-border activities of firms; (4) how the international environment affects the

activities, strategies, structures and decision-making processes of firms; (5) the international dimensions of firm strategies and business activities such as knowledge-based competition; and (6) cross-country comparative studies of firms' behaviours and processes in different countries and environments. Almost 50% of the research published in *JIBS* during recent years has focused on some aspects of international strategies.

Management Science (MS)

Management Science is a general management journal publishing articles that touch on many functional areas of business, such as economics, accounting, finance, marketing and operations management. Although there is less strategic management research in *MS* than other journals listed here, the strategic management research in *MS* focuses largely on such topics as entrepreneurship, innovation, technology, corporate governance and international business. Additionally, *MS* includes some research on non-profit organizations.

Strategic Entrepreneurship Journal (SEJ)

The *Strategic Entrepreneurship Journal* publishes research that focuses on the entrepreneurial process involving imagination, insight, invention and innovation, and the inevitable changes that benefit society. The vision statement explains ten content areas in which the *SEJ* wishes to publish work, including the contribution of entrepreneurship to economic growth, organizational change, innovation, creativity and opportunities, risk and uncertainty, social role of entrepreneurship, technology, behavioural characteristics of entrepreneurial activity, and entrepreneurial actions and appropriability. The *SEJ* publishes both conceptual and empirical work in these areas. Although it is a young journal, it has made great strides by publishing high-quality research and was accepted for entry in the ISI Web of Science at the earliest time allowed.

Strategic Organization (SO)

Strategic Organization provides a forum to examine the interrelated dynamics of strategic and organizational processes and outcomes. It emphasizes the integration of strategy and organization through theoretical and empirical research.

The editorial essays in *SO* provide a forum for informed opinion and reflection, forging interdisciplinary bridges and new research directions, and debating methodological traditions. In addition to primary content topics, articles in *SO* explore the methods used in strategic management research, such as integrating quasi-experimental and panel data method to measure capabilities, and measure theoretically complex constructs, such as acquisition performance.

See Also

- ▶ [Basic Research](#)
- ▶ [General Management](#)
- ▶ [Strategic Management Journal](#)

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Strategic Objectives

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Abstract

A clear definition of strategic objectives is core to the successful operation of the organization. Strategic objectives provide the organization with a broad set of goals – both in size and scope – to reposition it in the market, improving its competitive stance and ensuring its longevity. To achieve these goals, the organization devises strategies to exploit its accessible resources to deliver within the planned timeframe. The impact of these objectives is felt across the organization, as they become part of corporate planning and influence senior management decision-making on operational matters.

Definition Strategic objectives are broad and clearly defined statements of ‘end goals’ that an organization aspires to achieve within a defined long-term timeframe. These objectives must be feasible, with viable strategies that exploit means available to the organization and are linked to either or both qualitative and quantitative metrics to ascertain their impact within the defined timeframe.

Strategic objectives combine the fundamental notion of strategy, being long-term oriented, to a set of broadly defined goals. Vancil and Lorange (1975) differentiate between objectives and goals, by clarifying that ‘objectives are general statements describing the size, scope, and style of the enterprise in the long term’, whereby goals are to be specific achievements within a set timeframe. Objectives for an organization define the new state of affairs at a specific point in the future that exploits the organization’s resources and strengthens or develops its ► **competitive advantage**. For example, a strategic objective for a local organization could be to internationalize and establish a regional footprint in the next 5 years, and a second objective to be one of the top three players in the market within 10 years. The state of affairs could be the geographical footprint, a different market space or industry, or to hold a position in the market. Hayashi (1978) concludes that these new objectives may require that organizations disrupt their operating objectives when necessary to pursue them. As the organization aspires to reach a new state, it must alter its current operations onto a new trajectory path, with new sub-goals that have a deadline in order to deliver those strategic objectives.

Strategic objectives have a profound impact on the organization as they determine its longevity and competitiveness in the market. Hence, assessing the feasibility of the new objectives becomes critical for the organization due to the disruption they may cause; the time and resources required to achieve them, and in understanding how their impact may be influenced by the dynamic nature of the market that the organization operates in (Hayashi 1978). To set the objectives

for an organization therefore requires planning to assess their feasibility, redefine them if necessary and to develop the sub-objectives and systems to improve the likelihood of achieving them. These sub-objectives may be goals that are specific, have a defined timeframe (Collis and Rukstad 2008), can be feasibly assessed (Hayashi 1978) and are measured to assess their impact on the organization. For example, the goals could be financial quantitative goals such as efficiency gains, sales, profits and earnings per share targets (Vancil and Lorange 1975).

The time horizon for an objective reveals the viability of the strategy to reach it and the level of impact or significance of the objective to the organization (Tilles 1963; Collis and Rukstad 2008). Objectives have a time-based utility (Tilles 1963), whereby a delay in reaching them may dilute the value that the organization had hoped to derive from them. For example, a delay in launching a new product into the market may allow competitors to launch their products first and so to capture a greater market share. A delay in executing a vertical integration strategy may lead the organization to a less than desired position, with higher costs or inferior technology, or losing the opportunity to secure a competitive advantage. This, in turn, would hinder the organization’s strategic objective. The timeframe to reaching those goals also impacts on the resources available to the organization. Organizations may need to grow or contract or restructure successfully within the defined timeframe to reach those goals. Tilles (1963) stresses that the larger the organization is, the longer the time horizon should be to allow the organization to adjust and follow through to meeting that objective. The longer the timeframe required to achieve that goal, the more important planning is for the organization (Hayashi 1978).

Role in Corporate Planning

There are two dominant philosophies in corporate planning, the ‘inside-out’ philosophy and the ‘outside-in’. The latter is a more developed school

of thought, and Ewing (1967), in his *Corporate Planning at a Crossroads*, discusses the merits and short-comings of both. The argument that executives must commence their planning activities with a look at the market forecasts and trends to set their strategic objectives is tempered with a second argument that they need to look at their resources and capabilities just as thoroughly. A balancing act of adapting and stretching is required in setting strategic objectives, as both the external and the internal environment influence these.

Setting the strategic objectives for an organization has long been considered to be the first step in ► [strategic planning](#). Setting the organization's objectives 'ends' enables its managers to develop strategies, 'ways' to exploit the 'means' available or to make means available for achieving them (Hayes 1985). Several writers (Hayes 1985; Dess 1987; Collis and Rukstad 2008) agree that the order of 'ends-ways-means' in strategic planning should be maintained. Hayes (1985) and Collis and Ruckstad (2008) elaborate that the 'ends' precede the 'ways' strategies, as 'managers need to know what their objectives are before deciding on how to go about them' (Hayes 1985: 112). However, when assessing the feasibility of those objectives and developing the strategies to achieve them, they may need to be redefined to accommodate what is viable for the organization. Simon (1957) and Dess (1987) agree that there is an interdependent relationship between ends (objectives) and methods (strategies), with the two being interactive components in strategic planning. Organizations may fail to achieve the objectives if the strategies developed are unviable due to either issues with their resources or uncertain and unpredictable market changes.

An advantage to organizations that set their strategic objectives prior to assembling their resources is their ability to maximize their efficiency at building the right mix of resources to avoid falling short or having an abundance of them (Hayes 1985). An efficient resource supply allows the organization to be lean in the market and maintain control over its costs. It would also enable the organization to restructure efficiently

as it reorganizes its resources. Mahoney and Pandian (1992) argue that resources have an interdependent relationship with strategies, as they may shape the strategies that exploit them. They reviewed the significance of the resource-based view in the field of strategic management that had primarily been influenced by strategic objectives.

Ginsberg (1994) analyses the decision-making process undertaken by the executive team, and emphasizes the importance of the available resources or those that can be acquired or developed in setting the objectives that shape the strategies. Understanding what resources and capabilities an organization has determines the appropriate strategies that exploit them. A strategy may stretch the capabilities of the organization and require organic or inorganic growth to achieve its objectives. This should be in parallel with understanding the external environment related to the organization. An organization with operations in a mature market may need to divest business units and pursue an acquisitions strategy to reorient itself onto a new path befitting the trends of the market.

The composition of the senior executive group that develops the strategic objectives and sets the resources required to achieve them is preferably heterogeneous. Ginsberg (1994) argues that such a group is flexible in developing objectives that stretch the capabilities of the organization's resources. For challenging objectives to be accepted throughout the organization, they must be realistic, achievable and yet ambitious enough to create the necessary strategic changes that the organization needs (Ginsberg 1994). These objectives must be meaningful to their appropriate audience (Ginsberg 1994). For example, the shop floor assistant at a retail store may find it meaningless to learn about the return on investment of that specific store while senior management would need to know. While hard quantitative metrics for objectives might be the most useful for senior executives to steer the organization, softer qualitative objectives could be the more relevant and visible to lower-level employees (Ginsberg 1994).

The outcome of the decision-making process should be clearly defined objectives (Kudla and Smiley 1976), derived with the consensus of the management team (Dess 1987). These objectives carry motivational value to the employees as they align the activities and focus of the organization to achieve them (Kudla and Smiley 1976). Consensus amongst the management team in regard to the organization's objectives is imperative, as it will lead to the mobilization of resources to achieve them, and commitment to pursuing them. As senior management commit to pursuing those objectives and undertake planning activities to achieving them, the lower-level personnel take the lead from their management, are inspired and driven to meeting the goals attributed to the objectives.

See Also

- ▶ [Competitive Advantage](#)
- ▶ [Generic Strategy](#)
- ▶ [Resource-Based Theories](#)
- ▶ [Strategic Planning](#)

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Strategic Organization Design

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Abstract

Organization design transforms individual decisions and actions into desirable behaviours at the aggregate, collective level. It is critical to an organization's performance. The key principle in research in strategic organization design is to shift the focus of scholarship from strategic action to strategic organization.

Definition Strategic organization design is designing interaction patterns among individual agents by manipulating incentive and coordination mechanisms in order to achieve the strategic objectives of the organization.

Organization design transforms individual decisions and actions into desirable behaviours at the aggregate, collective level. For example, the organization design of intelligence agencies affects the quality of country-level intelligence assessments by impacting how individual inputs are aggregated into a collective outcome.

The first theories in strategic management focused on positioning – how to pick markets and how to position the firm in markets in order to achieve competitive advantage. The second wave of theories (resource-based view) emphasized the role of a firm's resources to achieve competitive advantage: firms pick resources rather than market positions. The third wave of

theories (activity systems/knowledge-based view/dynamic capabilities view) suggests that the most important role of the firm is adaptation: its ability to leverage and reconfigure resources and market positions rather than to pick them. Strategic organization design is important to these theories since it is organization design that enables an organization to effectively leverage its resources or determine how well it adapts to changing environments. It follows that strategic organization design – the manner of cumulating individual efforts at search, learning and adaptation into organizational outcomes – is critical to an organization's performance. The key principle in research in strategic organization design is to shift the focus of scholarship *from strategic action to strategic organization* – that is, move it from picking positions, resources and so on, to enabling organizational learning and adaptation. Organization design has a critical strategic dimension because it creates value from combining individual resources.

Origins

The early work in strategic organization design was aimed at identifying universal principles of management and the 'one best way' to manage organizations. These include the principles of management and practice of bureaucracy (Fayol 1916; Urwick 1933; Weber 1947) and principles of scientific management (Taylor 1911). Classical management principles include hierarchy, specialized role definitions, correspondence of authority and responsibility, formalized rules and unity of command. Process control was emphasized with special reference to following formally specified codes and rules. Taylor, more concerned with managing shop floors in the era of mass production, especially advocated the careful and narrow definition of roles, deskilling and close measurement of outputs, with payment based on outputs.

These early works did not recognize the importance of context in their recommendations for ideal forms of organizing. Organizations were assumed to be static, functioning in relatively

stable and protected environments. They were also assumed to be mass producers competing on the basis of cost advantage, attained by economies of scale. Innovation, adaptation and 'knowledge work' were not important concerns in this line of thinking.

Contingency Theory

Bureaucratic dysfunction and the inability of many firms to adapt to changing environments led scholars to abandon the idea that there existed a universal best principle of organization. In the 1950s and 1960s, strategic organization design research shifted towards understanding 'contingencies' under which different organization forms were superior. Burns and Stalker (1961) identified the stability/turbulence of the environment as the principal contingency – firms should be organized using a 'mechanistic' structure with hierarchy, role definitions and standard operating procedures, when operating in stable environments, that emphasize efficiency. In turbulent environments requiring innovation and adaptation, an 'organic' structure with few rules, little hierarchy and high levels of lateral communication is preferred.

Lawrence and Lorsch (1967) further developed these insights by arguing that different functions within the same firm, such as R&D vs after-sales service faced different levels of turbulence and therefore need to be organized differently. They also recognized that divisions within firms may be more or less 'differentiated' from each other, depending on the nature of knowledge economies that accrued from specialization, but this very differentiation led to integration problems, from both lack of common knowledge and the lack of common incentives that arises from subgoal pursuit. Therefore, highly differentiated organizations also needed to invest heavily in integration mechanisms such as committees, integrators and multifunctional teams.

Apart from the environment, other contingencies proposed include technology (Woodward 1965), size (the Aston Programme in the 1960s; Child 2010) and type of personnel (Lorsch and Morse 1974). Typically, in this approach,

predictions were made about organization design based on single contingencies and assuming static organizations and the stable nature of contingencies. When multiple contingencies were considered together, the predictions were ambiguous. Configuration theories built on these foundations to argue that many organization designs can have equifinal outcomes (Sinha and Van de Ven 2005).

The contingency theories of strategic organization design do not emphasize the innovation and adaptation needs of organizations, given its predominantly static view of the organization. Recent trends have emphasized the contradictory nature of organizations such as their need to explore as well as exploit (March 1991) and the importance of both bureaucracy and adaptation for innovation (Adler and Borys 1996), contradictions that cannot be explained easily from the contingency framework (Donaldson 2001).

Behavioural Approaches

Current research in strategic organization design emphasizes the learning, search and adaptation properties of organizations. Organizations are envisioned as complex adaptive systems where individual agents are engaged in search, learning and adaptation in the context of others who are also searching, learning and adapting. They draw from the behavioural research programme developed by the Carnegie School (March and Simon 1958; Cyert and March 1963) and the architecture of complexity arguments by Simon (1962). When compared to other traditions, the Carnegie School has relied more heavily on formal approaches to strategic organization design.

When adaptation is the primary problem faced by firms, an important challenge facing an organization designer is identifying the best approach to the division of labour in search and their ultimate integration. Rivkin and Siggelkow (2003) treat this formally by using an adapted version of the NK model that is popular in studying firm adaptation (Levinthal 1997). They emphasize that organizations face the twin problems of identifying superior configuration spaces, which

requires exploration, and incrementally improving high performance solutions once they are found (i.e., exploitation). They have identified broad design principles that enable the organization to master this trade-off. One of the fundamental tools to achieve this balance is alternating between centralized and decentralized forms (Siggelkow and Levinthal 2003; Siggelkow and Rivkin 2006).

The work on modularity attempts to side-step this problem by reducing interdependence among the searchers. Simon (1962) argued that complex systems are typically characterized by two properties: they are hierarchical in nature and subsystems tend to be loosely coupled. Building on these insights, scholars have suggested that organizations be designed incorporating the principles of modularity. These include subsystems that are composed of tightly coupled activities, but only loosely coupled with other subsystems; these interactions to be governed by well-specified interfaces (Sanchez and Mahoney 1996). However, as a design principle despite its significant advantages, modularity also suffers from a number of drawbacks. Scholars have pointed out that near decomposability is very hard to achieve, and hard to recognize in novel situations (Ethiraj and Levinthal 2004a, b). Modular systems also tend to be imitated more easily than more complex systems (Rivkin 2000).

Recent research in strategic organization design has begun to emphasize coupled adaptation processes – that is, agents are responding to *their* environment, which includes the actions of other adapting individuals within the firm. Christensen and Knudsen (2010) propose a model of learning by individual agents in the context defined by other learning individuals. For example, they show that in coupled learning processes, as one agent gets better in one task, the other agent becomes worse at it. Siggelkow and Rivkin (2009) argue that coupled search processes make it difficult for firms to identify and stick to superior configurations. These new approaches are likely to provide greater insight into how to design organizations such that individual effort is transformed into strategically desirable outcomes for the organization.

See Also

- ▶ [New Organizational Forms](#)
- ▶ [Organizational Intelligence](#)
- ▶ [Organizational Restructuring](#)
- ▶ [Vertical Integration](#)

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Strategic Peripheries

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Abstract

In manufacturing environments, strategic management scholars have defined ‘strategic peripheries’ as organizations dedicated mainly to supply activities. The term ‘periphery’ implies the traditionally marginal role that these firms play compared with ‘core’ or ‘focal’ firms, which are mostly leading assemblers/buyers. However, when peripheral firms contribute to critical innovation development, they become ‘strategic’ for the entire supply network. Strategic peripheries possess specific characteristics and therefore require tailored

research. To explain the nature of peripheral firms, strategic management scholars have used a supplier-based theoretical standpoint, called ‘peripheral view’.

Definition Strategic peripheries are organizations that focus mainly on developing critical supply and partnering activities within manufacturing networks. Scholars studying strategic peripheries have adopted a supplier-based theoretical standpoint, the so-called ‘peripheral view’, which aims to explain the nature of strategic peripheries’ competitive dynamics.

Strategic peripheries are organizations that focus mainly on developing critical supply and partnering activities within manufacturing networks. To better define their distinctive characteristics it is crucial to understand their role as critical suppliers of innovation in network environments, and their difference from core/focal firms.

Within strategic management theory, the *relational view* literature has attempted to understand the importance of ► [alliances](#) between assemblers/buyers and suppliers to develop knowledge, and thus create relational rents (Dyer and Singh 1998). The authors affirmed that relational rents, ‘as a supernormal profit jointly generated in an exchange relationship that cannot be generated by either firm in isolation’, derived, among others, from ‘substantial knowledge exchange, including the exchange of knowledge that results in joint learning’ (Dyer and Singh 1998: 662). Within manufacturing networks, knowledge exchanges differ depending on the two main types of agents involved: (1) assembler/buyer; and (2) supplier. Assemblers/buyers are defined as those firms whose main activity is to design and develop finished products, which are often directly distributed to end markets. Suppliers are those organizations whose main activity is manufacturing components and parts, which are sold to other manufacturers. Accordingly, assemblers are traditionally oriented towards business-to-consumer markets, while suppliers mainly engage in business-to-business markets. Suppliers have narrower domains and compete in niche markets more often than assemblers (Hambrick

et al. 1982). Niche markets are usually smaller than mass markets, and thus tend to limit suppliers’ dimensional growth (Cooper et al. 1986). As a result, within the same industry suppliers are usually smaller than the assemblers they work for. Due to assemblers’ centrality and their importance within the supply network, scholars traditionally called them ‘core firms’ or ‘focal firms’ and suppliers ‘peripheral firms’. Peripheries are traditionally believed to play minor roles within the value chain (Dyer and Nobeoka 2000; Gottfredson et al. 2005; Lerro and Schiuma 2005; Mintzberg et al. 1996; Pascale 1996; Takeishi 2001). However, as products become more complex and competition fiercer, core firms struggle to drive their products’ entire innovation. To brave the increasing pace of technology and competition, assemblers/buyers delegate innovation on components to their top-performing suppliers. Core firms start working as *knowledge integrators* by combining peripheral firms’ modular innovations (Brusoni et al. 2001). Simply put, their main focus shifts from manufacturing to design, assembly, supplier selection, and coordination. Observing this process, scholars affirmed that in those cases peripheral firms drive the real technological development. The *locus of innovation* consequently moves from the core to the periphery of the supply network, which becomes a viable solution to develop knowledge and resources that core firms cannot generate internally (Powell et al. 1996). In this regard, ‘peripheries’ gain relevance for innovation and become ‘strategic’.

Characteristic differences between suppliers and assemblers lead to specific managerial implications, thus requiring a tailored analytical lens. In management literature, two fields of research analyse supply networks: operation management and strategic management studies. Operation management research distinctively developed two specific literatures about suppliers and assemblers/buyers. As far as suppliers are concerned, they provided specific insights about supply bases (Choi and Krause 2006), suppliers’ quality performance (Forker 1997), suppliers’ network structure over time (Choi and Hong 2002) and suppliers’ attributes, such as consistency (defined as the combination of quality and delivery),

reliability, relationship, flexibility, price and service (Choi and Hartley 1996). Strategic management scholars – specifically representatives of the relational view – recognized the suppliers' crucial and unique role, yet traditionally their research has been focused on core firms. Accordingly, their interest in peripheries is limited to observing the suppliers' contribution to assemblers' value creation (Dyer and Hatch 2006; Grant and Baden-Fuller 2004; Lorenzoni and Baden-Fuller 1995; Lorenzoni and Lipparini 1999; Takeishi 2001). Nevertheless, a few strategic management works specifically advance strategic peripheries scholarship. Among those, supplier categorizations and typologies are common.

Clark and Fujimoto (1991) propose a supplier classification based on traditional automotive typologies. Their three-type classification represents the kind of control that suppliers have over the parts they manufacture. These are (1) supplier proprietary parts; (2) black-box parts; (3) detail-controlled parts. Supplier proprietary parts are standard generic products that suppliers manufacture and sell to the assemblers mostly via catalogue. Core firms select these off-the-shelf parts on the basis of the lowest price. Since these components have no personalization, assemblers have no control over the suppliers' manufacturing system. Black-box parts result from a co-development between assembler and supplier. Whereas the former provides general instructions on modular architecture, exterior shapes, cost-performance requirements and other basic information, the latter develops detailed design and engineering requirements for the manufacturing of the total product. Black-box parts allow suppliers to develop innovation and engineering skills, while assemblers attain bigger control and customization of the part production. Detail-controlled parts imply an assembler's tight supervision on suppliers' activity. In this case, customization is high and core firms are the proprietary of most of the engineering technology.

Drawing on transaction cost economics literature, Kaufman et al. (2000) advance a supplier typology of four types based on two dimensions: (1) collaboration; and (2) technology. The authors define commodity suppliers as those who have

little technology and little interest in collaborations. These firms compete in the areas of cost-cutting and low prices, proposing standard products with little or no differentiation. Collaboration specialists have a great degree of involvement in partnerships with their customers, but they provide only low-technology components. Technology specialists provide highly technological components without engaging in collaborative relations. Their competitive advantage is based on their proprietary knowledge, which they exploit through first mover advantage, continuous innovation and high barriers to imitation. In fact, they isolate their activities to avoid possible leaks of knowledge that could benefit competitors and customers. Problem-solving suppliers provide high-tech solutions through intense collaborations. The work flows into small production batches, leveraging problem-solving suppliers' advantage in labour and process flexibility.

Aversa (2010) builds on the works of Clark and Fujimoto and Kaufmann et al. by proposing a longitudinal analysis of a four-type classification. The typology is based on the dimensions of asset specificity, defined as durable investments undertaken in support of particular transactions (Williamson 1985: 55), and of strategic focus, the ability of a single firm to deal with multiple types of activities at the same time (Gibson and Birkinshaw 2004). Four types of peripheries emerge: (1) niche suppliers (low asset specificity – narrow strategic focus); (2) flexible suppliers (low asset specificity – wide strategic focus); (3) committed suppliers (high asset specificity – narrow strategic focus); and (4) multi-purpose suppliers (high asset specificity – wide strategic focus). The different levels of relational capabilities embodied in each type correspond to peripheral firms' diverse positioning in the industry and thus reveal their characteristic competitive strategies. Aversa's longitudinal perspective and his attention to the interplay between the peripheral and the core firms shed light on some supplier-specific competitive dynamics. For example, the author showed that (1) sharing common competences between supplier and assembler positively affects the supplier's relational capabilities and, therefore, its performance;

(2) peripheries' specialization and relational capabilities positively affect assemblers' tendency to outsource complex critical processes; and (3) the embeddedness of suppliers in communities of practice fosters peripheries' innovation through the recombination of internal capabilities and knowledge that they share with other members of the communities.

To illuminate strategic peripheries' critical role, competitive dynamics and performance, scholars have adopted an emerging supplier-specific theoretical perspective, which is termed the 'peripheral view' (Aversa 2010). Combining scholarship about the antecedents of suppliers' relational rents with prior research on the focal firms' competitive advantage, strategic management scholars have enlarged the field's understanding of strategic peripheries by using a peripheral view.

See Also

- ▶ [Alliances](#)
- ▶ [Innovation Networks](#)

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Strategic Planning

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Abstract

Strategic planning is one of the most widely used management tools and continues to be a subject of frequent study. Typically, the practice follows a normative model that includes a logical sequence of activities designed to connect aspirations set by top management with input provided by managers at middle and lower levels. Much of the research literature focuses on relationships between strategic planning and organizational performance. More recent work examines strategic planning as a mechanism for integrating activities within complex organizations and analyses the micro-processes and social practices embedded in the process.

Definition Strategic planning is a more or less formalized, periodic process designed to provide structured approaches to strategy formulation, implementation and control. The process usually manifests as a sequence of meetings wherein management groups determine and/or review the organization's highest priorities.

Despite many changes in the popularity of and specific practices associated with strategic planning, it remains one of the most widely used management tools and continues to be a subject of research. The main benefits of strategic planning are seen as communication of strategic priorities, consistency in resource allocation decisions and coordination of activities across subunits.

The concept of strategic planning springs from the need to orchestrate large-scale human activity. Modern versions of the practice are traceable to planning techniques, for example used in the US Department of Defense (Smalter and Ruggles

1966). Known then as long-range planning, the process was taught in business schools as early as the 1960s and diffused to large businesses through consulting firms. Current models of strategic planning also have a genesis in the administration and leadership of large public companies such as General Electric and IBM (e.g., Mintzberg 1994).

Elements of the Strategic Planning Process

Typically coordinated by a central authority, the practice of strategic planning in most organizations follows a normative model patterned after historical planning approaches. This includes a logical sequence of activities arranged on an annual calendar and designed to connect the aspirations set by top management with detailed input provided by managers at middle and lower levels. Often, the starting point involves the development or review of a vision or mission statement by senior executives, specifying intentions with respect to principal markets and core capabilities. Statements of shared values, commitments to key stakeholders and a list of high priority initiatives are also frequently included as a part of this step. Using this broad framework, analyses of available resources and conditions in the external environment are developed by managers at middle and lower levels, often with assistance from (corporate) strategic planning staff, in order to help determine the actions needed to realize the aspirations of top management. A negotiation process then ensues whereby managers at each level of the hierarchy agree on the goals and strategies that will govern activity during the planning period. As a part of this, measures that track progress and gauge achievement are defined. These indicators, together with operating budgets, provide the controls necessary to guide implementation efforts and determine accountability for the realization of the plan (Ansoff 1965; Steiner 1969; Vancil and Lorange 1975; Hofer and Schendel 1978; Boyd and Reuning-Elliott 1998).

The research literature on strategic planning ranges from descriptive studies on the nature of

planning systems (e.g., Bazzaz and Grinyer 1981; Grant 2003), to studies of relationships between the formality of strategic planning and organizational performance (e.g., Pearce et al. 1987; Hopkins and Hopkins 1997; Boyd and Reuning-Elliott 1998) and includes studies of contingencies in the relationship between strategic planning and performance (e.g., Kukalis 1991; Stone and Brush 1996). The primary focus in strategic planning research is on the relationship between formal planning systems based on the normative model and organizational performance, usually measured in financial terms. In a meta-analytic study, Miller and Cardinal (1994) found correlations ranging from -0.31 to 0.75 for the relationship between strategic planning and revenue growth and -0.21 to 0.71 for the relationship between planning and profitability. The study's authors concluded that, on average, strategic planning positively influences organizational performance, and that differences in methodology probably explain inconsistent findings in the literature.

Criticisms of Strategic Planning

Inherent in the normative model is the assumption that a central function of planning systems is to orchestrate rational decision-making. The advantages of a rational approach lie in clear, comprehensive and systematic analysis as the basis for formulating strategies. Such an approach tends to oversimplify the environment for strategy development, however, and neglects certain organizational realities. With shorter product life-cycles, rapid globalization of competition and other dynamics in the business environment, normative models of strategic planning have therefore come under criticism. In particular, critics see the normative model as unresponsive and inflexible relative to the rate of environmental change. One of the most outspoken critics, Henry Mintzberg (1994) identifies three problems with strategic planning: the assumed stability of business environments, the separation of strategic thinking (formulation by top management) and acting (implementation by middle and lower level

management), and the assumption that a universal blueprint exists for strategy development. In addition to these theoretical challenges, empirical research has uncovered organizational phenomena that are consequential in strategy formation – such as informal-influence behaviour and organizational politics (Pettigrew 1973; Johnson 1987; Eisenhardt and Zbaracki 1992) – but not taken into account in the normative model.

The shortcomings of the normative approach have produced attempts to modify and improve on it. Strategic planning processes have been changing to meet the needs of increasingly fast-paced business environments, for example. Contemporary planning systems are also designed to be more flexible – adapting the analytic process to the needs of specific organizations and reducing the formality of planning procedures. Rather than demanding specific market forecasts, planning systems today are focused on evaluating scenarios and providing an organization with an overall strategic direction. Performance targets are set as cornerstones of ► [strategizing](#) activities within subunits, but the planning activity itself is less programmed and often conducted informally (Grant 2003).

Recent Research

Criticisms of strategic planning have also produced efforts to describe it within the context of broader strategy-making processes (Hart 1992). In particular, the range of organizational actors involved in strategic planning has opened up beyond top managers and planning staff. Research suggests, for example, that, in addition to their role in implementing strategies, middle managers are important in shaping top managers' attention to strategic issues (Dutton et al. 1997) and in championing strategic alternatives (Floyd and Wooldridge 1992). In this context, strategic planning becomes an important mechanism for coordinating and integrating strategizing activities across complex organizations (Grant 2003; Ketokivi and Castañer 2004; Jarzabkowski and Balogun 2009).

In addition to these modifications to the normative model, an alternative, often parallel, planning approach has developed based on an evolutionary perspective of strategy development. This view sees the organization as an ‘ecology of strategic initiatives’ (Burgelman 1991: 240), and according to this perspective, strategies are the result of induced initiatives launched by top management and autonomous initiatives arising out of experimentation at lower levels. Both ‘hard’ (e.g., internal return on investment) and ‘soft’ (e.g., political dynamics) resource allocation criteria are the principal selection mechanisms operating at middle and top levels of the managerial hierarchy. Striking an appropriate balance between top-down and bottom-up strategizing activity is a key ingredient in evolutionary models of strategic planning (Floyd and Lane 2000; Lovas and Ghoshal 2000). This approach also makes effective leadership of strategic initiatives and management of the organization’s social context important elements of strategic planning (Lechner et al. 2010; Lechner and Floyd 2012).

Another stream of recent research focuses on the micro-processes and social practices in strategic planning. The central question from this perspective is what people actually do during planning episodes (Johnson et al. 2007; Jarzabkowski and Balogun 2009). Analysing strategic planning as a social practice leads to a view of strategic planning as a phenomenon that is influenced by ‘shared understandings, cultural rules, languages and procedures’ (Whittington 2006: 614). Researchers are interested in how people go about strategic planning and how cultural contexts such as rules and procedures shape individual behaviour (Jarzabkowski 2005, 2008). For example, researchers have used ritual theory as a lens to examine the behavioural dynamics in strategic planning workshops (Johnson et al. 2010).

See Also

- ▶ [Business Plan](#)
- ▶ [Capital Budgeting](#)
- ▶ [Scenario Planning](#)

- ▶ [Strategic Decision-Making](#)
- ▶ [Strategic Implementation](#)
- ▶ [Strategizing](#)

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Strategic Resilience

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Abstract

The capacity to turn threats into opportunities, and the ability to take advantage of the opportunities in a timely, non-crisis-like manner, is an indication of strategic resilience. Such resilience

enables the organization to learn about the emergent opportunity early but also to shape its formation while still nascent, and benefit from the serendipity inherent in change unfolding in ways that are ultimately unforeseeable.

Definition Strategic resilience is a characteristic of a progressive, robust pursuit of an opportunity in a competitive environment so that the exploration contributes to the organization's capability to adapt to change without requiring or resulting in a financial or other crisis.

Coping with uncertainty is the staple concern of strategic management. As it is not realistic to eliminate uncertainty or the possibility of unpredictable, transformative change (Taleb 2007), strategic resilience is called for. Some of the organization's resilience, such as when dealing with a business concern, stems from its capacity to be robust against change; in other words, its ability to respond in a way that maintains the organization's integrity and its chances for survival. Most business environments, however, eventually require that organizations adapt by modifying their strategy and structure and by developing new capabilities (and abandoning old routines); that is, by engaging in renewal.

Relying on renewal capability, organizations that are strategically resilient can undergo change without experiencing a crisis (Hamel and Välikangas 2003). This requires progressive, robust pursuit of opportunities. Such capacity to turn possible threats into opportunities, and the ability to take advantage of the opportunities in a timely, non-traumatic manner, presupposes an organization dedicated to low-cost (or low-risk) exploration. This exploration enables the organization to learn about the emergent opportunity early (McGrath 1999) but also to shape its formation while still nascent. Such involved exploration benefits from a certain appreciation for serendipity – preparedness for surprises and the opportunities that eventually materialize in unforeseeable ways.

In ecological studies, an area of focus for resilience research, Hollnagel et al. (2006) define resilience as the capacity of a natural environment to absorb disturbance before it undergoes a major

Strategic Resilience, Table 1 Conceptions of resilience

Recovery-based: operational resilience	Renewal-based: strategic resilience
Recover after experiencing a crisis	Change without a crisis
Persist in the face of threat; tenacity	Turn threats into opportunities; serendipity
Survive trauma	Engage in exploration and experimentation

transformation. This is not far from the conceptualization in Meyer's (1982) study of hospitals adapting to an environmental jolt – a doctors' strike. In network studies, similar concern with robustness is common (e.g., Albert et al. 2000).

Contrast this stability- or recovery-based conception of operational resilience with the renewal-based strategic resilience, which commands a highly transformative capability but without the high cost to the organization (see Table 1). This is similar to views put forward as resourceful adaptability by Wildawsky (1988), Sitkin (1992), Levinthal and March (1981), and Teece et al. (1997), although strategic resilience as envisioned here is a process not in response to arising adversity but to emergent opportunity, perhaps similar to the spirit of positive organizational scholarship (Sutcliffe and Vogus 2003). While it is true that, over time, organizations inevitably endure adversity as well as miss potential business opportunities, the strategic resilience of an organization is nevertheless recognizable as a sort of poised renewal – both in forward-looking intent and in broad exploratory activity. This capability for dynamism also helps combat strategy decay (Hamel and Välikangas 2003), expose organizational myopia (Levinthal and March 1993) or prevent the escalation of commitment (Staw 1981) to vested but no longer worthy causes. While resilient performance can never be guaranteed, an entertainment of a robust opportunity portfolio makes the gap between what is and what could be shorter and more easily imaginable.

A response to adversity – that is, operational resilience – is to enhance the organizational defences while the response to opportunity – in other words, strategic resilience – is to engage in exploration and experimentation leading,

eventually, to internal venturing and strategy development (Burgelman 1983) and, potentially, to management innovation (Birkinshaw et al. 2008) that might, as an example, contribute to the organization's sensitivity towards market opportunities.

Managerial advice as to how to develop strategic resilience can be summarized in three steps (Välikangas 2010). First, manage the consequences of past performance. It is well known that success easily breeds cognitive complacency, while existing routines or ways of doing things tend to solidify and harden. Similarly, performance failures may lessen the available resources and, if severe, invite rigid, non-adaptive responses to any calls for change (so-called threat-rigidity syndrome). Mediocrity may settle in lower aspiration levels and seek institutional protection against the force of competition (cf. Meyer and Zucker 1989). While no manager of an established company starts from a clean slate, the change of a CEO is sometimes a way to break away from the liabilities of past performance.

Leadership alone cannot make an organization resilient, however. While leadership is important, leaders are susceptible to misjudgement, are necessarily short of attention (Simon 1947; more recently, Ocasio 1997) and may suffer from ego-related handicaps (Kets de Vries 2003). The second step then is to consider how to build strategic resilience into the organization, or 'how to make resilience a natural accompaniment to the organizational day' (Välikangas 2010: 92). Beyond mindfulness (Weick and Sutcliffe 2007), this is likely to be a matter of organizations being able to accommodate multiple voices and diverse thought (or imaginative thinking and adaptive managerial capability); having the capacity to be resourceful, as in innovating through resource scarcity rather than building slack or redundancy; and manifesting structural robustness through loose coupling. Behavioural robustness (or multi-vocality) is exemplified by Cosimo di Medici, whose political actions in Renaissance Florence are viewed as robust by Padgett and Ansell (1993: 1263), in that they maintained 'discretionary options across unforeseeable futures in the face of hostile attempts by others to narrow those options'.

The third step towards strategic resilience is a matter of organizational fitness. Resilience requires constant practising of change, even before change becomes necessary. It is like going to the gym to stay fit, and not waiting until health fails. Such rehearsal of resilience can build reservoirs for change by means of developing alternative mental models for sense-making (Weick 1979), holding strategy contests (Kaplan 2008), exploring other ways of doing things than the routine, developing a portfolio of options, and engaging in management innovation and experimentation. The capability to improvise may help too (Weick et al. 1999), together with past experience as a team, earned trust in leadership and clear professional roles (Weick 1993). While it is never clear how the future unfolds, the strategically resilient organization exhibits mastery of ways to respond (cf. Luthar et al. 2000) and is a partner to the shaping of the opportunity. The forward-looking authoring of organizational identity so that it accentuates determination and accommodates hope may be characteristic too (Carlsen 2006).

Strategic resilience is manifest in the long-term capacity for transformation. It can only be tested through radical competitive challenges even if its promise can be found in the building of reservoirs for change, as described above. Strategic resilience thus requires a perspective beyond the success or failure of any one strategy, and hence organizational capacity to combat long-term decline and sustain an organization ‘in-between’ the old strategy, that perhaps no longer works, and the new strategy, that is still emergent. For example, many industrial companies are moving from a product-based strategy to offering services or solutions (e.g. Oliva and Kallenberg 2003) – a transition that is likely to require resilience in new capability development and timeliness in assessing and meeting the market opportunity. Similarly, developing ► [innovation strategies](#) capable of benefiting from the potential in emerging markets is a current challenge to many companies’ strategic resilience (see, e.g., Wooldridge 2010) as are the opportunities, and threats, posed by a ‘new industrial revolution’ (Marsh 2012) and the ways in which social technologies are reshaping organizations (Gorbis 2013).

See Also

- [Exploration and Exploitation](#)
- [Innovation Strategies](#)
- [Resilience](#)

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Strategic Risk Management

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Abstract

This entry discusses the evolving body of knowledge in strategic risk management which is at the intersection of strategy, strategy execution and risk management. In the area of strategy, we discuss the relationship between strategy and risk and the lessons from high-performance companies in managing the opportunities and threats in forces of change.

In strategy execution we discuss how risk management can be embedded in strategy setting and strategy execution. We also present examples of how organizations have integrated strategic risk management within the organization and have developed it as a core competency.

Definition Strategic risk management focuses on identifying, assessing and managing risk with the goal of protecting and creating shareholder and stakeholder value. It is a primary foundation of enterprise risk management; it requires a strategic view of risk relating to how scenarios could affect the ability of the organization to achieve its objectives; and it is a continual process integrated into strategy management.

The Evolution of Risk Management

As the complexity and speed of the business environment have continued to evolve, a growing focus on risk management has emerged. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) undertook a project to develop a framework that could be used by management teams to evaluate and improve an organization's risk management activities. In 2004, COSO issued *Enterprise Risk Management: Integrated Framework*. In 2009, the International Organization for Standardization (ISO) issued *Risk Management: Principles and Guidelines*, which sets out principles, a framework and a process for the management of risk that are applicable to any type of organization, whether in the public or private sector. Since these publications, the area of strategic risk management has evolved in response to the need to understand the interrelationship between strategy, risk and risk management.

The Relationship Between Risk and Strategy

The first step in understanding strategic risk management is to understand the use of the term 'risk' and how risk and strategy are interrelated.

Michael Porter's definition in his landmark book *Competitive Advantage* is useful (Porter 1985: 476): 'Risk is a function of how poorly a strategy will perform if the "wrong" scenario occurs.' Strategic risk management begins by identifying and evaluating how a wide range of possible scenarios will impact a business's strategy and strategy execution.

The Advent of Strategic Risk Management

Strategic risk management is the process of identifying, assessing and managing the risk in the organization's business strategy – including taking action when risk is actually realized. Early applications of linking strategy and risk management led to the initial development of strategic risk management (Beasley and Frigo 2008; Frigo 2008, 2009; Frigo and Anderson 2009a, b, 2011a, 2012a; Frigo and Ramaswamy 2009; Kaplan and Mikes 2012).

Strategic Risk Management as a Core Competency

An underlying challenge at most organizations is that risk management is not a core competency. In their landmark *Harvard Business Review* article, Prahalad and Hamel (1990) introduced the concept of *core competence*, which has some striking applications to strategic risk management. Prahalad and Hamel (1990: 84) state that 'core competence is communication, involvement and deep commitment to working across organizational boundaries'. In the area of risk management, this avoids the silo problem which is prevalent in risk management. One of the most powerful characteristics of core competence is (Prahalad and Hamel 1990: 84) that 'core competence does not diminish with use. Unlike physical assets, which do deteriorate over time, competencies are enhanced as they are applied and shared . . . core competencies are the collective learning in the organization . . .'. In the area of risk management, developing strategic risk management

as a core competency establishes the pathway where risk management is enhanced and further developed within an organization. Prahalad and Hamel also refer to 'The Tyranny of the SBU', which is analogous to 'The Tyranny of the Silos' in risk management. In risk management, silos create blind spots and redundancies, but they also present barriers to further developing strategic risk management as a core competence.

Return Driven Strategy

The return driven strategy framework (Frigo and Litman 2007) has been used as an effective tool for integrating strategy and risk management. This framework describes the hierarchy of strategic activities of high-performing companies in terms of return on investment, disciplined growth and shareholder value creation. The return driven strategy comprises 11 core tenets and 3 foundations that together form a hierarchy of interrelated activities that companies must perform to deliver superior performance. One of the three foundations of the return driven strategy framework is 'vigilance to forces of change', which represents the area of risk management. Companies with sustainable high performance were found to manage the risks and opportunities in forces of change better than their competitors. As boards and management teams used the framework to evaluate strategies, they started to hone in on the risk areas, thereby using it as a de facto strategic risk assessment framework. This natural migration from strategy framework to risk management framework provided organizations with a direct pathway for connecting strategy and risk. Organizations can view risk management as a strategic asset which enables them to intelligently take risks that will drive business success and value creation.

Co-creation and Strategic Risk Management

Co-creation is based on the pioneering work of C. K. Prahalad and Venkat Ramaswamy (2004)

and continuing applications of co-creating customer experiences (Ramaswamy 2008) and building co-creative enterprises (Ramaswamy and Guillard 2010). In the area of strategic risk management, embracing cocreation involves co-creating strategic risk-return management (Frigo and Ramaswamy 2009), which focuses on the engagement of external and internal stakeholders to help balance risk return by managing different types of risks while enhancing shared value creation. This approach focuses on sustainable wealth creation which requires balanced risk-taking by focusing on co-creation opportunities that can generate superior returns while simultaneously reducing risks for companies and their stakeholders. Strategic risk management in a co-creative enterprise involves engaging internal and external stakeholders, which serves as a way to address the silo problem in risk management.

Strategy Maps as a Platform for Strategic Risk Management

The use of strategy maps as a platform for identifying risks in the strategy is a practice that can promote strategy risk management as a senior executive responsibility and facilitate the management of risk as a comprehensive and integrated process. An organization's strategy map can provide a comprehensive view of the strategy and can serve as a helpful reference point for identifying the various risks. For example: 'companies such as VW do Brasil and Infosys . . . use their strategy maps as the starting point for their "risk dialogues"'. For each strategic objective on the map, they ask, "what are the critical risks that could put attainment of this objective in jeopardy?"' (Frigo et al. 2012: 53).

Strategic Risk Management at the LEGO Group

One of the best examples of strategic risk management can be seen at the LEGO Group (Frigo and Læssøe 2012). The LEGO Group developed

risk management in four steps. Step 1. Enterprise risk management was traditional ERM in which financial, operational, hazard, and other risks were later supplemented by explicit handling of strategic risks. Step 2. Monte Carlo simulations were added to understand the financial performance volatility and the drivers behind it to integrate risk management into the budgeting and reporting processes. Step 3. Active risk and opportunity planning (AROP), where business projects go through a systematic risk and opportunity process as part of preparing the business case before final decisions about the projects have been made. Step 4. Preparing for uncertainty, where management tries to ensure that long-term strategies are relevant for and resilient to future changes that may very well differ from those planned for. Scenario analysis helps envision a set of different yet plausible futures to test the strategy for resilience and relevance. These last two steps were designed to move strategic risk management 'upstream' – by integrating risk management earlier in strategy development and the strategic planning and implementation process.

This four-step approach is a good illustration of how organizations can develop their risk management capabilities and processes in incremental steps. It represents an example of how to evolve beyond traditional ERM and integrate risk management into the strategic decision-making of an organization. This approach positions risk management as a value-creating element of the strategic decision-making process and the strategy-execution process.

The development of strategic risk management at the LEGO Group provides a clear example of how organizations can develop ERM programmes to incorporate strategic risk and make strategic risk management a discipline and core competency within the organization.

At LEGO, risk management is *not* about risk aversion. If an organization wants or needs to take bigger chances than its competitors – and get away with it (succeed) – they need to be better prepared. Risk management should enable organizations to take the risks necessary to grow and create value.

Strategic Risk Assessment

A strategic risk assessment (Frigo and Anderson 2009b) is a systematic and continual process for assessing significant risks facing an enterprise. Here are the seven steps for conducting a strategic risk assessment:

1. Achieve a deep understanding of the strategy.
2. Gather views and data on strategic risks.
3. Prepare a preliminary strategic risk profile.
4. Validate and finalize the strategic risk profile.
5. Develop a strategic risk management action plan.
6. Communicate the strategic risk profile and strategic risk management action plan.
7. Implement the strategic risk management action plan.

The strategic risk assessment process provides a way for organizations to integrate strategy, strategy execution and risk management. It also provides a way for organizations to focus on the strategy of the organization as a starting point for risk assessment.

The Future of Strategic Risk Management

A new body of knowledge in strategic risk management continues to develop. Management teams and boards are challenging themselves and their organizations to move up the strategic risk management learning curve. Developing strategic risk management processes and capabilities can become a strong foundation for improving risk management and ► [governance](#). Developing strategic risk management as a core competency can help organizations to become more resilient and value creating.

See Also

- [Governance](#)
- [Risk-Taking](#)
- [Strategic Implementation](#)

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Strategies for Firm Growth

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Abstract

Strategies for firm growth vary in terms of their degrees of novelty, uncertainty and synergy. Modes of firm growth include replication (growth by 'more of the same'), ► [diversification](#) and internationalization. Growth strategies can be implemented using ► [organic growth](#) or through ► [acquisitions](#). Desire to grow is a necessary but insufficient condition for growth – what also counts is the availability of growth opportunities. Empirical work has shown that growth is largely random – and hence hard to predict. Sustained growth is rare. Firms cannot always translate their ambitions into growth, but should pay attention to critical 'decision points'.

Definition Firm growth occurs when firms increase their size, usually measured in terms of sales, employment, profits or value added. Firm growth may involve replication or diversification into new markets (e.g., internationalization), and can occur through organic growth or acquisition. Growth strategies imply a desire to grow, but equally important is the availability of viable growth opportunities.

Firm growth involves new situations, and some degree of uncertainty, as the firm expands into new markets. Growth strategies display varying degrees of 'newness' and 'synergy'. Perhaps the safest growth strategy is replication (growth by 'more of the same'), whereas more challenging

modes of growth are forward integration into retailing, backward integration into the production of inputs, ► [diversification](#) into new product markets and internationalization. These latter modes of growth involve a significant break from a firm's everyday routines.

Replication as a growth strategy is discussed in Winter and Szulanski (2001), who call it the 'McDonald's approach' in reference to the popular fast-food chain, and define it as 'the creation and operation of a large number of similar outlets that deliver a product or perform a service' (p. 730). When attempting growth through replication, managers should resist the temptation to 'improve' upon the template, but should at first seek to copy the template as faithfully as possible, even after acceptable results have been obtained from the new production unit. Only once the new unit has produced satisfactory results for some time should managers consider introducing changes.

An extreme case of growth by replication is Intel's 'copy EXACTLY!' strategy (MacDonald 1998). Intel's manufacturing relies upon production steps that are characterized by complex interactions and low tolerances, so there is great need for precision in replication. In this context, Intel has developed a replication strategy according to which "everything which might affect the process, or how it is run" is to be copied down to the finest detail, unless it is either *physically impossible* to do so, or there is an *overwhelming competitive benefit* to introducing a change' (MacDonald 1998: 2). If a modification has been suggested, it will be thoroughly investigated, and if applied, it will be simultaneously implemented at all other existing sites. As a consequence of this replication strategy, Intel's production plants can meet best-practice performance standards from their first day of production.

However, once demand starts becoming saturated, a firm with growth ambitions must rethink its growth options. '[G]rowth is not for long, if ever, simply a question of producing more of the same product on a larger scale; it involves innovation, changing techniques of distribution, and changing organization of production and management' (Penrose 1959: 161). A growing firm may need to attempt diversification, either by

introducing minor modifications to existing products, or by introducing fundamentally new products that require new technologies. It may also need to enter new geographical markets, which may involve modifying the product to cater for the different tastes and needs of these regions.

A firm that has decided upon its growth strategy in terms of product space and geographical space should also consider how it will implement its growth plans – either by internal growth (or ► **organic growth**) or growth by ► **acquisition**. Organic growth is often said to be better when there are strong synergies between existing activities and the target industry. Organic growth allows a firm to steadily accumulate in-house capabilities that will be a source of enduring competitive advantage in the years to come.

However, if organic growth into new markets faces high entry costs, or high operating costs, then growth by acquisition may be preferable. Empirical work has shown that growth by acquisition is more often the case for large, diversified firms, whereas for small, young firms, a higher share of their growth is organic growth. Growth by acquisition allows firms to grow rapidly, by buying capabilities and resources that have already been assembled by another firm. Growth by acquisition depends on the availability of a suitable target, though, and can be expensive. Acquiring firms will typically pay a premium above the market price to acquire all of a target firm, and furthermore, there will be costs associated with assimilating the target into the acquiring firm. Indeed, acquiring firms face the challenge of absorbing these new resources and new knowledge, which, if successful, may be a spur to further growth. (Organic growth, in contrast, often involves the pursuit of growth opportunities that are closest to a firm's existing resources.) Lockett et al. (2011) focus on the growth of Swedish firms, distinguishing between organic growth and acquisitive growth. Growth by acquisition tends to be followed by organic growth, as firms try to internalize these newly acquired resources. Organic growth, however, has a lower probability of being followed by subsequent organic growth.

Internationalization occurs when a firm seeks to expand into overseas markets. It can be an

attractive growth strategy, allowing firms to boost sales, enjoy more market power, diversify revenues and benefit from scale economies by spreading fixed costs such as R&D over a larger sales base. Internationalization can take many forms, depending on the availability of a trustworthy distributor – it can occur through a strategic alliance (ranging from non-equity contractual agreements with a foreign distributor, to equity joint ventures) or perhaps through foreign direct investment (FDI), which allows a firm to build a distribution network (and perhaps production units) to ensure more control over the production and distribution chain. FDI can take the form of either greenfield construction of new facilities or acquisition of overseas plants.

Johanson and Vahlne (1977) introduced the Process Theory of Internationalization to highlight the uncertainty that internationalization involves. In this model, growing firms are boundedly rational agents, who display an appropriate degree of caution in their expansion plans. These firms gradually acquire knowledge and experience and progressively increase their commitments to their export markets, first by low-commitment distribution agreements or strategic alliances, before moving on to the establishment of overseas production plants through FDI. In contrast to the Process Theory of Internationalization, however, scholars have also observed the phenomenon of 'born global' firms (Oviatt and McDougall 1994) – small to medium-size enterprises (SMEs) with strong global ambitions from a young age. 'Born global' firms tend to be high-technology SMEs, serving specialized niche markets, which face insufficient demand from domestic markets alone.

Growth and Synergies

Growth strategies attempt to exploit synergies between a firm's existing resources (e.g., brand names and distribution networks) and capabilities (e.g., production routines and R&D capabilities), and those resources and capabilities that will be required to profitably exploit new markets.

A high-synergy growth strategy occurs when a firm is in a favourable situation to apply its existing competences and resources to provide goods and services for new markets. For example, related diversification (into markets with similar technologies, production processes or consumer characteristics) is a higher synergy growth strategy than unrelated diversification.

Low synergy growth plans are generally less desirable, because the industry may well be better organized if the distinct markets are served by separate firms, rather than by one large firm. However, managers may want to grow their firms to a large size, considering that their remuneration and bonus packages are generally closely related to a firm's absolute size (and perhaps less closely related to the firm's profitability). Managers in growing firms may seek to justify their diversification and acquisition plans on the grounds of synergies that in reality are quite weak.

Desire to Grow

An important ingredient for growth is the desire to grow. Although it is not a sufficient condition (since it depends on the availability of viable growth opportunities), it is generally considered to be a necessary condition.

Growth is desirable for a number of reasons. Growth may bring on a more efficient scale, especially for small firms, through economies of scale (that is, lower unit production costs), or economies of scope (that is, benefits of having a wider range of products on offer). Growing organizations also generally benefit from higher worker morale, because growth can alleviate tensions in firms, reduce conflict by providing a 'win-win' option, and providing promotion opportunities.

Many firms do not want to grow, however. Many small businesses (such as 'mom-and-pop stores' and small-scale self-employment ventures) do not have lofty capitalist aspirations, but merely involve the founder plodding along at a small scale, pursuing a relaxed lifestyle of 'being one's own boss', avoiding the stress and complications

of taking on new employees, and not wanting to work too hard but maintain a relaxed work-life balance. Some small businesses may not seek growth because they are afraid of losing control of their businesses and being less well-informed of its day-to-day operations or because they prefer the excitement of small informal entrepreneurial teams as opposed to the more regulated, bureaucratic structures found in large firms. They may also want to avoid the perceived risks associated with growth (although in fact, the evidence seems to suggest that growth improves a firm's survival chances). As summarized by Greiner (1998: 67): 'If they choose to grow, they may actually grow themselves out of a job and a way of life they enjoy.'

Large firms, in contrast, often have a stronger desire to grow, perhaps reflecting the fact that CEO compensation is closely related to firm size – corresponding to the case of 'managerial empire building' (see Marris 1964). CEOs of larger firms tend to have higher compensation and bonuses, more power and prestige, and also a large number of other 'perks'. This provides incentives to CEOs to seek growth – perhaps beyond the socially optimum level.

Nonetheless, a desire for growth is not enough to guarantee growth. Penrose (1959) writes that there are two conditions for growth: demand and supply. Demand for growth will not be effective unless there is an availability of viable growth opportunities. Some entrepreneurs may not be sufficiently alert to recognize the growth opportunities available to them, while others may be mistakenly overoptimistic about the returns they can expect from a certain growth strategy.

More specifically, Penrose's vision of the growth process focuses on managerial attention, and holds that as managers become accustomed to existing operations, their attention shifts to formulating growth plans. In this view, growth requires planning, the availability of managerial resources for training new hires and the ability to identify promising growth opportunities. Growth opportunities are then implemented by building on the unique fit between a firm's idiosyncratic resources and the current market environment.

Growth Is Largely Random and Difficult to Predict

Empirical work into firm growth has had difficulty finding the determinants of growth. Geroski (2000: 169) writes: ‘The most elementary “fact” about corporate growth thrown up by econometric work on both large and small firms is that firm size follows a random walk.’ In fact, there is a long tradition in firm growth research to view firm growth as a random process. Gibrat (1931) observed a lognormal firm size distribution, and to explain this he put forward his famous Law of Proportionate Effect – according to which firm size evolves according to a purely random process of multiplicative growth shocks.

In reality, we observe that some factors consistently affect growth: the most common factors are firm size, age, lagged growth, financial performance, innovation, the characteristics of the founder as well as firm-specific, industry-specific and macroeconomic factors (see Coad 2009, for a survey).

However, the explanatory power of growth rate regressions is generally low, often lower than 5% and rarely rising above 15% (Coad 2009: Table 7.1). Indeed, it is difficult to provide *ex post* information on the determinants of growth, let alone predictions of future growth. Although growth is not exactly random, it is close to random. In our view, random growth serves as a useful first approximation.

In terms of growth rate autocorrelation, sustained growth is unlikely. For all the discussion in the management literature about sustained competitive advantage, it may come as a surprise to some that sustained above-average growth is rare – about as rare as flipping a coin and getting consecutive heads. Equally surprising is that empirical work that uses information on the entrepreneur’s desire to grow does not go very far in explaining their growth. Growth aspirations (also known as entrepreneurial orientation, or EO) tend to have a limited effect on firm growth. It is not enough to simply seek growth; this desire for growth should be combined with viable growth opportunities.

Limited Learning Opportunities

Firm growth can hardly be described as a process involving the repetition of identical circumstances; instead it involves uncertainty and the challenges of recognizing growth opportunities in a constantly changing market environment. Learning from experience is best when the same stimuli are repeated often enough for patterns to be recognized. However, growth events bear little resemblance to previous growth events; instead they involve novel challenges. Almost by definition, growth is not something that can be routinized to any great extent, because it constitutes a break from the routine, an expansion of routines. Further barriers to learning include the strong role of chance in business outcomes, and difficulties in evaluating *ex post* which of a firm’s past decisions were correct (i.e., causal ambiguity in complex market environments). Growth does not occur by repeating the growth plan from last time, because the market has changed – in fact, the firm itself has changed.

The literature on acquisitive growth has shown that success in prior acquisitions does not guarantee future success, because acquisition events are sufficiently different from each other that learning effects are precluded. In fact, prior experience in acquisitions may even be a hindrance to the success of future acquisitions, because firms may inappropriately generalize across dissimilar situations (Haleblian and Finkelstein 1999; Muehlfeld et al. 2012).

Lumpiness of Growth

Another important feature of firm growth is that growth is highly concentrated in a small number of fast-growing firms. Looking at the investment dynamics of US manufacturing plants, Doms and Dunne (1998: 415) find that ‘51.9% of plants in a year increase their capital stock by less than 2.5%, while 11% of plants in a year increase their capital stock by more than 20%’. More generally, they observe that half of a plant’s total investment over the 1973–1988 period was performed in just 3 years.

Analysis of the functional form of the growth rates distribution does not yield the familiar

bell-curve shape of the Gaussian distribution, but rather that growth rates follow the heavy-tailed Laplace density, also known as the symmetric exponential distribution (Stanley et al. 1996; Bottazzi and Secchi 2006). An implication of this is that most firms hardly grow at all, but that a small number of firms will experience rapid growth or decline in any given year. This structure in the growth rates distribution has been observed to be remarkably stable across time, across countries and across industries. Even in declining industries, a handful of firms will experience fast growth, and even in growing industries, a handful of firms will experience accelerated decline.

Decision Points for Growth

In the preceding discussion, we have seen that growth is largely random, and that most firms hardly grow at all, with firm growth occurring in spurts. This is consistent with the notion that growth strategies are affected by critical decision points. It may be that most of the time firms don't have much scope to choose their growth rates, or for their growth ambitions to translate into higher growth, because their experienced growth will merely be a balancing of demand from clients and output produced within the firm. In most cases, firm growth may merely be due to random fluctuations. In some cases, however, there may be critical points at which growth ambitions can be acted upon – such as when a firm is operating at full capacity and needs to decide whether to step things up a gear. These points may be related to indivisibilities in a firm's structure (Coad and Planck 2012), such as the decision for a small business owner to take on her first employee, for a firm that is operating at full capacity to open a new production plant or perhaps a firm that has saturated its domestic demand to consider entering export markets.

See Also

- ▶ [Acquisition Strategy](#)
- ▶ [Diversification](#)

- ▶ [Firm Size and Boundaries, Strategy](#)
- ▶ [Organic Growth](#)
- ▶ [Organizational Change](#)
- ▶ [Penrose, Edith T. \(1914–1996\)](#)

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Strategizing

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Definition Strategizing refers to the actions firms take to gain and sustain competitive advantages.

Strategizing includes those actions a firm takes to gain and sustain a competitive advantage. Such actions include exploiting market power to set prices above a competitive level, tacitly colluding with competitors to set prices above a competitive level, and being more efficient and effective in meeting customer needs and preferences. Note that these first two forms of strategizing are inconsistent with competitive efficiency, while the latter is consistent with such efficiency. That is, a firm can gain and sustain a competitive advantage either by (1) exploiting its monopoly (or oligopoly) position in a market or (2) by addressing consumer demand more efficiently and effectively than competitors. The first approach to gaining and sustaining a competitive advantage is, of course, inconsistent with social welfare, while the second may be perfectly consistent with social welfare (Demsetz 1973).

These two approaches to strategizing are reflected in two of the most important theoretical paradigms in the field of strategic management: the positioning perspective (Porter 1980) and resource-based theory (Barney 1991). The positioning perspective builds on the structure-conduct-performance paradigm to suggest that any economic profits earned by a firm must reflect that firm's market power. Strategizing in

this approach focuses on how a firm can obtain and then exploit market power, and how it can erect barriers to entry to maintain this market power.

The resource-based perspective builds on Ricardian economics to suggest that firms may vary in their resources and capabilities, and that these differences may last for some time. In resource-based logic, it is these differences in resources and capabilities that enable some firms to address customer needs more efficiently than others. Strategizing in this approach focuses on how a firm can identify those resources and capabilities it controls, and how it can use these resources and capabilities to efficiently and effectively address customer needs.

Strategizing has sometimes been placed in a dichotomy with economizing (Williamson 1991). In this view, firm performance is more likely to be enhanced if firms focus on economizing – that is, accomplishing their goals and objectives in the lowest cost way possible – rather than strategizing. However, a close reading of this work suggests that the notion of ‘strategizing’ applied therein focuses only on anticompetitive approaches to strategizing and ignores efficiency-based approaches. Since strategizing will sometimes include economizing, the assertion that strategizing and economizing are alternative, and perhaps incompatible, approaches in the understanding of why some firms outperform others seems quite problematic.

See Also

- ▶ [Business Strategy](#)
- ▶ [Resource-Based View](#)
- ▶ [Strategic Implementation](#)
- ▶ [Strategies for Firm Growth](#)
- ▶ [Sustainable Competitive Advantage](#)

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Strategy and Structure of the Multinational Enterprise (MNE)

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Abstract

The strategy of multinational enterprises (MNEs) concerns the advantage of MNEs, as an institutional form, for governing transactions across borders, the opportunity to integrate knowledge from multiple geographic sources and the need to balance efficiency, flexibility and learning priorities. The structures of MNEs were initially designed to effectively implement set strategic priorities for internationalization. As MNEs mature and the world becomes more globalized, structural forms become less important, and decision processes, global project teams and individual cross-cultural skills become more critical.

Definition The strategy and structure of the multinational enterprise relate to how companies with investments in multiple countries conduct business between these countries, the role they play, the strategic choices they make, the structures they deploy to implement strategies and the way that they are managed.

The rise of the multinational enterprise (MNE) is a relatively recent phenomenon: MNEs first appeared as an organizational form in the nineteenth century (leaving aside chartered colonial trading companies) and flourished in the twentieth. There are two seminal perspectives on the development of MNEs, one institutional, the other strategic. In the first perspective, the MNE arose as a transaction governance form because of

market failures in international trade and investment (Caves 1982). Its structure and organization are driven by efficiency in governing cross-border transactions, compared with other possible forms of governance. This perspective has been complemented by a growing awareness of the role of MNEs in knowledge exchange and transfer (Teece 1977) and of their potential value in integrating knowledge from multiple geographical origins into unique innovations when relevant knowledge is not available from a single country (Cantwell 1989; Cantwell and Santangelo 1999; Foss and Santos 2011).

In the second perspective, MNEs arose from the competitive interplay between domestic firms and the development of firm-specific assets that could be leveraged internationally to their advantage (Penrose 1959; Hymer 1976), mostly knowledge assets (Kogut and Zander 1992). To prevent exclusive advantage, competitors would then imitate each other's international growth strategies (Knickerbocker 1973). In this second perspective MNEs' structure and organization are driven by the need to implement competitive strategy effectively.

Transaction cost economics provides the conceptual basis for the first perspective, strategic management for the second. These two perspectives have sometimes been opposed in the literature; they should in fact be seen as complementary: the first bounds the roles and domain competitively available to MNEs in the world economy; the second explains their strategic moves within that domain. The 'eclectic' model of foreign investment articulated by John Dunning relating to American MNEs in the UK (as early as 1958), recognizes their complementarity (Dunning 1980). At a more abstract level, the first perspective can be seen to provide an ontological explanation of MNEs and the second an epistemological view of the MNE: their nature and their essence.

The Domain of MNEs

MNEs internalize, within a hierarchical governance structure, transactions not efficiently

successfully performed between independent agents in a market (Buckley and Casson 1976). They arise as a transaction governance form because of market failure. Market failure itself results from both the context and the content of transactions. Context-driven market failures have been attributed to institutional incompleteness in countries, preventing the formation of efficient markets (Khanna et al. 2005), and historically also attributed to high trade barriers. Lack of structured financial and labour markets, or of adequate transport infrastructure, makes it difficult for local corporations to develop, but MNEs bring to the local environment, mostly in developing countries, the resources and the ability to develop infrastructure, for instance in mining, logistics and manufacturing. They fill institutional and infrastructure gaps that domestic firms and investors could not supply. As countries develop their institutions become more 'complete' and institutional gaps narrow, which reduces the need for MNEs. Trade barriers lead to foreign direct investment (FDI), and thus favour MNEs rather than exports. Trade and investment liberalization (vs. government licences that favour incumbents and local entrants) then leaves less room for regulatory market imperfections and the domain available to MNCs may narrow down.

Content-driven market failure stems from the nature of what is transacted. MNEs have arisen when the risk of hold-up in independent transactions was too high for markets to prevail, in aluminium mining and bauxite for instance, or in oil. Concerns for intellectual property protection also contributed to the spread of MNEs. Where raw materials were true commodities, markets worked, for instance in tin or steel, and MNEs did not quickly come to prevail (Vernon 1971). The further away from commodities, the greater the role of MNEs became. The greater the differentiating power of knowledge (for instance in technology-intensive and advertising-intensive goods and services) and the more tacit such knowledge is, the greater contribution MNEs can make. Such knowledge leads to market failure because its value is difficult to assess *ex ante* and its use cannot be separated easily from the

organizations that created this knowledge (for instance via licences).

However, as technologies and markets mature, the advantage of MNEs as a transaction governance form across borders subsides. More explicit technology can be packaged, bounded, patented and traded via licences. More standardized goods, or their components, or even their development, can be outsourced and offshored more easily, as can elements of business processes and support functions. Global supply chain orchestrators, from traditional trading companies to new orchestrators such as Li and Fung, often described as the prototype of new trading companies, may replace traditional MNEs. Standardized production equipment and global logistic companies erode MNEs' advantage. Successful global brands may be more resilient. First, brand management and marketing skills may be harder to make explicit and to routinize and standardize than mature technologies. And the value of brands endures in the eyes of consumers, in luxury goods (e.g., Louis Vuitton) and in lifestyle products (e.g., Apple) in particular. This leads to a two-tiered system where MNEs manage, nurture and protect global brands through innovation and advertising and local suppliers and distribution partners perform most operational tasks.

Nevertheless, as technologies, products and consumers mature, the domain of MNEs can be seen as a moving space, a shifting band between new knowledge – that is so context-bound that it is not yet mobile (e.g., biogenetics) or so culturally dependent that it is immobile (e.g., developing perfumes) – and mature knowledge that is explicit enough to be traded among independent agents, rather than shared within a MNE (Kogut and Zander 1992; Zander and Kogut 1995). In other words, markets 'race' against MNEs as efficient transaction governance forms.

In that race, MNEs, however, may keep a unique sustainable advantage over markets: their ability not just to share knowledge more efficiently than other forms but to proactively seek, sense and access locally and integrate knowledge from a multiplicity of geographical sources before its existence is widely recognized and it is codified enough to become easily mobile (Doz et al. 2001).

In this institutional perspective the domain of MNEs remains constrained by the MNEs' efficiency in governing transactions. In fact, MNEs are seen as providing centralization, formalization and socialization to the exchange and integration processes within a common organization, and, to an extent, within the cultural context of shared norms and rules. Interest alignment and the control of opportunism are seen as easier in a hierarchical organization than among independent parties to an exchange or an integration project. Presumption of trustworthiness and some familiarity despite distance among managers of the same MNE also make knowledge exchanges and integration easier and less costly.

Competitive Interaction and the Rise of MNEs

Within the domain where they enjoy an advantage, competitive interactions shape the strategic choices of individual MNEs. Essentially, MNE strategy encompasses three elements: (1) the need for global efficiency and local adaptation; (2) the levels of risk assumed and the flexibility required to mitigate risks; (3) the opportunity for global learning (Ghoshal 1987). At the heart of any MNE strategy is an inescapable tension between opportunities for achieving cross-border economies of scale and the need for maintaining local market responsiveness (Prahalad 1975; Doz 1979; Doz and Prahalad 1981; Hamel and Prahalad 1985; Prahalad and Doz 1987). Few industries, and businesses, allow a clear 'either-or' choice between global scale and national responsiveness, most call for a 'both-and' solution, trading off both imperatives and trying to increase both scale and responsiveness (Doz 1986).

The shift to multidimensional organizations adopted by many MNEs since the 1970s is an attempt to address this dual need for global scale and scope and for national responsiveness. Rather than organize for local market responsiveness (national subsidiaries and regional entities) or for global scale and efficiency (worldwide product divisions), MNEs internalize and reflect in their

structure and internal processes the tensions they face in their external environment. Multiple priorities are taken into account in their internal decision-making dialogues. The choice of a matrix organization no longer results only from combined product and geographic diversification (Stopford and Wells 1972) but also from a desire to create structural strategic indeterminacy and leave room for fine-tuned differentiated decision-making processes according to decision types (Bartlett and Ghoshal 1989).

Beyond responding to market differences, the need for maintaining flexibility results from the risks associated with the international deployment of assets: currency and other financial risks, political risks, liability of foreignness in international markets (Hymer 1976; Zaheer 1995), lack of the right political and social connections and ignorance of cultural clues to understand local conditions. Furthermore, a highly efficient and well-integrated global supply system exposes the whole company to social strife and natural disruptions in any location in the system. Integrated supply systems also make profits vulnerable to exchange rate fluctuation. Yet the international deployment of assets also creates real flexibility for MNEs via their network of operations. This also provides for enough managerial control and agility to allow the rapid redeployment of resources across the globe. Of course, flexibility has a cost, in aspects such as manufacturing capacity, the commitment of suppliers and product standardization.

Learning and innovation, a third dimension of MNE strategic advantage beyond efficiency and flexibility, can accrue from the diversity among locations where the firms operate. Relevant technological knowledge and market knowledge are increasingly dispersed with the growth of emerging economies (both as demanding markets and as sources of innovations) and with the growing technological and market convergence across industries (Doz et al. 2001). A first approach is the 'transnational' company (Bartlett and Ghoshal 1989) in which MNEs innovate in multiple markets, depending on local drivers of innovation, and 'project' these innovations to other markets, via subsidiaries who play diverse strategic roles in

a 'differentiated' network (meaning subsidiaries' roles are differentiated within the network) in different businesses (Ghoshal and Nohria 1989; Ghoshal and Westney 2005). What has more recently been called 'reverse innovation' is essentially an extension of the transnational model (seen initially as 'triadic' – Europe, Japan, the United States) to encompass emerging economies as sources of innovation (Govindarajan and Trimble 2012). The concept of 'metanational innovation' (Doz et al. 2001; Doz and Wilson 2012) takes the argument further: MNEs can combine and integrate, or meld, knowledge inputs from many different locations in creating and developing innovations, such as new products or new business models. A business no longer stems from a single innovation home; it relies on a global innovation network. This provides both a unique competitive advantage against rivals, and, more fundamentally, a lasting advantage over markets.

Insofar as they put different and potentially conflicting demands on management, all represent essential strategic priorities for MNEs and it is important to understand the relative importance of these three priorities for managers in MNEs (Ghoshal 1986). Forms of globally integrated networks may come to prevail (Palmisano 2006). The move toward a globally integrated network does not take place only within individual innovation projects, or in global learning communities of practices, but also increasingly in the whole company, with different corporate roles and functions being centred in different parts of the world and the notion of 'headquarters' disappearing. 'Headquarters' can shift from one month to the next and be located wherever the senior management team of the company meets, usually at different locations around the world.

The strategy of MNEs can be further disaggregated and conceived of as a set of competitive moves on a global chessboard, or perhaps more accurately as a game of Go. Multimarket/multipoint competition characterizes MNEs (Knickerbocker 1973; Graham 1985, 1990; Casson 1987; Yu and Cannella 2013). Some industries, consumer products for instance, lend themselves well to a global game of Go:

competitive interactions aim at global cash flows, not at rivalry and retaliation or deterrence in the same markets (Hamel and Prahalad 1985) or conversely demonstrate mutual forbearance and avoidance (Sengul and Gimeno 2013).

As more and more MNEs have recognized the need to take into account the duality of global integration and national responsiveness demands and the tensions between efficiency, flexibility and innovation, the challenges in making a multi-dimensional (often called 'matrix') organization effective have come to the fore. The meaning of structure has correspondingly shifted from organization and reporting lines (formal) or power and dependency (informal) relationships to decision rights and the process structure of key decisions or value-creating processes (e.g., capacity planning and allocation, new product development). This then triggers a need for coordination and integration, and structural characteristics start to dissolve into considerations about the effectiveness of global teams and virtual teams (Gibson and Cohen 2003). As the attention to structure moves from reporting line to decision rights, the issue of supporting decisions with quality information becomes better recognized. The MNE structure as an information processing structure, or system, becomes predominant (Egelhoff 1982, 1988). So-called knowledge management systems, after an initial period of hype, quickly showed their limits, and knowledge sharing within the MNE became a dominant concern.

The structure of knowledge, knowledge sharing mechanisms and collaboration modes have become prime considerations. So has the composition of teams. And, finally, structural considerations disappear in the face of individual cognition, identity, personality and culture. Cultural diversity, for example, moves from 'diversity between' executives to 'diversity within', with the potential roles of multicultural managers being fully recognized (Hong and Doz 2013). Since the seminal work of Stopford and Wells (1972), the leading edge of thinking on the structure of MNEs has moved progressively from broad organizational forms to the roles, relationships and skills of individuals in increasingly indeterminate structures.

See Also

- ▶ [Knowledge Networks](#)
- ▶ [Learning and Adaptation](#)
- ▶ [Organization Theory](#)
- ▶ [Organizational Restructuring](#)
- ▶ [Technology Transfer](#)

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Structural Differentiation and Integration

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Abstract

Structural differentiation and integration form the underlying structure of work organizations. This article traces the evolution of differentiation and integration in managerial theory and practice, based on how work complexity and knowledge are approached. The primary unit of differentiation is transforming from separate steps in value creation used to reduce complexity to holistic sets of steps that embrace complexity and highlight knowledge of interdependencies. The primary link of structural integration is transforming from the hierarchy to the heterarchy, or many-to-many links among emergent units. New challenges for structuring work organizations that are produced by these transformations are outlined.

Definition Structural differentiation refers to how the operations of an enterprise are divided into specialized roles and work units, while structural integration refers to how those specialized roles and units are linked together to create the goods and services of the enterprise.

Structural differentiation and integration are basic building blocks of organization design.

Differentiation refers to both the division of labour and the specialization of knowledge, and is created by dividing operations into specific roles that are grouped into units or departments. Integration refers to the links among these work units that are needed to achieve the kind of collaboration required to create the enterprise's goods and services. Structural differentiation and integration are two sides of the same coin of social order in the workplace, since they comprise the network of roles and relationships through which people and things work together. They shape people's jobs, who they work with, to whom they report, and determine how other coordinating approaches, from boundary objects to electronic mediated tools, will function.

The focus is on three basic elements of differentiation and integration: how work and workers are understood; what is the primary work unit; and what is the primary linkage among work units. These elements are based on institutionalized approaches to work complexity and work knowledge that we usually take for granted. However, because our approaches to complexity and knowledge have shifted, these elements have transformed over time. Each of these three elements is defined in terms of transformation: the old versus new approaches to complexity and knowledge that underlie that transformation, and the modes of differentiation and integration that are becoming commonplace. The conclusions sum up new challenges for organizing work and work organizations based on the transformations in differentiation and integration.

Conceptualizing 'Work' and 'Workers'

The first basic element is how work itself is understood. Until the 1970s, theories conceived of 'work' as the performance of simple tasks that could be abstracted from the work context. This conception is transforming: work is increasingly understood as the performance of complex tasks that is informed by contextual knowledge. Workers are understood to be responsible, heedful people who can work in communities to find ways of solving difficult problems. Workers have skills,

such as the ability to anticipate problems in other departments, appreciate challenges that others face and shape their own knowledge to fit the problem at hand (Barley 1996). These enhanced skills and abilities affect the kinds of differentiation and integration that are possible.

Structural Differentiation

The second basic element concerns the primary unit into which work is differentiated. Differentiation is essential because it specifies people's roles, responsibilities and relations ahead of time. Differentiation also enables day-to-day communication and coordination, since people carry out their work in concert with others in that unit. Differentiation thus reduces the need for coordination within the work unit.

The primary unit of work differentiation is transforming, in both practice and theory, from a separate 'function' or step that is abstracted from the value-creation process to a holistic bundle of steps that is embedded in the actual value-creation process. This transformation is driven by shifts in how to deal with work complexity and knowledge. Work complexity is managed by *the division of labour*. Traditionally, work was broken into smaller tasks to reduce if not eliminate complexity. Work knowledge is managed by *the specialization of labour*. Traditionally, specialization focused on expertise in the differentiated functions, where work units accumulated knowledge and developed better methods. Many additional levels of work were also differentiated around this primary unit of functional separation, including separate business units around distinct technologies, markets or geographies, and separate product categories.

The primary unit into which work is differentiated is transforming to a holistic set of interdependent tasks for value creation, driven by new approaches for managing complexity and knowledge. First, complexity cannot be eliminated because many tasks are both inherently interdependent and based on unknown unknowns, so work units need to embody complexity while still defining roles and responsibilities in sensible ways. To capture holistic sets of actual work tasks,

many work units are based on inter-functional teams formed around complex problems, such as product teams to build and launch new products, shop-floor teams in charge of subsystems of production or task forces to implement new technologies. Second, if work is inherently complex, then specialization of labour needs to encompass interdependencies among tasks, because knowing about how to discover and deal with these interdependencies is the most critical work knowledge for creating value. For example, firms that produce complex products need to maintain systematic or 'architectural' knowledge to track possible evolutions in the future, even if they outsource the current production of parts.

One way to accommodate this transformed work unit is to differentiate the overall enterprise into distinct value-creation problems that can be set and solved separately, at least to some degree. These problems disentangle the complexities of overall value creation into familiar categories of work that also enable integration within those categories. One value-creation problem includes project management, where people from various functions work together on new products or services, problem task forces, technologies, clients or customers, or any other project in value creation. Project work is supported by separate functions such as R&D, marketing or manufacturing that are managed as capabilities and developed for longer-term value and future possibilities. Businesses comprise a third set of problems to be set and solved around bundling the enterprise capabilities into products for particular markets. Corporate strategy-making is a fourth set of problems that concerns long-term development in assets and capabilities and in businesses (see Dougherty 2006).

Structural Integration

The third basic element of ► [organizational design](#) concerns how the differentiated units of work are integrated to create and recreate the overall value of the enterprise on a continual basis. The primary link of structural integration is also transforming, from the hierarchy, based on decomposed parts with one-to-one links, to the

► **heterarchy**, based on a diversity of parts with evolving, many-to-many links. This transformation is also driven by new approaches to work complexity and knowledge.

Traditional differentiation into separate functions was integrated by the hierarchy, while traditional specialized knowledge was integrated by a stable knowledge architecture or technology that underpinned operations. The managerial hierarchy became the primary link because it abstracted material realities of the stable architecture into standards that could be managed fairly readily. Traditional methods of integration are based on the hierarchy, and include standards, standardization of work and employees, formalization of rules and procedures, plans that specify deadlines to be achieved by separate units, and many techniques for scheduling and timing. Innovations in integration have mostly been patched onto the underlying hierarchy. For example, the rise of multidivisional organizations in the 1920s led to the invention of ‘the committee’ to resolve resource sharing, and to consulting as a way of assisting managers to implement all the new standards and procedures, and, ultimately, to help them formulate integrating strategies. Innovations continue, with liaison people, task forces, brokering, boundary objects, boundary spanners, and electronic mediations of all kinds.

However, the primary link is transforming from the hierarchy to the heterarchy, or many-to-many linkages, because technology architectures are less stable and work units cannot be nested or modularized. Heterarchy is perhaps most apparent in sectors based on digitized technologies, which rely on layered rather than modular architectures, so many kinds of product combinations arise unpredictably. Heterarchy also operates in science-based sectors such as biopharmaceuticals, new materials and alternative energy, because product architectures do not exist and product knowledge is rapidly evolving. However, organizations still need to integrate what they know to create products and businesses.

Abduction enables people systematically to explore and develop the many-to-many links among the various projects, capabilities and business activities of the enterprise. Instead of

deductively or inductively making one-to-one links between data and a theory to optimize the given system, abduction enables people explore a mass of facts and allow these facts to suggest a new theory. People abduct hypotheses to explain patterns, and work out what an emerging system might be. Many approaches to integrating work units are based on abduction. For example, by anticipating the evolution of product platforms and categories, people can map out new possibilities to explore. By shifting business charters, managers recreate new wholes, and by working with networks of partners that shift over time, managers can develop industry ‘platforms’. By highlighting formal, quasi-formal and informal social integrating, managers can change one while holding the others steady (Jelinek and Schoonhoven 1990).

New Challenges for Structuring Work and Organizations

Transformations in the basic units of differentiation and integration – from hierarchies of functions to heterarchies of holistic value-creation activities – raise new challenges for structuring work organizations. For example, workers play multiple roles, apply their expertise to a variety of projects and are partial participants in some projects. Research needs to explore the limits of the multiple roles and projects, and find out under what conditions fluid participation will work more effectively. Functional boundaries of some sort will persist, so research is needed into how to maintain the boundaries so as to enhance both knowledge development and knowledge recombination. Separate problems of value creation that are outlined above are large categories that also need to be further differentiated, but research is needed to examine possible configurations.

Integration via many-to-many links is supported by repeated findings that people can form productive, multifunctional work groups without extensive common ground or shared understandings. But research is needed to explore what enables fluid coordination, and what the limits of this integrating might be – how many links are too many?

Another challenge concerns time and timing. The ability to predict how long work will take and when outputs are likely to occur helps to pace collective work. But radical new products are unpredictable, take a long time to develop and outlive business strategies. How can unfolding, unpredictable innovation events be synchronized with calendar-based management? Finally, research should explore new modes of integrating work, such as the collective striving to obtain knowledge objects (Knorr Cetina 1997), and how various approaches might be bundled together.

See Also

- ▶ [Heterarchy](#)
- ▶ [Organizational Design](#)
- ▶ [Organization Theory](#)

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Structure–Conduct–Performance

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Abstract

Within the structure-conduct-performance paradigm market outcomes are understood as the interaction of market structure, firm behaviour and the resulting firm profitability and

economic efficiency. Basic conditions and government policies create barriers to entry and exit that determine the concentration and distribution of seller market shares. This market structure constrains the nature of seller rivalry, frequently characterized using the tools of cooperative and non-cooperative game theory. Conduct, in turn, determines where economic performance falls on the spectrum between the perfect competition ideal and monopolistic inefficiency.

Definition The structure-conduct-performance paradigm asserts that markets in practice are best understood as the interaction of market structure, firm behaviour and the resulting firm profitability and economic efficiency.

This ▶ [industrial organization](#) paradigm asserts that markets in practice are best understood as the interaction of market structure, firm behaviour and the resulting firm profitability and economic efficiency. The success of an industry in producing benefits for consumers and shareholders depends on the strategic interaction of sellers (and buyers), which in turn depends on (but can alter through investment) factors that determine the competitiveness of the market.

When entry barriers are present, as has been a characteristic of the manufacturing processes dominating the global economy since the end of the nineteenth century, the scissors of demand–supply must share the stage with an alternative framework. Any market outcome between ▶ [perfect competition](#) ($P = MC$) and monopoly [$(P - MC)/P = -1/\varepsilon$] is possible, and can emerge from a host of plausible conjectures about the nature of seller–buyer interactions. While structural and performance characteristics are readily observed, firm behaviour plays out behind closed doors. Original advocates of the structure–conduct–performance paradigm hoped to find sufficient regularities in the linkages to develop structural fixes for inadequate performance. That this has not proven to be the case has not lessened the paradigm’s value in organizing our thinking about the operation of imperfectly competitive markets.

Our sense of whether a market outcome constitutes ‘good’ economic performance is multidimensional, including at least the following goals:

- How to produce how much of what should be efficiently decided in at least two respects: scarce resources should not be wasted (productive efficiency) and should match costs to consumer benefits at the margin (allocative efficiency).
- Operations should be innovative, harnessing science and technology to reduce unit costs and introduce superior new products (dynamic efficiency).
- Operations should enhance and facilitate the stable, full employment of human resources.
- The resulting distribution of income should be fair in the sense that providers of labour, managerial and capital services should not secure rewards in excess of what is needed to call forth the level of services provided.

Important dimensions of seller and buyer conduct include pricing policies and practices, overt and tacit inter-firm cooperation, product line and advertising strategies, research and development commitments, investment in production capacity, legal tactics (e.g., enforcing patent rights) and lobbying political institutions to alter or limit enforcement of government regulation. Conduct, in turn, is constrained by market structure, key dimensions of which include the number of buyers and sellers, seller and buyer concentration, entry and exit barriers, product differentiation and the extent of information asymmetries.

The interplay of structure, conduct and performance played a central role in the writing of ► [Edward Sagendorph Mason and Joe Staten Bain Jr.](#) (1939, 1949), but the paradigm is most closely associated with Joe Bain and his [1959](#) textbook. The close relationship between industrial organization and antitrust or ► [competition policy](#) led practitioners to search for predictable linkages between a small set of structural indicators and economic performance. While there is a general tendency for the intensity of rivalry to

increase as one moves from monopoly to workably competitive conditions, the field has largely rejected Bain’s emphasis on seller concentration as the primary determinant of economic performance. There is now greater recognition of the ways that interactions among established firms can alter this and other structural characteristics.

Scherer ([1970](#)) introduced a distinction between derived elements of market structure and intrinsic elements, which he termed basic conditions. On the supply side, these include the location and ownership of essential raw materials; the nature of the relevant technology (e.g., batch versus continuous flow processing); the extent of unionization; product durability; the ratio of value to weight; and reliance on inventories (vs. made-to-order production). Important demand-side conditions start with the price elasticity of demand and include the availability of close substitutes; the rate of growth and volatility of demand; the point of sale environment (e.g., sealed-bid auction vs. haggling vs. list prices); and the feasibility of pre-purchase search in revealing product characteristics. The dominant socio-economic characteristics of the business community go a long way towards determining the viability of collusive agreements.

Intentionally or not, public policies also have substantial impacts on market structure and firm conduct. The legal system sets the rules of the game. Taxes or subsidies will influence costs, investments and final prices. Tariffs and import quotas are important entry barriers, as are patents and professional licensing requirements. Government plays an important role in disseminating information to buyers and sellers and in funding basic research and development. Government may enter or control the market through direct state ownership. And, of course, the correction of market failures is a public good. Classic public utility regulation attempts to address the excesses of natural monopoly. Wage and price controls are intended to mitigate the distributional effects of temporary shortages or macroeconomic shocks. The goal of antitrust or competition policy is to eliminate structural elements and firm behaviour that result in unacceptable economic performance,

ideally through one-shot interventions or by setting standards for market participants to follow.

Finally, understanding the objectives of firms and corporate stakeholders takes on greater importance in imperfectly competitive markets. The perfectly competitive firm must maximize profits or face bankruptcy. Without the intensity of competitive rivalry and faced with limited information (contributing to what Simon (1957) called bounded rationality), corporate managers may turn to rules of thumb or be satisfied with maintaining progress against a number of possible yardsticks. (In Hicks's (1935: 8) aphorism, 'the best of all monopoly profits is a quiet life'.) These include increasing sales or market share, a stock price that outperforms the market, generous managerial compensation and fringe benefits, maintaining peace with labour, and cultivating a reputation for charitable giving and social responsibility. Of course, not all of these goals are inconsistent with long-run profit maximization. But the assumption of profit maximization in imperfectly competitive markets becomes harder to defend. If firms with monopoly power do tolerate extensive organizational slack, offer excessive executive compensation and are slow to seize cost-saving innovations, then (as Harvey Leibenstein (1966) argued) economic inefficiency must be many times higher than the deadweight loss triangles of conventional textbooks.

Barriers to entry and exit are the *primus inter pares* of structural characteristics. Free entry would drive profits to zero and minimize rents to the owners of scarce, high-quality resources. With constant returns to scale, there would be an exact match between diverse consumer preferences and product characteristics. Bain identified four sources of entry barriers: economies of scale, cost advantages of established firms, product differentiation advantages of established firms and absolute capital costs. Economies of scale and scope limit the number of firms that can operate at minimum average cost. But the resulting ability to raise price depends, critically, on timing assumptions and the importance of sunk costs (Baumol et al. 1982). Bain's argument that an entrant might be deterred by a need

to invest absolutely large sums of money has been widely criticized because it seems to rest on particular assumptions about capital market imperfections. On the other hand, a rich literature has shown how an incumbent can exploit information asymmetries to deter entry or induce exit.

Ultimately, the ability (and rationality of the attempt) of incumbents to deter entry depends on the nature of rivalry post-entry – that is, on the strategic interaction of firms (conduct). Over the past 40 years, the tools of non-cooperative game theory have assumed central importance in the analysis of conduct in imperfectly competitive markets (Schmalensee 1982; Tirole 1988). Modelling typically begins with the specification of the extensive form of a game: the variables under the players' control, a description of the sequence in which players move, the actions and information available at each move, the probabilities of any random events to be chosen by 'nature' and the functions determining each player's payoffs or profits. Some information, such as the price elasticity of demand, may be common knowledge; while other information, such as each firm's cost function, may be private. The models solve for behaviours that correspond to a ► **Nash equilibrium**, a situation in which each firm's strategy (a list of the moves it will make in all possible situations) is a best response to the strategies of its rivals, such that no firm has an incentive to change its behaviour. Nash equilibria can involve pure strategies (conditional choices of actions) or mixed strategies (conditional choices of random responses to observed conditions).

This rich theoretical literature has uncovered a number of general principles, such as the importance of credibility and the consequent value of commitment through investment, that have proved useful in a wide variety of contexts. The theory of entry deterrence and cartel stability is greatly advanced. But the dictum that virtually anything can happen in imperfectly competitive markets remains true. Even apparently simple multi-period games of incomplete information often have multiple equilibria that can be uncovered only with great difficulty. Claiming that

boundedly rational humans can solve the much more complex games they face in real life or that mechanisms exist to mimic such solutions is hard to credit. The predictions of game-theoretic models are highly sensitive to the details of the models and are often difficult to test.

Analysts with a practical agenda continue to rely on principles of anti-competitive conduct inductively derived from case studies: collusion, although under increasing fire from competition policy enforcement agencies and by no means easy to implement, has not vanished. Price leadership and rule-of-thumb pricing rules yield prices well above the competitive ideal. Inventories and order backlogs buffer a mature oligopoly against the gales of demand fluctuations. Tacit or explicit cooperation is less likely to be successful the less concentrated the industry; the more heterogeneous, complex and changing the products supplied; the higher the ratio of fixed to total costs; the more volatile the demand; the more dependent sellers are on large, infrequent orders; the greater the opportunity for under-the-counter price shading; and the more relations among company executives are marred by distrust and animosity.

See Also

- ▶ [Competition Policy](#)
- ▶ [Cooperative and Non-cooperative Game Theory](#)
- ▶ [Industrial Organization](#)
- ▶ [Mason, Edward Sagendorph \(1899–1992\) and Bain, Joe Staten Jr \(1912–1991\)](#)
- ▶ [Nash Equilibrium](#)
- ▶ [Perfect Competition](#)

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Sub-additivity

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Definition Sub-additivity is a property of function where the whole is less than the sum of two or more parts. This property is relevant in the context of economies of scale, where the cost of a combined business operation is less than the sum of two separate businesses. It can also be applied to the value of firm resources or assets where the value of two or more assets within a firm is less than the value of these assets when they are possessed by separate firms.

Sub-additivity is a property of assets when they are less valuable together than their sum of their separate parts (Vassolo et al. 2004; Anand et al. 2007). For example, a combination of resources within a firm may be less valuable than the sum of values of individual resource stocks (Anand and Kim 2010). We examine this property in the case of real option type investments and apply the concept to firm resources.

A particular context in which this property is easy to observe is that of ▶ [real options](#). Let α

and β denote two resources or investments. The value of these resources may be broken down into its traditional net present value (NPV) and its option value (OV) (Trigeorgis and Mason 1987):

$$\begin{aligned} V_{\alpha} &= NPV_{\alpha} + OV_{\alpha} \\ V_{\beta} &= NPV_{\beta} + OV_{\beta}. \end{aligned}$$

OV refers to the value of the underlying growth option, which is derived from a capability that gives the firm the right, but not the obligation, to take advantage of future growth opportunities:

$$\begin{aligned} V = V_{\alpha+\beta} &= NPV_{\alpha} + OV_{\alpha} + NPV_{\beta} \\ &\quad + OV_{\beta} + PE_{\alpha\beta}. \end{aligned}$$

The changes in the value of the portfolio are referred to as the portfolio effect (*PE*). If *PE* is positive, then the portfolio is superadditive with regard to its option value. If *PE* is negative, then the portfolio is sub-additive with regard to its option value; that is:

$$V_{\alpha+\beta} < V_{\alpha} + V_{\beta}.$$

Such a sub-additive outcome may arise when the firm possesses more options than it can exercise – when there is an exercise constraint, and the correlation among these option values is negative; that is, when one investment is more valuable, the other is less valuable, as in the case of a firm that has invested in two *competing technologies*, of which only one will be implemented (Anand et al. 2007).

More generally in the case of firm resources, the greater the fungibility of resources, the greater the potential to redeploy them to new applications and settings (Penrose 1959; Anand and Singh 1997). Fungible resources permit redeployment without commensurate costs (Caves 1971; Teece 1976; Itami 1987). When such multiple resources are combined in a firm, for example in the case of an acquisition, one resource can be substituted by the redeployment of the other resource. Further, such potentially overlapping resources may not be tradable in the factor markets (Dierickx and Cool

1989). This combination of *ex ante* fungibility and *ex post* non-tradability can generate conditions for sub-additivity (Anand and Kim 2010). Note that these conditions correspond to the conditions relevant in the options model. There is a negative correlation between the actual present deployment of one resource and the identical potential future redeployment of another resource. At the same time there is an exercise constraint since non-tradability implies that only internal uses generate value, and there is no salvage value for the redundant resource.

The concept of economies of scope also relates to the portfolio effect, but there are two important distinctions between sub-additivity and economies of scope. The first distinction is that, while the former relates both to option value of and cost of redeployment, the latter is explicitly defined only by cost functions (see Panzar and Willig 1981; Teece 1980). Another difference between those two concepts is that sub-additivity is operationalized at the resource level while economies of scope are operationalized at the product level.

On the other hand, the term sub-additivity has another meaning in economics literature. In economics literature, sub-additivity in costs means that the total cost of activities undertaken together is lower than the sum of costs of activities undertaken separately (Tirole 1988: 19). In this context, sub-additivity in costs is equivalent to economies of scope.

To conclude, there are various conditions under which one may observe the sub-additivity of firm resources or cost. Most directly, in a real option setting, negatively correlated options with exercise constraints may be associated with sub-additivity. Further, these conditions are also likely to be satisfied when a firm possesses resources that are fungible yet non-tradable.

See Also

- ▶ [Real Options](#)
- ▶ [Resource Redeployment](#)
- ▶ [Resource-Based View](#)
- ▶ [Scope Economies](#)

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Succession Management

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Abstract

Although often described as an event, if succession is managed properly it is the culmination of a development process that takes place over a number of years, led by the CEO working with the board of directors. In the ideal

situation several candidates will have been developed, each of whom would be more or less capable of taking on the job, depending on the circumstances and prospects of a company. In fact, companies often turn to outsiders because they have failed to recruit, train and develop the sort of talent that might take over ► **leadership** of the organization. To avoid this failure the board must make sure that the company is managed in such a way that talent is developed along with the business.

Definition In all organizations, formal and informal, the time comes when the role of leader passes from the incumbent to another individual. That critical process is called *succession*. In many formal organizations, especially political and economic, there are rules by which the process of succession is managed – either by the incumbent leader or by the members of the organization. That process is called succession management.

It is widely acknowledged that one of the most critical events in the life of a company is the transition from one chief executive officer (CEO) to the next. Indeed, a characteristic of the few companies that perform above their industry averages over long periods of time is that they manage CEO succession well. By way of contrast, 60% of the respondents to a sample of 1,200 managers of their company's personnel function (literally HR managers) indicated that their company had no plan for succession. Thus, succession is one of the more paradoxical phenomena in the realm of business management.

In principle, the human relations function of companies is responsible for recruiting talent, training those selected, supervising their development over a series of assignments, and, over time, helping the line management of their company to select individuals to fill progressively more demanding roles on the basis of objectively determined merit.

Succession is thus importantly related to the way a company is organized, the way managers are picked for assignments, the way their performance is evaluated and rewarded, and the assistance (if any) that they are given in their

development. Indeed, research has shown that the succession process is intimately related to other key aspects of the way the company is managed. In the best companies, each decision to fill a job with a particular executive is taken with the development needs of the executive in mind as well as the needs of the business. CEO succession is an even more demanding process. It should involve the board of directors and the incumbent CEO in a multi-year process, during which a pool of potential candidates is identified, further developed and pruned to a small group, from which one is eventually selected.

In practice, there are few companies that live up to this standard. In considering actual practice, it is useful to separate succession in the body of the company from succession of the CEO.

Focusing on best practice, it is usual for companies to organize around an annual cycle. The beginning of the year is devoted to meetings at which goals for the year are announced. These may be qualitative as well as financial. Associated with these goals will be detailed budgets and plans, which have been reviewed and approved at higher levels of the company, and in aggregate at the highest level, including the board of directors. Associated with these operating budgets and plans will be capital budgets reflecting strategic plans. Responsibility for achieving these objectives will be assigned to individuals and teams.

These business plans then form the basis for the plans of individuals, which are reviewed with their superiors. Over the course of the year, as results come in and as conditions change, there are periodic review meetings, at which both the businesses and their managers are reviewed.

Somewhat later in the cycle, focus shifts from the plans for the businesses to the plans and performance of the executives. The top management reviews how its tiers of managers are developing, and what needs to be done to rectify problems or accelerate success. These meetings are usually associated with compensation reviews, which include both salary, short-term incentives and long-term incentives.

Practices vary widely by company and by national culture. In some places, Japan for example, it is common for executives to be paid on the basis of seniority rather than performance. In other places performance is acknowledged but differences in compensation remain modest. Practices in the US involve the most extreme differences in compensation at a given level of management and across levels. Since compensation is usually tied to the level of executive responsibility, decisions about compensation are normally tied closely to decisions as to job responsibility.

There is a tendency in large organizations for these decisions to be quite mechanistic. In a sense it is easier to grade jobs according to the numbers of subordinates, value of assets controlled and other quantifiable aspects. Consulting organizations such as Hay Associates have made a business of providing such compensation systems to companies; but all large companies have some system of this sort.

In better managed companies these are critical discussions in which the talent of executives and their bosses right up to the top are reviewed. The previous year is assessed and decisions about reorganization and changes in assignment are made.

By the middle of the year, interim reviews of operations are undertaken and mid-course corrections are made if necessary. It is also typical for a company to begin reviewing the strategy of its business units and of the company as a whole. This work sets the framework for the rest of the year's management cycle. By the third quarter, intensive work is under way to develop budgets for the next year and make interim adjustments in plans and staffing. The last quarter typically involves the approving of budgets and plans for the next year. The strategic reviews will also provide the basis for any changes in strategic goals to be announced at the beginning of the next cycle.

In the best companies this regular cycle of management planning, budgeting and reviews is both the basis for evaluating the performance of executives, and, consequently, their promotion, and the process by which they learn. The planning and budgeting meetings, especially the work

preparing for those meetings, are the places for on-the-job training of rising executives. They are a place for important mentoring and coaching. Again, in the best companies the process results in 'depth charts', which indicate who will succeed to a position if the incumbent is removed or given a new assignment.

Unfortunately, in many companies there is no such cycle, and in many others the exercise is bureaucratic. All evaluations are positive and there is no real learning possible, or there is negative feedback but not in a form that provides guidance regarding improvement. Even worse is a politicized system in which evaluations are used to reward subordinates who are loyal to their superior and to punish those who threaten the status quo with their competence or creativity.

CEO succession is a natural result of the best practice. Three to 5 years before the incumbent CEO is to retire, the CEO and the top HR staff, perhaps together with one or two senior executives who will retire with the CEO, begin to discuss the pool of possible candidates and how they should be developed. Simultaneously, discussions begin with the board of directors, usually the lead director and the chair of the nominating and governance committee. Over the succeeding years, the board needs to meet the candidates and take part in regular discussions as to their strengths and weaknesses. Eventually, a candidate is chosen and a process of announcing the succession is managed, so that shareholders and the financial markets are assured of continuity in strong management.

More usually, there is just one candidate; but sometimes there is no obvious candidate, since there has been no process. And where there is no obvious candidate it is usual for the board to turn to an executive search firm to find appropriate outside candidates for its consideration.

The problem with outside candidates is that their performance is inferior to insiders. Although the variance is wide, research shows that performance (measured against industry competitors over 3 years) of insiders is better than that of outsiders, whether or not the prior 3 years' performance has exceeded the industry. The problem is

that outsiders often do not know the company well enough to craft and implement strategies for growth. They lack adequate knowledge of the technology, customers and competitors, and even when they have this, they do not know the strengths and weaknesses of the company – especially its people and their culture – well enough. They have generic skills that permit them to cut costs and thus improve short-term earnings, but after 2 or 3 years they are replaced or they sell the company.

Despite this evidence cited in Bower (2007), companies turn to outsiders about one third of the time. In the same study, the standardized return of an insider was 1.5% better than an outsider when prior performance had been better than the S&P 500, and 5.8% better when prior performance had been inferior. Nonetheless, companies went outside for a CEO 25% of the time when prior performance was superior and 37% of the time when performance was poor.

Boards act in this fashion despite the evidence, because unless they have been presiding over a robust company executive development process there are no candidates. Unfortunately, it is natural for CEOs to defer consideration of succession since rising insiders can be perceived as threats to their authority, and boards find it very uncomfortable to confront the CEO. It is also true that an explicit planning process with named candidates competing for the job can quickly become highly politicized in a way that interferes with the performance of the company. For these and other reasons, this absolutely critical process in the long-term success of a company remains one of the most problematic.

See Also

- ▶ [Leadership](#)
- ▶ [Top Management Teams](#)

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Sun Tzu

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Abstract

The ideas of Sun Tzu have been embedded in Chinese approaches to strategy for centuries, but recently (Western) approaches to strategic management have started to incorporate certain ideas from Chinese philosophy in general, and Sun Tzu in particular. Attention to Sun Tzu among Western management scholars seems long overdue, not only because of the rise of Asia and the globalization of the business competition, but also because many of the ideas seem consistent with the real behaviour of business organizations. Although this challenges Western frameworks and assumptions underlying much of strategic management today, Sun Tzu's ideas are consistent with at least some major insights from behavioural organization theory.

According to Sun Tzu, strategy is the great work of the organization. In situations of life or death, it is the Tao of survival or extinction. Its study cannot be neglected.

The relevance and insights from Sun Tzu with regard to business strategy and organization have gained great attention in the business community, including in sub-areas such as marketing strategy (Ho and Choi 1997; MacDonald and Neupert 2005) and business ethics (Lam 2003; Heath 2007). They also point to some of the general cultural differences embedded in business organizations that one needs to be aware of when doing business with, in or about China (Ambler et al. 2000). Sometimes, as in the case of ethics, references are used to point out differences in Western and Chinese ways of doing business, and sometimes to insights from Sun Tzu that

might be relevant for Western business organizations in their strategy. Some scholars also use ideas from Sun Tzu to illustrate certain general features and similarities between strategic competition and battles in the military and business context (Wee 1989, 1990, 1994a, b; Wee et al. 1991). The changes in the global competition in general, and the rise of China in particular, offer new opportunities to revisit the ideas of Chinese wisdom and their application to business strategy.

In this brief article we sketch out some of the arguments in this literature. Further, we add some remarks about why Sun Tzu might be particularly relevant to current and future theories in strategic management dealing with adaptation, strategic change and the dynamics of firm competencies and capabilities. Especially compared with older theories of ► [strategic planning](#), there is much Western strategic decision makers can learn from Sun Tzu and his ideas about strategy as something evolving, with his more holistic, rather than functional, approach to strategy and organization; rather than the execution of a strategic plan, Sun Tzu would emphasize organizational adaptation to change. We also indicate that a 'Sun Tzu' approach, rather than Western theories, might help explain the rise and success of Chinese organizations, such as Huawei.

Biographical Profile

Sun Tzu was a Chinese military general from the Warring States period in Chinese history (see McNeilly 2001; Sawyer 2007). Traditional accounts place him as a general serving in the Kingdom of Wu in the sixth and fifth centuries bce. He was also known as Sun Wu, Sun Bin or Sun Zi; Sun Tzu is the most widely accepted name in the West. He is known as the author of the treatise on strategy called *The Art of War*. His descendant, Sun Bin, wrote another treatise on ► [military strategy](#) that scholars have confused with Sun Tzu's.

Sun Tzu was a successful general for Wu during a very chaotic period in Chinese history, characterized by continuous warfare between small

kingdoms, and resulting in the unification of China under the Qin dynasty. There was, therefore, a dramatic shift in the strategic competition and a 'vertical integration' of players. Sun Tzu's *The Art of War* is the oldest and most widely studied text on military strategy ever written, presenting a set of rules for how to conduct warfare and how to win battles (Sun Tzu 1993). It is a book with historical, military, cultural and strategic significance and, since his principles are articulated 'applied philosophy', of relevance to all organizations in society.

An example of the articulation of a philosophical vision (in terms of general principle), Sun Tzu advised caution, deception and clear thinking when planning for warfare. For example, Sun Tzu states (1993: Chap. 3, Sect. 8):

It is the rule in war, if our forces are ten to the enemy's one, to surround him; if five to one, to attack him; if twice as numerous, to divide our army in two.

The Art of War has many such maxims, which serve as a handbook for a general with regard to how to act in the conduct of a campaign. Sun Tzu provides broad, overarching rules, and then more operational commands to help enable those visions. For example, with respect to deception, Sun Tzu states (1993: Chap. 1, Sect. 18): 'All warfare is based on deception.'

In the following sections, he lays out several rules for how to succeed in warfare based on this maxim:

Hence, when able to attack, we must seem unable; when using our forces, we must seem inactive; when we are near, we must make the enemy believe we are far away; when we are far away, we must make him believe we are near.

Sun Tzu's rules have been a source of wisdom to military commanders for thousands of years, but also hold valuable lessons for business organizations and strategic management on at least two levels. First, with the rise of China and Chinese organizations, Western scholars and practitioners are likely to encounter increasing cases of empirical anomalies where their Western frameworks and theories are unable to address the behaviours, decisions and strategies that they see

in Chinese firms. A (re)reading of Sun Tzu may help illuminate at least some of these practices. Second, by better understanding Sun Tzu (as well as other Chinese texts) we will also come to understand the limitations of Western frameworks and theories (Sun Tzu 1993; Jullien 2004) which, ultimately, may lead to more empirically realistic analytic frameworks and concepts in strategic management. For organizations do not behave according to our theories of them, which includes our theories of strategic management; understanding them better is a necessary part of the strategic management of organizations.

Some Insights from the Current Literature Applying Sun Tzu to Business

Within the business management and strategy literature, applications of *The Art of War* to business began in the 1980s and 1990s (possibly in response to the rise of Japan as a major economic power). More recently, an increase in research due to the rise of China in the global economy can be seen in the literature on strategy and management and organizations. Not surprisingly, most contributors are scholars from Asia, but it is to be hoped that Western scholars will soon start to explore further the relevance of Sun Tzu to strategy. One barrier, however, might be that Western scholars are 'stuck' in their theoretical Western frameworks because of the language barriers as well as the deep differences in logics (Sun Tzu 1993; Jullien 2004). We shall return to this at the end of the article.

Wu et al. (2004) discuss how *The Art of War* has been adopted as a tool in strategic management and consider how Sun Tzu's ideas are valuable in business, how a firm can adopt these ideas, and how they might influence firm success. In particular, they find that the application of the 'art' perspective might be useful in creating better strategies for the firm. They suggest five categories of the principles of war: situational appraisal; formulation of goals and strategies; evaluation of strategies; implementation of strategies; and strategic controls. The more strongly a firm adopts these principles, they find, the more successful the

firm will be, due to the emphasis on flexibility, adaptiveness and deception in the business environment.

One of Sun Tzu's most important points is an explanation of the relationship between strategy and structure. Contrary to the traditional belief that strategy follows from the structure already put in place (an insight embedded in Western theories of strategic management since at least Chandler), the ideas of Sun Tzu argue that it is the other way around: 'strategy must be the genesis of any organizational design and structure' (Wee 1994b: 86). This allows for flexibility, and for strategy and structure to co-evolve in an evolutionary way. This approach additionally allows for change, proactivity, creativity, learning and risk-taking, and for flexible adaptation to capabilities (March 2005).

Another example of an insight from Sun Tzu is that of the need for readiness and willingness to change. The need in a military context is obvious, and in a business context this refers to companies that become victims of their own success. They are no longer hungry for growth and are content 'with only maintaining their status quo' (Wee 1994b: 89). Again, one can see here a parallel to James March's ideas on exploration and exploitation in organizations and the dangers of 'competency traps' (March 1991).

Another area where Sun Tzu imparts wisdom is in the idea of achieving relative superiority at the point of contact. An organization, such as a large army, will not be successful if, at the point of contact, it cannot bring all its men to bear. In the same way, companies cannot win in competition without adopting elements of this strategy by looking for niches, and understanding and exploiting opponents' weaknesses. By contrast, most Western theories of strategy are focused mostly on a company's own competencies and resources.

Finally, Wee notes that Sun Tzu's underlying principle is a focus on the heart, not on the mind. In war, a general cannot rely on material benefits to motivate troops: he must appeal to their sense of national pride and loyalty. There are different approaches to managing from the heart versus managing from the mind: 'managing the heart is

more an art rather than a science' (Wee 1994b: 103). Because Asian organizations embody Asian cultural values such as relationships, group values and teams more than Western firms, this may constitute a major source of competitive advantage for Chinese organizations. One might here see the recent success of Huawei as, at least in part, resulting from its leaders' ability to create a very high degree of what Simon called 'organizational identification' (1991) and a shared sense of direction within the organization. This creates a much stronger culture than if organizational members are motivated solely by profit or economic incentives.

Marketing strategy is another area where Sun Tzu's ideas have taken ground. Tan and Low (1995) identify five 'push and pull factors' that influence marketing: economic lifecycle, competition, excess capacity utilization, government and potential economic prowess of foreign countries. The authors argue that these are amenable to marketing concepts from the West and *The Art of War* from the East. They suggest that:

the philosophy developed by Sun Tzu in *The Art of War* outlines specific strategies to overcome conflicts while viewing the world as a complete and interdependent system which must be preserved. In essence, Sun Tzu prescribed a social strategy for overcoming conflicts that works very much like the way the modern business world's synergetic system works. (Tan and Low 1995: 1)

Again, there is a greater emphasis on the relationship component, not only within organizations but between the organization and the larger system in which it is embedded (Ambler et al. 2000).

Further Exploring Sun Tzu's Lessons for Organizations and Strategy

Although a number of insights from Sun Tzu have been applied to business, there are still many lessons to be learned by strategists from *The Art of War*, as well as from better understanding Chinese conceptions of strategy in general. Perhaps most importantly, Sun Tzu can help the West understand Chinese business organizations and their strategy-making process better, which in

turn will also help Western firms improve their own strategic management through increasing understanding of their competitors.

Interestingly, many of the themes in Sun Tzu (and Chinese wisdom in general), such as organizational adaptation, the perception of strategy as evolving, the importance of ambiguity in decision-making and the importance of organizational factors such as culture, are consistent with today's behavioural organization theory, in particular James March's work (1991, 2005, 2010). This indicates that further exploring both the behavioural perspective and insight from Sun Tzu might give us insights into theories of strategy and also a better understanding of how Chinese organizations behave.

Another interesting line for future scholars to develop is the emphasis on understanding oneself as well as the opponent, and the need to study and understand competitors – not in terms of our frameworks, theories and assumptions, but understanding their *real nature*. Organizations can benefit from examining the marketplace in which they operate, as this gives an understanding of the positions of all actors and the relative strengths and weaknesses of each, as well as of their competitors. Sometimes organizations may attack a competitors' weakness, but, other times, they may evolve as the strongest because the competitors fail to adapt and/or fight each other.

At the level of leadership, Sun Tzu emphasizes authority and morality. He emphasized moral leaders and their ability to inspire troops not for material rewards, but due to a sense of identification and duty. A leader with a sense of morality is able to do this. Instead of offering cash bonuses, an executive following Sun Tzu's precepts would appeal to an employee's sense of loyalty and dedication to the mission of the firm, which follows from the firm's own examination of goals and objectives. In this way, Sun Tzu's strategies differ from Western approaches, which emphasize the rational actor and calculations based almost entirely on monetary reward, or opportunism as a driver. Western theories based on opportunism and individual pursuit of self-interest emphasize the management from the mind instead of (like Sun Tzu) the management from the heart.

Another way in which Sun Tzu differs is in the use of deception. Firms that follow Sun Tzu would use deception, such as industrial espionage, as a strategic tool to acquire more information about competitor plans and new developments. Moreover, firms should headhunt regularly. That is to say, they should actively try to lure talent away from competitor firms, giving them the best human capital and denying that resource to competitors. While Western firms may occasionally engage in these practices, it is certainly discouraged in business training and ethics, thus emphasizing that Sun Tzu's is a very different approach.

Closing Thoughts

The relevance of Sun Tzu (and the possibility that understanding his perspective might help us better understand Chinese organizations and strategy) also indicates a need for strategists and organization scholars and practitioners to better understand Chinese history, culture and philosophy. It is difficult to appreciate frameworks that are different from our own, and even more difficult for academically minded scholars who are often biased towards a particular perspective within strategy and strategic management (usually their own). But this is not very fruitful if strategy is to remain an interdisciplinary and empirically relevant approach – one that tries to understand real phenomena and practices of business firms and their interaction. This approach will also help us to understand some of the strategic advantages that some Chinese business organizations (e.g., Huawei) enjoy today, the tools they employ and the culture they create. Moreover, organizations and business strategists setting up businesses in China might be better able to understand practices such as *guanxi* if they have a clearer appreciation of the cultural and historical context of China (Ambler et al. 2000).

The work of François Jullien offers a useful perspective on cultural differences and how they might influence strategy (as well as how challenging it is for us to step outside our mental frameworks). Jullien argues that the foundations of strategy, being built on the Western dichotomy

of theory and reality, make strategic action an invalid coupling of theory and practice that is imposed from the outside – but this coupling is so ingrained in our strategic thinking that we no longer question it. This fundamental challenge is both philosophical and practical; we cannot escape the model mode of thinking; we make ‘failures’ or ‘frictions’ or ‘deviations’ from models central, which sets strategic action and strategy up for being really about failures (Jullien 2004: 4–5).

By contrast, Jullien finds, the Chinese never established a framework of ideal forms and models but see reality as a continuous process that results from the interaction of factors in play that are both opposed and complementary. Order, therefore, does not come from a model that is imposed, but is contained within reality itself (therefore transcending theory–practice relationships) (Jullien 2004: 330).

Future situations cannot be predicted in advance but can only be detected as situations continuously change and unfold. A Chinese strategist would *not* try to predict certain outcomes and plans, but would look at the configuration or the situation and its potential and try to make the best of the situations as they unfold over time. *Adaptation*, continuous adaptation, not prediction, is thus central. Conquering is about being ‘in harmony’ with external forces, corresponding with the Confucian idea that one gains powers by adhering completely to the ‘right rules of conduct’ (Pye and Leites 1970).

Organizational strategy and strategic management are then more about a correct diagnosis (and continuously updating and adapting one’s capabilities) and understanding of potential than about prescriptions. Competition (in business as well as war) is therefore a continuous process of unfolding situations and potential, and not an outcome or an action on its own.

See Also

- ▶ [Behavioural Strategy](#)
- ▶ [China: Strategy in a Growth-Driven Economy](#)
- ▶ [Clausewitz, Carl von \(1780–1831\)](#)

- ▶ [Military Strategy](#)
- ▶ [Strategic Planning](#)

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Sunk Costs

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Abstract

Sunk costs – a subcategory of fixed costs – have a variety of important strategic implications. Investment in assets whose cost are largely or entirely sunk provides a means for strategic commitment. By facilitating pre-emptive actions, such investments can raise industry concentration. Transaction cost theory is based on the idea that parties within a transaction make partner-specific investments; this type of sunk cost affects make-versus-buy decisions. Moreover, sunk costs can be misperceived by managers, leading to an escalation of commitment to early but inferior choices.

Definition Sunk costs are cost that have already been incurred and cannot be recouped via sale or alternative use of the asset.

Sunk costs are ► **cost** that have already been incurred and cannot be recouped (e.g., by selling the underlying asset). For example, if an item, initially purchased for \$100, can subsequently be sold for a maximum of \$40, the sunk cost is \$60 and the recoverable cost is \$40. All transactions and investments have a sunk cost component unless they are fully reversible.

Sunk costs are a subcategory of 'fixed costs'. If the item described above is a machine used in production, the fixed cost of the machine is \$100, of which \$60 is sunk cost.

Many business costs are largely sunk. Advertising and R&D are important categories of sunk

costs, and expenditures on physical facilities often have a sunk cost component. Rent is not sunk (unless a stream of future rental payment is contractually required). Similarly, the cost to purchase a building or equipment is not sunk if the assets can be sold without loss. However, if assets take a specialized form that reduces the value that can be obtained in outside sale, the reduction in value from the original purchase price represents a sunk cost.

Transaction costs are another type of sunk costs. Transaction costs arise when firms make relation- or partner-specific investments in order to pursue economic transactions. These investments are lost if the partner or transaction are abandoned.

As these examples suggest, sunk costs are prevalent in the economy. Moreover, sunk costs have broad implications for competition and strategy. Recent studies have shown that a variety of competitive phenomena are shaped by sunk costs. These include strategic commitment, market concentration, entry and exit, and vertical relations, as described below.

Strategic Implications of Sunk Costs

Ghemawat (1991) argues that strategic commitments usually require investments in 'sticky factors': assets or resources that are durable, specialized and untradable. In essence, they are factors with high sunk costs. Once made, such investments are not easily reversible. Ghemawat shows that 'sticky' factors have supported successful commitment strategies in a range of industries.

Firms can often make investments to shift their cost structure, potentially reducing marginal costs. When these investments involve sunk costs and are pursued ahead of competitors, they can serve as a means for strategic commitment and market pre-emption. A stream of research in industrial organization economics shows how entrants in new markets, and incumbents in existing markets, may be able to defend their positions by investing in assets with high sunk costs (e.g., Cabral and Ross 2008). Moreover, if

the costs of entry are largely sunk, this adds to entry risk (since the entry costs cannot be recouped if the venture fails), which can also have deterrent effects.

Similar logic supports an economic theory that predicts that industries with high sunk costs will tend to have high producer concentration. The number of competitors that can be sustained in an industry or market is largely determined by the total size of the market relative to the costs of entry. Higher sunk costs lead to fewer viable firms. In this context, Sutton (1991) distinguishes between two primary categories of sunk costs: exogenous sunk costs, which are largely defined by the production technology (e.g., the costs of specialized machinery), and 'endogenous' sunk costs, which are prone to competitive escalation. Advertising and R&D represent the major categories of endogenous sunk costs.

The theoretical argument that higher sunk costs lead to higher market concentration is supported by strong empirical evidence. To give a specific case example, it is sometimes alleged that the US soft drink industry is highly concentrated because its two main competitors, Coke and Pepsi, invest heavily in advertising and promotion activities, which are sunk costs. These sunk cost investments increase the amount of capital required by any rival that attempts to compete on a large scale with Coke and Pepsi. Arguably, these investments create entry barriers.

As the above discussion suggests, sunk costs have important implications for market entry and exit. Even in the absence of any strategic deterrent effects, sunk costs will shift the threshold level of price or profit needed to justify entry or exit in an industry that is subject to uncertainty (Dixit 1989). A market with zero sunk costs is perfectly contestable; even the expectation of a very small profit will elicit entry, and very small losses will induce exit. Given the near-ubiquity of sunk costs, however, such fully contestable markets exist only in the realm of theory. In general, as sunk costs increase, higher prices or profits are required to justify new entry; and once in the market, firms will persist with greater losses before exiting. Evidence that sunk costs shift the entry and exit thresholds in this way has been demonstrated in a

variety of empirical studies (e.g., Bresnahan and Reiss 1991).

Transaction costs arise when firms make relation-specific investments; these can be substantial in cases with complex transactions between a buyer and a seller. In such situations, the potential for ► [hold-up](#) by one party can leave the other party with little recourse, given that it has made sunk investments that are specific to the two parties and thus carry negligible value for other potential partners. Anticipating such problems, a firm may choose to integrate vertically rather than attempt to establish a relationship with an opportunistic buyer or seller.

The Sunk Cost Fallacy

Economic logic implies that sunk costs, once incurred, are by-gones – they should be ignored in making subsequent decisions, which should be based solely on forward-looking costs. Nevertheless, sunk costs are often misperceived in ways that conflict with this rational economic view. Managers and individuals often treat sunk costs as if they are continuing costs that need to be recouped in the future. One explanation for this behaviour is the cognitive bias known as loss aversion, identified by behavioural economists and psychologists (Kahneman 2011). Decision-makers who are subject to loss aversion prefer a losing course of action that offers a small probability of recovering the sunk cost, over superior choices that require acceptance that the sunk cost has been lost. Thus, decision-makers who fail to recognize the by-gone nature of sunk costs may suffer escalation of commitment to an inferior choice.

See Also

- [Behavioural Strategy](#)
- [Contestability](#)
- [Cost](#)
- [Heuristics and Biases and Strategic Decision-Making](#)

- ▶ [Hold-up](#)
- ▶ [Market Structure](#)
- ▶ [Pre-emption and Entry Timing](#)
- ▶ [Transaction Cost Economics](#)

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Sustainable Competitive Advantage

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Definition Sustainable competitive advantage is a competitive advantage that can be maintained for a long period of time.

A firm strategy that uses valuable, rare, inimitable and non-substitutable resources to create distinctive competencies will generate ▶ [competitive advantage](#), which, when protected by entry or mobility barriers, can be maintained for a long period of time.

When a firm maintains a competitive advantage over a long period of time, the advantage is characterized as sustainable. Early industry giants, such as Ford, IBM and Sears, had sustainable competitive advantages that were maintained for decades, and many new industry giants, such as Google, eBay and Facebook, have competitive advantages that may be sustainable though are not yet proven.

The ability to create a sustainable competitive advantage (SCA) depends on resources, competencies, barriers to entry/mobility and strategic management.

In the theoretical ‘perfectly competitive’ market SCA could not occur, because firms would control similar/homogeneous resources, produce a non-differentiated product/service and be price-takers, which would result in the same rate of profit for all firms. Any competitive advantage that accrued to early entrants would be temporary and would be dissipated as more firms entered the market and drove prices down. Therefore, SCA relies on the ability of a firm to differentiate itself from its competitors – in a value-creating way, and to raise barriers to entry/mobility. The goal of strategic managers, then, is to develop a strategy that will (1) achieve a sustainable competitive advantage through obtaining and developing heterogeneous resources, or by combining and managing resources more efficiently than competitors do, and (2) that will also protect the firm’s competitive position from entrants.

Applying the ▶ [resource-based view](#) of the firm, the heterogeneous resources necessary to achieve SCA are those that are (1) valuable, (2) rare, (3) inimitable and (4) non-substitutable (Barney 1991). Resources are ‘valuable’ if they are required for the creation of a product/service demanded by customers; ‘rare’ if they are in limited supply or not freely traded in markets; ‘inimitable’ if a competitor cannot imitate them at a reasonable price; and ‘non-substitutable’ if competitors cannot achieve the same advantage by substituting a different resource. For example, enriched uranium can be used to create SCA for power plants. Enriched uranium is valuable, because it is necessary to the production of affordable electricity by nuclear fission; it is rare because the supply is controlled by government agencies; it is inimitable because no other fuel can be used in the reactors; and it is non-substitutable because nuclear fission is the most efficient way to produce electricity using current technologies. However, the control of heterogeneous resources alone cannot create SCA. The resources must be employed strategically to create distinctive

competencies, which must be protected by barriers to entry/mobility.

All successful strategies rely on the development of core competencies, those processes that the firm does well and that transform resources into value. To create a SCA, a firm must have a *distinctive competency*, that is, a core competency superior to that of its competitors. Through a distinctive competency a firm operates more efficiently or creates more valuable products than its competitors, even if they control similar resources. Wal-Mart, through superior logistics management, and Unilever, through superior marketing, have SCAs that come from the strategic management of resources to create distinctive competencies.

Large firms often employ a low-cost strategy, by developing a distinctive competency in organizing production to create scale economies and to take advantage of learning effects. These lead to dramatic reductions in the average cost of production as the level of production increases, creating a competitive advantage for the firm. The high costs of building large-scale production facilities create a barrier to entry, which makes the competitive advantage sustainable. Serving the large US market allowed Ford, GM and Chrysler to achieve scale economies, and their massive capacity created barriers to entry that protected their joint competitive advantage until the last quarter of the twentieth century, when Japanese government subsidies allowed Japanese car manufacturers to overcome the barriers to entry that had protected the US car manufacturers for so long.

To support a differentiation strategy, firms may develop distinctive competencies in design, marketing, public relations and research to create an exceptional reputation, brand name or corporate image that creates competitive advantage. The high cost of overcoming an established corporate image creates a barrier to mobility; that is, it makes it difficult for other firms to compete in the same prestigious market segment, making the competitive advantage sustainable. Even after successfully entering the small car segment of the US market, the Japanese auto firms faced substantial barriers to mobility for entry into the

luxury car segment. Toyota overcame this mobility barrier by creating the Lexus brand, distancing it from the respected but less prestigious Toyota brand image.

Growing widespread attention to the concept of environmental sustainability and the responsibilities of business to future stakeholders has made the use of ‘sustainable competitive advantage’ a somewhat confusing term. The term ‘durable competitive advantage’, which has also been used, may become preferred.

See Also

- ▶ [Competitive Advantage](#)
- ▶ [Core Competence](#)
- ▶ [Economies of Scale](#)
- ▶ [Resource-Based View](#)

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Switching Costs

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Abstract

Switching costs are the anticipated procedural, financial and relational costs to an economic agent if the agent were to change from one product or service to another. Switching costs can be inherent in a product or created as the result of strategic actions, such as the creation of a loyalty programme. If the expected costs of a switch are greater than the expected benefits, the switch may not occur. In practice, switching costs do not necessarily save a weak company from losing customers.

Definition Switching costs are the procedural, financial and relational costs that an economic agent expects to incur in the event of a change from the use of one product or service to another. The anticipated costs can prevent switching if they exceed the expected benefits from doing so.

Switching costs are the financial, procedural, and psychological costs that an economic agent expects to incur in the event of a decision to change from the use of one product or service to another. Non-financial costs include time, effort, uncertainty and psychological distress. If the anticipated costs are larger than the expected benefits from switching, they can prevent the change from taking place.

In the presence of switching costs, goods that are otherwise perfect substitutes become, in effect, differentiated (Klemperer 1987). In other words, switching costs reduce the degree of competition in a market, which should give all suppliers in that market some pricing leverage over their customers.

There are three types of switching costs (Burnham et al. 2003). One is the time and effort that will, or may, be required to switch between suppliers. Examples include the need to search for suitable alternate suppliers, the need to learn how to work with a new supplier (e.g., changing from Mac to Windows), and the need to make adjustments after a switch (e.g., sending change of address messages after switching email services).

A second type of cost is economic. Examples include a loss of benefit (e.g., previously purchased e-books from Company A do not work with e-readers from rival firms), monetary losses (e.g., an early cancellation fee), and ► [network effects](#) (e.g., no longer being able to share messages with others using a particular app).

The third type is relational. These can include uncertainty about the quality of alternate suppliers, the cessation of relations with familiar employees of the existing supplier, and the relational/psychological costs of abandoning a once-favoured brand.

Switching costs are a form of transaction costs because rents can be extracted from parties that

have been locked in by the cost of switching. For example, an auto assembler that uses a supplier and has no second source is potentially vulnerable to price increases. The switching cost can result from the systemic nature of the input with respect to other parts of the assembly or from ‘transaction-specific know-how and skills’ (Monteverde and Teece 1982: 206). To avoid *ex post* opportunistic behaviour, the assembler may choose to vertically integrate instead of using external procurement.

Although switching costs are often inherent in a product or relationship, they can also be created strategically. Typical of this type are loyalty points, such as airline frequent-flyer miles. The desire to add to an existing point total could well be the deciding factor between two otherwise similar offerings, such as two petrol stations near each other, or two flights at roughly the same time between the same airports. Contract terms, such as the one- and two-year duration of contracts common among US mobile phone providers, are another form of induced switching costs. ► [advertising](#), both at a point in time and cumulatively, has also been shown to increase customer reluctance to change products (Polo and Sesé 2009).

When switching costs are high relative to prices, building market share early in the market’s existence is particularly important. Once most potential buyers are locked in to a system from which it would be costly to switch, customer acquisition will become problematic (Klemperer 1987; Gomez and Maicas 2011).

Buyer switching costs, whether inherent or imposed, are one form of ► [isolating mechanisms](#) that can prevent the dissipation of ► [entrepreneurial rents](#) by raising rivals’ costs (Rumelt 1987). To offset or neutralize switching costs, rivals must offer discounts or other incentives to buyers who switch from a competitor. Increased advertising can also help to offset switching costs by raising the expected switching benefit. The sum of customer switching costs and a rival’s cost of acquiring that customer is the true total switching cost for strategy purposes (Shapiro and Varian 1999: 112).

Lock-in to proprietary systems has been ‘the norm’ for many types of information technology (Shapiro and Varian 1999: 116). However, the open-source movement, in which intellectual property such as software source code is freely shared, has increasingly offered viable alternatives with moderate-to-low switching costs to consumers and firms for a number of information products (West 2003). Examples include the Linux operating system and the Firefox web browser.

The actual effect of switching costs on customer retention is a subject of ongoing study. One type of research looks at the relationship between switching costs and customer loyalty. A study of online banking customers found that switching costs tended to increase customer retention only when customer satisfaction and perceived value were already above average (Yang and Peterson 2004). When these did not apply, switching benefits were likely to outweigh costs.

See Also

- ▶ [Advertising](#)
- ▶ [Customer Loyalty Programmes](#)
- ▶ [Entrepreneurial Rents](#)
- ▶ [Isolating Mechanisms](#)
- ▶ [Lock-In Effects](#)
- ▶ [Network Effects](#)
- ▶ [Transaction Cost Economics](#)

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SWOT Analysis

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Abstract

SWOT analysis is a simple and widely used framework for comparing the strengths and weaknesses of a project, business, firm, or industry with the opportunities and threats in the relevant external environment. Due to the lack of guidelines about what elements to include in the analysis and their relative importance, users can miss significant factors entirely or fail to recognize causal linkages. To be useful for strategy formation, SWOT needs to be combined with other methods or approaches that provide guidance for the gathering of information and its strategic interpretation.

Definition SWOT analysis is a simple means for organizing information about the favorable and unfavorable factors in an entity’s current strategic position.

Classification

Formal models; foundations; methods/methodology

SWOT analysis is a common strategic assessment tool for organizing the information needed to evaluate positive and negative elements of an entity's strategic position, focusing on its operating and policy environment, its rivals, its other challenges, and its opportunities. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats, which are the four categories for which information can be gathered. SWOT analysis is extremely flexible and can be used at any level of analysis (e.g., project, business, corporation, or industry) and in both for-profit and nonprofit settings.

The method arose out of projects at the consulting firm SRI International in the 1960s that sought to improve systems for corporate planning and change (Humphrey 2005). It is also associated with Kenneth Andrews, who helped establish it as a pedagogical technique at the Harvard Business School (Andrews 1971).

SWOT analysis, which can be summarized in a simple 2×2 matrix (Table 1), remains pervasive, forming the basis of countless case studies every year. In terms of strategy, the key idea is that internal strengths and weaknesses need fit, in a strategic sense, with the environmental threats and opportunities.

SWOT analysis is, however, a very incomplete approach to strategy. The method as taught in numerous business textbooks often comes with a checklist as to what elements should be covered, and these tend to be fairly generic. While this generality has allowed SWOT to survive as a flexible tool, it also means that it is easy to complete a SWOT analysis and overlook underlying factors that might be important but hard to identify due to causal complexity. SWOT comes with no guidance as to how the included elements should be prioritized or how any resulting insights about a mismatch between internal and

external factors should be channeled into the formulation of a strategy (Valentin 2001). Nor does it provide any indication of what strategies are likely to succeed or fail. Moreover, it ignores the dynamics of the business, the evaluation of which requires other assessment tools such as the growth share matrix.

SWOT analysis is perhaps acceptable as a way to systematically think about the business environment. However, by itself, a SWOT matrix risks being limited to a descriptive exercise that yields a sense of accomplishment but serves no larger purpose (Hill and Westbrook 1997). To compensate for this, SWOT can be integrated with any number of strategic approaches. Examples of this include a system that adds additional analytic steps in which the SWOT elements are considered side by side (Wehrich 1982) and one that integrates SWOT with a resource-based view of the firm (Valentin 2001).

See Also

- ▶ Andrews, Kenneth (1916–2005)
- ▶ Competitive Advantage
- ▶ Environmental Fitness
- ▶ Growth Share Matrix
- ▶ Resource-Based View
- ▶ Strategic Fit(ness)
- ▶ Strategic Planning
- ▶ Uncertain Imitability

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SWOT Analysis, Table 1 The SWOT matrix

	Favorable	Unfavorable
Internal	Strengths	Weaknesses
External	Opportunities	Threats

System Integrators

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Abstract

System integrators are economic agents at the apex of a supply chain who are responsible for combining components or modules into a complete product. Some degree of ► [outsourcing](#) is usually involved. The integrator must develop the initial concept or design, manage suppliers, and add value through logistics, specialized know-how, a valuable brand or other means. System integration is enabled by modularity, but outsourcing does not relieve the integrator of the need to understand the underlying technologies and to monitor the performance of suppliers.

Definition System integrators are economic agents at the apex of a supply chain who are responsible for combining components or modules into a complete product. Integration involves adding value, which may entail software, logistics, specialized know-how, protected intellectual property or a valuable brand. In general, the more complex and high-valued the final product, the more strategic is the system integration capability.

System integrators are economic agents with responsibility for combining sub-units into a complex whole. The sub-units can be produced either internally or externally and may themselves be complex systems requiring integration by a supplier at the component level. Integration typically involves co-creating or somehow adding value, which can take many forms, including software, logistics, specialized know-how, protected intellectual property or a valuable brand. The final system can be anything from a business process to a jumbo jet. In general, the

more complex and high-valued the final product, the more important the system integration capability.

Growing Importance

A number of factors are making system integration more important in the economy. ► [Outsourcing](#) of components and sub-systems has become increasingly prevalent because global firms have become more specialized; skills and knowledge are more globally dispersed; and barriers to trade, transport and communication have fallen. Meanwhile, systems themselves have become more complex and multi-disciplinary, which requires companies with deep expertise in complementary fields of knowledge to work together. In the new, globally fragmented industrial landscape, system integrators, whether they are third-party integration specialists or employees at a brand-name firm, fulfil vital roles such as decomposing the original design to enable outsourcing, managing the supply chain and ensuring that the combined elements work together as intended. These roles are similar to those required of the leading firm in a platform-based ► [business ecosystem](#).

System integration as a discipline has its roots in the engineering of weapons systems in the late 1940s and 1950s (Sapolsky 2003). The growing complexity of these systems required new tools and techniques for managing a range of technologies and participants, as well as keeping programmes on schedule and within budget. Another early developer of system integration tools was AT&T, which, starting in the 1950s, needed to develop and deploy increasingly advanced technologies across its nationwide network.

System integration today is a key capability in a variety of industries including aerospace, automotive, communications and computing. For managers, it entails ‘the apportioning of production and innovation tasks . . . the choice of business partners, and decisions over what to source internally and externally’ (Hobday et al. 2005: 1120).

Profiting from Integration

System integration is at least as much a managerial as a technical discipline. It encompasses many management challenges, including the ► [make-or-buy decisions: applications to strategy research, platform innovation](#) and joint research and development.

Apple provides a prominent example of a successful system integrator. Apple designs its iconic products and some of their key components in-house and also writes the operating system software. It lines up (and sometimes equips) suppliers in advance of production, often without revealing the details of the finished product. All manufacturing, including final assembly, is outsourced, but Apple bears the ultimate responsibility for making the system work efficiently. In effect, Apple's deep architectural knowledge and system integration capability is a 'bottleneck asset' (Pisano and Teece 2007) in the value chain and this allows it to capture value (Dedrick et al. 2010).

In other cases, a brand name firm like Hewlett-Packard may restrict itself to product conception and marketing but leave the detailed design and integration to a 'turn-key' supplier (Sturgeon 2002). This arrangement generally leaves relatively more value to the supplier, and is therefore often restricted to less advanced (and less profitable) models. While this type of system-level outsourcing is most common in the electronics industry, it can also be found elsewhere, including the apparel, semiconductor and automotive parts industries.

For component suppliers, the shift to becoming a turn-key systems integrator can greatly increase value capture by adding a service to an existing manufacturing role (Davies 2004). Customers may be receptive to this shift if it speeds their time to market and/or reduces their overall cost. Such capabilities must, of course, first be built up over time before they can pay their own way.

Managing Modularity

A key enabler of these networked production systems is product modularity (Baldwin and Clark

1997). In a modular system, the sub-units are isolated by well-defined technical interfaces and can be modified separately from each other without requiring accommodation by other parts of the system. An example would be an external hard drive added to a home computer; the drive can be upgraded to a larger capacity or to a solid state drive without any modification to the computer. This is also an example of ► [autonomous innovation](#) (Teece 1984). Put differently, modularity enables autonomous innovation to enhance system performance, at least to some degree, by allowing each element of the system to advance at its own speed (rather than waiting for the next upgrade release of the entire system).

With ► [systemic innovation](#), the polar opposite of modularity, alterations to one element necessitate changes to some or all of the other elements (Teece 1984). It is almost inevitable that autonomous innovation will sooner or later be constrained by the system's architecture, eventually requiring a period of systemic innovation to unleash new cycles of autonomous (module-level) innovation. To be ready for such times, the system integrator must maintain the flexibility and capacity to curtail modularity and make architectural changes in order, for example, to incorporate radically new technologies (Chesbrough 2003). In other words, system integrators need to retain deep knowledge about the underlying technologies in the modules in order to understand differences in the rates of development and to better manage residual interdependencies and complementarities (Brusoni et al. 2001).

Outsourcing without adequate system integration capabilities can destroy the value that modularity and outsourcing were meant to create. A recent prominent example of doing it wrong is Boeing's 787 'Dreamliner' plane, which ended up experiencing years of delays that cost Boeing billions of dollars. In place of its traditional system of sourcing and integrating all components, Boeing developed the Dreamliner using a radically different system of outsourcing the development and manufacture of major sub-systems. However, the company did this without expanding its capabilities for monitoring suppliers or building up its supply chain management

know-how, despite the fact that the new aircraft incorporated a number of new, unproven technologies (Tang et al. 2009).

Another way in which system integration can be mishandled is when the outsourcing of development and manufacture leads to a loss of competence. A European auto firm, for example, found it hard to remain effective as a system integrator after it adopted a high level (85 %) of outsourcing for the better part of a decade (Zirpoli and Becker 2011). The company recovered by conducting more development (50 %) in-house and instituting knowledge-sharing programmes with its suppliers. As a company executive noted, ‘It is naive to believe you can integrate a system without holding an in depth and detailed knowledge of the components that are going to affect the performance of the whole car’ (Zirpoli and Becker 2011: 29–30).

See Also

- ▶ [Architectural Competences](#)
- ▶ [Autonomous Innovation](#)
- ▶ [Business Ecosystem](#)
- ▶ [Firm Size and Boundaries, Strategy](#)
- ▶ [Make-or-Buy Decisions: Applications to Strategy Research](#)
- ▶ [Outsourcing](#)
- ▶ [Platform Innovation](#)
- ▶ [Profiting from Innovation](#)
- ▶ [Systemic Innovation](#)

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Systemic Innovation

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Abstract

Systemic innovation involves coordinated development among a group of elements composing a unified system. It is the opposite of a modular system, which is based on autonomous innovations. Systemic innovation is most likely when industries are not yet on the path of a ▶ [dominant design](#), when products are complex (e.g., an aeroplane), and when companies believe they can gain competitive advantage over rivals by creating an integral (non-modular) product design. Success with a systemic design requires, at a minimum, that design and production are centralized or tightly coordinated.

Definition Systemic innovation characterizes a system in which alterations to one element must be accommodated by changes to other elements.

A systemic innovation is one that requires coordinated development among a group of elements composing a unified system. The concept was named and defined by David Teece (1984), along with its opposite, an ► [autonomous innovation](#), which is one that can be commercialized without requiring accommodation or innovation by other, complementary products. Another opposite concept is modularity, in which all the elements of a system can evolve separately as long as they continue to conform to standard interfaces with the other elements (Langlois and Robertson 1992).

Systemic innovation is related to two concepts that Henderson and Clark (1990) call architectural and radical innovation. An ► [architectural innovation](#) changes the way that the functional elements of a system are combined without any change in the technology of the elements themselves (although that does not preclude changes in the shape of components, for example, to accommodate a new industrial design). A radical innovation changes not only the interactions of the components in a system but also the technology of some of the components.

The critical distinction is that a systemic innovation is a product designed in an integral fashion that requires future changes to be closely coordinated. Architectural and radical innovations are changes to an existing product that may or may not have been systemically designed to start with. The Henderson and Clark definitions each imply the need for some degree of centralized coordination in the next-generation product revision, making it a systemic innovation.

Systemic (or architectural) innovation is most common in industries where a new product concept is emerging – that is, before a ► [dominant design](#) (Abernathy and Utterback 1978) has become accepted. Once the dominant design has become established, the product may gradually move to modularity, which permits autonomous innovations. Some products can remain systemic at each iteration, either by their complex nature (e.g., aeroplanes) or by choice (e.g., a company

sees its integral design as an advantage over rival modularized goods).

Aeroplanes are an iconic example of systemic innovation. New models are generated only once a decade, which means that each new generation must simultaneously bring together a number of new technologies for materials, computing and aerodynamics in a complex structure on which lives depend. In executing recent designs, both Boeing and Airbus moved to save money and reduce risk by increasing the amount of outsourced modules, and both made expensive mistakes by not closely coordinating and monitoring the activity (Michaels 2012). Both companies had to develop complex global networks capable of propagating engineering changes and providing constant two-way communication in order to put their aircraft (the Airbus A350 and the Boeing 787) back on track.

Systemic innovation sacrifices one potential advantage of autonomous innovation; the latter permits specialization and competition for each element of the system (Langlois and Robertson 1992: 302). While decentralization eliminates (in theory) the need for coordination, it may prevent the overall system from being optimized to take advantage of the capabilities embedded within each element. The introduction of power steering, for example, did not necessitate the redesign of an entire car, but car designs could eventually be modified to place more weight over the front wheels and allow the transition to radial tyres (Teece 1984: 102). Radials required more steering effort from the driver and hence could not be easily adopted without power-assisted steering.

The nature of innovation in a system has implications for ► [organizational design](#). Autonomous innovation systems can be commercialized by decentralized groups of firms. When innovation is systemic, however, design and production need to be centralized or at least, as Boeing and Airbus have discovered, tightly coordinated within a formally organized network of firms constituting a virtual enterprise.

The central coordinator in a systemic innovation network is sometimes called the system integrator. System integration is especially important for complex systems (Hobday et al. 2005). Car

makers, for example, have modularized major subsystems to enable outsourcing, choosing to specialize more on customer interface elements (e.g., design and service) of the industry (Hobday et al. 2005: 1128). The module-level innovation (design and development) may be undertaken by the car maker, the supplier, or in collaboration between the two. But even systems composed entirely of autonomous elements developed in isolation from each other will require a firm, such as a personal computer manufacturer, marketer or distributor, to take on the job of system integrator in order to deliver a complete solution to customers (Pisano and Teece 2007). Ceding the integration role to others typically brings a loss of knowledge that, in turn, brings a loss of market power with respect to suppliers.

The inappropriate adoption of a centralized approach to manage autonomous innovations can lead to competitive disadvantage. In a car, although many elements of a design are systemic, modules, such as the braking subsystem, are autonomous. When the automotive industry shifted from drum brakes to disc brakes, General Motors was slow to change because it had integrated vertically in the production of the old technology, while less integrated competitors beat GM to market with models featuring disc brakes on all four wheels (Chesbrough and Teece 1996: 67).

In some cases, the adoption of an integrated and centralized approach, when rivals are pursuing decentralized solutions, can bring an advantage by designing a product with better performance along select dimensions. Apple's tight integration of software and hardware design around user-friendly solutions in its mobile phones and tablet computers is generally seen as a competitive strength versus the approach taken

by its chief rivals in Google's fragmented Android ecosystem. However, a centralized approach did not save RIM, once a formidable rival in the same industry, from a collapse of market share after failing to recognize that it needed to add consumer-friendly features to its phones.

See Also

- ▶ [Architectural Innovation](#)
- ▶ [Autonomous Innovation](#)
- ▶ [Dominant Design](#)
- ▶ [Organizational Design](#)
- ▶ [Virtual Corporation](#)

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