concentrating on this solely provides managers with little help in the practice of strategy making. Through focusing on working with managers/teams and actively working in organizations, OR addresses this gap, particularly in the area of PSMs, as there is a strong emphasis on action research and thus organizational relevance.

Furthermore, as stated earlier, the emerging interest within OR in ‘mixing methods’ adds value as it concentrates on bringing together not only the qualitative and quantitative techniques/approaches, but also encourages the mix of both ‘back room’ and ‘interactional’ modes of working to support the strategy making effort. This combination balances precision with equivocality and helps increase the robustness of the resultant strategic direction. However, there are risks associated with it—ranging from demands on both strategy facilitators/analysts and group from having to deal with multiple modelling methods to concerns about paradigm incommensurability and inappropriate combinations. Nevertheless there are already a number of significant developments and an increasing interest to continue this work (Eden et al., 2008).

Where next

One of the biggest concerns regarding the role of OR in strategy making is the lack of awareness particularly by practitioners and managers both of the fact that OR modelling and processes can assist strategy making and also in the varying OR procedures and techniques for making strategy. It is here that University Departments need to take a stance, encouraging students, particularly post-graduate students—to become familiar with the range of skills required. This means not only equipping these future managers with good quantitative skills but also with an appreciation and comfort when working with both qualitative data and when working with subjectivity, groups and uncertainty. The increase in Masters Programmes focusing on these areas for example, Business Analytics at Warwick and at Strathclyde—will help here but more is needed to take this further.

More awareness also across the academic disciplines would also help (rather than continuing to work independently). By attending and presenting at conferences such as the Academy of Management or the British Academy of Management, OR researchers can showcase processes, tools and techniques as well as learn more about strategy modelling and theory. Case studies illustrating successful strategy work and published in both academic but also practitioner journals will also ensure wider dissemination of both the underlying processes but also the benefits.

References


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Supporting strategy from the inside


In 1967 I completed my MSc in OR at Imperial College, London and began a 40-year career in Rolls-Royce. The first 20 years were spent doing ‘normal’ OR projects, generously provided with historical data and detailed, if inaccurate, demand forecasts. Towards the end of this period OR began to provide support to the Strategic Planning department, largely based upon forecasting skills and familiarity with, and access to main-frame computers. However, the future out-turns never quite matched our long-range forecasts.

When it was recognized that strategy formulation required rather more than the long-range extrapolation of the financial plans, strategic planning was de-coupled from financial planning and creating (shareholder) value became the dominant strategic goal. OR again provided
analytical support, but was allowed only limited access to the very sensitive assumptions in the strategic plan. We created useful models, but our lack of direct involvement in the process proscribed our effectiveness. Then, about 10 years ago, I moved from OR to become part of the Corporate Development team, as a trusted insider rather than expert outsider.

This Viewpoint describes how my perspective as an insider rather than an outsider changed my views about supporting strategy development. My observations are not profoundly technical nor should they be too surprising to any good OR analyst.

Compared to ‘normal’ OR, supporting strategy is data-poor; during extended planning horizons significant changes will inevitably happen; and ‘best’ is a difficult concept to define or to test. Companies can be strategically successful for a time, simply because they have good fortune. However, in my experience, there are some behaviours, when supporting strategy which seem to produce and sustain good results—although good luck is always welcome. These are discussed below.

**Recognize the relationship between strategy and the business model**

A strategy emerges from, and underpins, the relevant business model; a crucial fact which is frequently ignored when strategies are created.

A strategy is based upon some simple maxims. Ultimately, all value flows from the customer; sustained value creation is preferable to a one-off opportunity; in an uncertain future, it is essential to have a range of available options to respond to any perturbations which appear late on the radar screen; and it must be clear how company value will be created from customer value.

A business model must describe how value is to be delivered to customers and how it will be extracted for the owners of the company. It must also identify the critical capabilities required to achieve this. A good strategy, therefore, must deliver acceptable answers to the value questions raised by the business model. It must identify, protect, acquire and sustain the critical capabilities; and it must provide mitigation against future uncertainties. If the strategy and the business model are not congruent it is unlikely that the strategy will succeed or that the business model will deliver significant value.

**Make sure that there is a compelling narrative to support the arithmetic**

Analysing business proposals to support strategy development can be complex, even where little data exist and the future is uncertain. However, there are two simple tests which should always be applied.

The obvious ‘numbers test’ is always done, though not always adequately. Arithmetical mistakes do occur, but it is usually lack of imagination in the modelling that is the real failure.

The ‘narrative test’ rarely gets the attention that it deserves in the assessment of a proposed strategy. It is possible to produce an analysis which makes perfect mathematical sense but for which there is not a logical story to persuade an unbiased audience. Looking at the current global crisis in the finance industry it is difficult to imagine that there was ever a persuasive narrative to accompany the clever arithmetic. It is easy to hide mathematical slights of hand inside a complex model but very difficult to win over a sceptical audience with a non-credible story-line.

Successful companies with active strategy development functions recognize that the power of the story is as important as proper financial analysis. For example, in Rolls-Royce strategic proposals had to contain a compelling narrative outlining why the proposal would succeed in a competitive world, and how the value was to be created. It also had to contain a simple graphical representation of the sources of value and risk. The combination of the narrative and the graphics gave a powerful focus for the strategic decision. If successful, the proposal moved to the next phase for more detail to be added.

**Business intelligence must be assessed within a modelled structure**

Business intelligence is a basic raw material of strategy development. Generally it comes from publicly available sources and is usually history-based. Such intelligence will help to answer questions relating to what, when, how and maybe why. These are ‘passive sources’ of intelligence, reporting factual events which are mostly in the public domain and which are of reasonable provenance. They are also, unfortunately, available to any company who cares to make the effort to search. Strategy is about finding and exploiting a competitive advantage. Hence, a company must extract more insight from business intelligence than its competition. Collecting huge volumes of passive data and trying to interrogate without having a hypothesized structure is a fruitless activity. Creating the structures to convert ‘passive intelligence’ into ‘active intelligence’ was a key modelling activity.

In Rolls-Royce, OR created models of the Company, of our industries, of our markets, of our competitors and of our customers. The models added unique meaning and insight from available intelligence, and enabled this to be shared, debated and absorbed by those in strategy development. The models tried to make sense of each new piece of intelligence. Sometimes a model changed to accept new intelligence; sometimes conflicting intelligence
Models should be simple, flexible, interactive and accessible

Analysts supporting strategy have to be able to work with sparse, incomplete data which is difficult to validate. This will not deter assertively numerate analysts, who will view issues as structures and models, rather than as interesting items of data. Nonetheless, many strategic models are not heavily quantitative. For example, even simple SWOT or PERT analyses can identify underlying patterns and relationships and provoke useful ideas and improve understanding. Most decisions, especially strategic ones, are based on informed judgement, not necessarily on the analysis that precedes the decision. The challenge for the strategic modeller is not to seek optimal solutions, but to provide opportunities for testing strategic judgements and assertions. For these models to be used effectively in the febrile atmosphere of strategy-making they have to be simple, transparent and, above all, credible.

I found that the ubiquitous Excel spread-sheet has the best chance of being used effectively by decision-makers. OR analysts, taught to think about the model before plunging into data consolidation, will always create more impressive spread-sheets than the numerical wall-paper more usually offered for most decision support. Models are invariably designed to satisfy the ‘Numbers Test’, but they should also tell a compelling story for the ‘Narrative Test’. If this narrative thread can be woven into the analysis and illustrated by dynamic pictures (eg graphs and charts) then a very powerful tool has been created to support strategy.

Identify, share and evangelize best practice

Large companies contain many people involved in strategy development; from corporate strategists, planning major acquisitions and joint ventures, to manufacturing strategists, planning to redesign the supply chain. All recognize a generic set of issues; all can be supported from the same portfolio of tools and techniques. Where clever modelling approaches exist, they should be shared; where rules and standards are mandatory (eg investment appraisal) they must be applied.

Rolls-Royce created a suite of training modules, delivered by senior Company strategists, to share best practice in such areas as strategy formulation, acquisitions and alliances, business modelling, investment decision-making and risk analysis. These provided a rare meeting ground, and a common language, for different strategy groups to converse around common themes. The courses drew heavily on the practical experiences of the lecturers and attendees and made it possible to improve the quality of proposals by identifying and sharing what had worked best in the past (eg building a business case for a joint venture). It was also an opportunity to be prescriptive and didactic about important concepts. For example, how to calculate value; what discount rate is appropriate; how to reflect risk?

Share and discuss assumptions and strategies with everyone involved

During the late 1990s the Rolls-Royce Corporate Strategic Plan (CSP) evolved from a restricted document with a tightly controlled circulation, to eventually include a walk-through storyboard, known as the CEO Room, accessible to all employees. The CEO Room was based upon the CSP, with additional storyboard sections added to cover, for example, industry and market information, competitor activities, external views of the Company, and changes in assumptions since the previous CSP.

Initially, the audience was restricted to Board members and the most senior executives. However, it soon became routine for executives to bring their teams and, in their turn, the team leaders returned with their own teams. Within a couple of years over 400 people were attending the CEO Room event each year, to be guided around for up to 3h, in small groups. The session was unscripted, although the key messages (ie the narrative) were developed in the preceding months. The role of the strategist-guide was to ensure that attendees derived maximum value from the session. It was not seeking consensus nor trying to impose a predetermined strategy on a captive audience. Debate took place; assumptions were refined; new information added and contentious issues were always taken away for a response. It was best described as a structured conversation.

In 2006 the CEO invited Trade Union representatives from across the whole Company and then, at their request, the CEO Room was rolled out to the entire workforce. Thus, in 10 years, the Corporate Strategic Plan had evolved from a restricted document to a storyboard for 38 000 employees. It was never expected nor required that there would be unanimous agreement with the entire CSP, but everyone had an opportunity to understand the true nature of the challenges facing the Company, why certain strategies were preferred, and where their function fitted in to the overall plan. Obviously, highly sensitive information was not displayed, but in my experience, all questions were answered appropriately.

This was not done simply as ‘good IR’. It was done because people at all levels, who are expected to respond to strategic initiatives, need to understand why they are
asked to do so. This is such an obvious truth, but it is remarkable how few companies actually share their strategic insights, even with middle management, let alone shop-floor workers.

In summary:

- The business model and the strategy are mutually dependent. The model describes how value will be created and the strategy acquires the necessary capabilities.
- Assumptions, hypotheses and strategies should be presented in such a way that a narrative accompanies the numbers so that unworkable ideas cannot be buried inside complex analyses.
- Accumulated business intelligence is of little use unless it is converted from passive to active intelligence by structured models, hypothesized from independent intelligence.
- Any model which provides support to strategic decisions should be accessible, engaging, transparent and flexible enough to cope with the evolving demands that will inevitably be made of it.
- Share all your good ideas with others supporting strategy, and listen to their responses—you will probably learn something too.
- It is essential to secure the engagement of everyone in the strategy process, from the ultimate decision-maker to those who must change their working practices and behaviours to deliver a successful implementation.

This Viewpoint is a personal exploration of what I have learned whilst supporting strategy development. I have come to realize that the analytical precision of the model or the mathematical rigour with which it is created, whilst rarely entirely wasted, are not the key determinants of successful strategy support. This is not a cry of despair from a frustrated disciple of the scientific method. In fact, the application of scientific method—by which I mean testing hypotheses through modelling—is particularly relevant to strategy support.

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What is strategy?

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For years I failed to take strategy seriously. Middle managers involved in operational issues told me that strategy was that airy-fairy stuff senior executives did once a year, formulating grand statements that had little or no impact on people in the organization who were providing the goods and services. Each year’s strategic plan was fought over by the senior executives and then filed away until next year’s round of strategic planning.

I believed those middle managers until in the early 1980s I met Peter Hall, who then worked in International Computers Limited, ICL, with the managing director, Robb Wilmot. Robb was a champion of decision support systems, which Keen and Morton (1978) had proposed in their landmark book on the subject. Peter had studied decision analysis at Stanford University and was sure that approach to decision support would be helpful to Robb.

In working with Peter, I soon learned that the ‘airy-fairy’ stuff could crucially impact an organization, confirmed later by the research literature (Coulson-Thomas, 1992). Robb’s vision in 1984, that computers would eventually become commodities and the differentiating factor would be service, was heretical, for ICL mainframes were everywhere in the UK: most universities, government departments and local authorities, and many commercial organizations as well. But how could his vision influence ICL and change its direction?

Over the next seven years decision analysts at the LSE and ICL facilitated more than 70 two-day decision conferences (Phillips, 2007) in ICL, with the majority starting by considering what Peter called ‘MOS—Mission, Objectives, Strategy’. The facilitators would help the group clarify the mission of its organizational unit, identify objectives and develop alternative strategies for achieving the objectives. By developing mission statements for all units that were consistent with ICL’s overall mission of ‘applying information technology to provide, profitably, high value customer solutions for improved operational and management effectiveness’, the hope was that an emphasis on problem-solving rather than just selling main-frames would shift the focus of ICL. It did, and it also drove ICL into collaboration with Fujitsu that later resulted in their being absorbed by the Japanese company.

As a result of these experiences with ICL, I increasingly began to recognize that other organizations with whom I was working were not always clear about their direction. They seemed to be so busy trying to do things right that they had not considered whether or not they were doing the right things in the first place. Objectives were often absent, or unclear; participants in decision conferences felt most comfortable thinking about alternative ways of doing things. I found it difficult to apply the MOS model I had learned at ICL because people in other organizations had different views, even in the same organization, about what mission, objectives and strategy meant.