

Viewpoint: How OR can contribute to Strategy MAKING?

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OR's venture into strategy is relatively recent and on examination of the extant literature it appears to have emerged through two relatively independent directions - each adding to a potentially substantial contribution. These directions or roles emanate from: (1) a desire to undertake good analysis (echoing Simon's request for procedural rationality: Simon, 1976); and (2) a wish to manage the complexity that surrounds strategy making if systemically feasible and culturally desirable outcomes (see Checkland & Scholes, 1990) are to be generated. Furthermore, the nascent interest in mixing methods (Mingers & Brocklesby, 1997) additionally contributes to OR's potential contribution to strategy making through providing frameworks that facilitate and articulate the effective integration of the two directions. It is also noted by those working in the mixing methods field (Mingers & Brocklesby, 1997), that mixing methods is apposite for those problems that are complex, and multi-dimensional – a good description for those contemplating developing strategy.

It is interesting to consider that at the same time that OR was emerging as a field of study (post World War II), so too was the field of strategy, strategic management, and strategic planning. Initially, as with OR, the research in strategy took a very rational/analytical form concentrating on the generation of detailed plans that once created would be put into operation. Succeeding decades saw this form of strategy challenged by those who saw it as more organic and emergent (Mintzberg & Waters, 1985) and/or more processual (Pettigrew, 1977). This parallel development closely mirrors that of OR, where the emphasis on mathematical/optimisation models gave way to an unfolding interest in more processual approaches.

Returning to the 2 directions, OR thus can be seen to contribute to strategy development both from the rational/analytic view – through the roles of models and modelling - as well as the emergent/processual view - through a focus on the role of group negotiation and ensuring culturally desirable outcomes. This can be clearly seen when examining reference sources - for example O'Brien and Dyson's recent book on Supporting Strategy (O'Brien & Dyson, 2007). These two directions will be further explored below followed by a brief discussion of two further contributions before the viewpoint concludes with some thoughts of 'where next'.

The role of modelling

If we start by looking at OR's contribution to strategy making through providing modelling support there appears to be a number of inputs. The first of these comes from the range of analyses provided particularly in the areas of financial and decision making models but also in econometrics, logistics, performance measurement, supply chain management, data envelopment analysis etc. Interestingly many of these analytical processes help provide insights into the external world (complementing and extending the relatively superficial contributions of PESTLE and SWOT type analyses whose list like qualities typically ignore the implicit systemicity of their contents).

In addition, there is also a range of models/analyses within the OR field that focus more on the internal operations of the organization assisting in furthering managers' understanding

of organizational processes and routines – for example through discrete event simulation or scheduling. A further consideration in relation to reviewing internal operations is to explicitly consider the resources available to organizations/divisions and explore how they can best be marshalled to support organizational goals (corresponding with Phillip's viewpoint in this special issue). As such, OR can through a range of models extend and augment the insights and options suggested by the Resource Based View (Barney, 1991) which, along with the area of dynamic capabilities (Adner & Helfat, 2003), promotes an 'inside-out' view of strategy making.

Much of the above contribution however attends predominantly to the rational world through the provision of models and results that are 'testable'. Whilst undoubtedly being valuable, they pay less attention to the fact that organizations are made up of people and that many strategies fail due to implementation problems. That said, before we move on to addressing the role of working with staff rather than on behalf of staff let us also look at how OR can provide further benefits through other forms of modelling.

Producing good strategy plans or business models frequently are based upon the views and beliefs of managers – essentially subjective data. Thus the management of qualitative data, particularly when it is extensive, requires some assistance. It is this managing of complexity that benefits from the contribution of 'soft OR' or problem structuring methods (PSMs) (Rosenhead and Mingers 2001). For example, through being able to capture and structure the whole of the situation and aspired direction, rather than disaggregating the range of contributions into different areas, a more robust and sustainable appreciation can be gained. Thus OR provides useful structuring processes (perhaps through imposing hierarchies encompassing goals, issues, strategies, competences etc) to manage the attendant complexity rather than reduce it. This returns to the earlier mentioned consideration namely ensuring systemic feasibility.

The robustness of mixing methods also plays an important role in supporting strategy modelling. For example, through the use of more quantitative methods such as continuous simulation models (built on insights generated using problem structuring methods) we are able to test out strategies over time surfacing and resolving potentially destructive counter-intuitive effects and determining the sensitivity of options (see the work of Coyle, 2004; Zagonel et al, 2004). This form of simulation also can reassure strategy makers as they are able to consider how policies/options will perform over time and therefore not be discouraged by an initial drop in performance/increase in effort as they will be aware that this will take place before longer terms benefits are realised.

Other relevant work in terms of modelling includes the approach put forward by Eden and Ackermann (Eden & Ackermann, 1998) who, through using the causal mapping technique, are able to manage the wealth of opinion and attendant complexity through a hierarchical structure (thus attending to providing a structure reflecting not just the 'what' but also the 'why'). These strategy maps not only help ensure a holistic understanding is gained but are amenable to various analyses which enable underlying emergent properties to be detected and where appropriate capitalised upon in terms of future direction. Finally there is the extensive array of scenario planning approaches being developed (Meadows and O'Brien 2000) – allowing organizations to manage some of the uncertainties facing them in the future. This management of complexity therefore allows organizations and groups to gain some confidence in 'opening Pandora's box' – as they are reassured that the plethora of concerns, issues, constraints and opportunities can be managed rather than being overwhelming.

The role of supporting negotiation

This role focuses on the second major contribution OR can make to strategy making. Over the last three to four decades problem structuring methods have aided the management of messy complex problems – and it could be argued that strategy making is one of the messiest experienced by organizations. All of the problem structuring methods elicit multiple perspectives, see models as transitional objects, and attend to equivocality. All of these characteristics provide valuable assistance in strategy making. For example, ensuring multiple perspectives are captured allows not only the expertise and knowledge to be captured (again attending to procedural rationality) but also facilitates both the ownership and understanding (reflecting John Hough's viewpoint about the CEO room) of the resultant outcomes of the captured material. Using visual interactive modelling allows members not only surface their initial views but also consider these views alongside the views of others, facilitating the process of changing and refining the model's content and thus shifting the group's understanding in a natural and transparent manner. The model is thus in constant transition reflecting the group's journey from divergence to convergence. Allowing equivocality also provides benefits as groups are able to change their mind without penalty and negotiate towards a shared understanding and agreement. This increase in both ownership and understanding can make a significant difference when trying to implement strategy.

Furthermore, and building on the above benefits, whilst it is recognised that not everyone can be involved in the strategy making exercise – having a number of key players involved helps. As the anthropologist Margaret Meade once said "Never doubt that a small group of thoughtful committed citizens can change the world; indeed it's the only thing that ever has." PSMs facilitate the consideration of who the key stakeholders are, how they might respond, and thus who needs to be involved, with some of the approaches, for example soft systems methodology (SSM), placing considerable emphasis on this dimension. This attention echoes the strategy literature – where it is also seen as being important to manage stakeholders (Freeman & McVea, 2001). For example, whilst considering customers – particularly customer segmentation - is clearly an important aspect of strategy making, arguably it is important to take a wider view. If we can at least ensure that staff are persuaded in both the rationality and justice of the strategy then again we stand a better chance of action. As Machiavelli (1415) noted "There is nothing more difficult than to achieve a new order of things with no support from those who will not benefit from the new order, and only lukewarm support from those who will"

Two additional contributions

One of the other strengths OR has to offer is its focus on practicality which contrasts with much of the research being undertaken in the strategy arena. Whilst good theoretical thinking is undoubtedly important and there is a need for both description and prescription, there is a concern (voiced by researchers and practitioners alike) that 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.

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