

Contents lists available at ScienceDirect

European Journal of Operational Research

journal homepage: www.elsevier.com/locate/ejor

Interfaces with Other Disciplines

Theory into practice, practice to theory: Action research in method development[☆]Colin Eden^{a,*}, Fran Ackermann^b^aStrathclyde Business School, Glasgow, G4 0QU, UK^bCurtin Business School, GPO Box U1987, Perth 6845, Western Australia, Australia

ARTICLE INFO

Article history:

Received 6 October 2017

Accepted 23 May 2018

Available online 2 June 2018

Keywords:

Decision processes

Action research

Behavioural OR

Soft-OR method

Rigour and relevance

ABSTRACT

The purpose of this paper is threefold. Firstly, although there have been many articles and books describing the nature of Action Research there are few examples of doing it in practice. We describe how a Research Oriented Action Research programme unfolded over many years focussing on the operationalisation of theory alongside the development of a soft-OR methodology. An outcome of this programme was the refinement of an Action Research method. Secondly, we present the development of an understanding of emergent strategy – a ‘theory’ that attracted both the researchers and managers in a number of organisations as one that could enhance the development of a soft-OR method and aid the process of strategy making. In doing so we demonstrate how research can be both rigorous and relevant. We also developed our understanding of emergent strategy in a manner that enables it to be used in practice. And thirdly, we show how the soft-OR method of Strategic Options Development and Analysis (SODA) methodology gradually became a strategy making methodology (Journey Making). Although much has been written describing the background to these soft-OR methodologies, this paper shows how and why they developed. We illustrate how relevant theory from a range of disciplines can inform practice, and how the process of implementing theory into method develops theory.

© 2018 The Author(s). Published by Elsevier B.V.

This is an open access article under the CC BY license. (<http://creativecommons.org/licenses/by/4.0/>)

1. Introduction

Effective operational research (OR) depends upon an appropriate understanding of the problem being addressed – finding the ‘right problem’ (Ackoff, 1981). Over the past four decades, problem structuring methods (PSMs) have been developed to help operational researchers address the right problem (Mitroff & Featheringham, 1974; Rosenhead & Mingers, 2001). In particular, three PSMs have seen extensive use: Soft Systems Methodology (SSM), the Strategic Choice Approach (SCA), and Strategic Options Development and Analysis (SODA) (Mingers & Rosenhead, 2004). Each of these methods is grounded in particular views of organisational life, and to a greater or lesser degree has some theoretical basis. These methods frequently have been labelled as ‘soft-OR’. Predominantly these soft-OR methods have been developed through continual use in practice and in response to some of the perceived

limitations of more mathematically informed OR. Consequently, these ‘soft-OR’ methods are open to the criticism that they are not adequately informed by sound theory. For example, soft-OR is “seen by many as having negative connotations within OR generally, implying imprecision and lack of rigour” (Mingers, 2011: 2).

Given that operational research is intended to impact practice and has a history of doing so (Williams, 2008), it would seem likely that OR, particularly soft-OR with its basis in problem structuring and solving messy complex problems, could make a serious contribution to the development of management theory. This is particularly so as management and organisational scholars have consistently argued that the theory in these fields is not meeting the double hurdle of rigour and *relevance*. Despite having played a powerful role at the operational level of organisations, operational research has had less impact on organisational strategy development and the strategic decision-making of senior management teams. This is notwithstanding ‘soft-OR’ methods paying considerable attention to bounded rationality (Huxham & Dando, 1981) and the sort of satisficing (Simon, 1956) that is necessary when senior management teams are dealing with complex messy strategic problems. That said, some OR writers have made attempts to demonstrate the power of OR in helping strategy development (for

[☆] The authors would like to thank three extremely diligent and helpful reviewers, who have helped us significantly improve the paper.

* Corresponding author.

E-mail addresses: colin.eden@strath.ac.uk (C. Eden), Fran.ackermann@curtin.edu.au (F. Ackermann).

example Dyson, 2000; Dyson & O'Brien, 1998; Franco, O'Brien, & Bell, 2011; O'Brien & Dyson, 2007), and also apply soft-OR in the pursuit of resolving complex far-reaching issues which have strategic implications (Checkland & Scholes, 1999; Friend & Hickling, 2005).

Given the earlier premise that soft-OR methods are developed through use, in this paper we show that Action Research can be a powerful and effective way of developing theoretically sound soft-OR methods. In addition, by doing so, the development is able to make a contribution to the elaboration and use of management theory, particularly in the field of strategic management. In addition, Action Research, through its focus on robust practice, can meet the double hurdle of *rigour and relevance* as evidenced through work carried out by Checkland and Holwell (1998). Moreover, although the nature of Action Research has been presented in the literature, there are few, if any, examples of the reality of doing Action Research and particularly of doing *Research Oriented Action Research* (Eden & Huxham, 2006) where the design of method/technique/tool has also been a part of operationalising, and so developing, theory. One aim of this paper is to provide such a narrative.

In order to demonstrate how theory contributes to the development of method, and method development contributes to theory, we present a real Action Research programme that (i) resulted in the refinement of the Action Research method, (ii) elaborated and developed the theoretical ideas behind emergent strategy and (iii) illustrated the *process* of augmentation of a soft-OR method from problem structuring through strategic problem solving to strategy making. In addition we demonstrate that Action Research, which depends upon using theory that is of interest to manager and researcher, results in the development of a method that can impact senior management teams when strategy making.

We begin the paper with a brief discussion about the need to attend to both rigour and relevance, and then continue with an explication of the nature of Action Research. We follow with a report on three cycles of an Action Research programme undertaken over twenty years. In addition, we show how relevant theory from a range of disciplines can inform practice, and how the process of implementing the theory into a method expresses the usefulness of theory. After each research cycle, involving many interventions¹ (typically between 15 and 30), we show how our understanding of the focal theory, namely emergent strategy, was developed and how it influenced the design of the soft-OR method from problem structuring to strategic problem solving and finally strategy making. At the end of each section discussing a research cycle, involving many interventions, we summarise the elaborated notion of emergent strategy. We finish the paper by reporting the insights gained about Action Research in practice, the contribution to the focal theory and implications for the development of method as well as reflect on Action Research's contribution to OR method development.

Thus, the contribution made by this paper is to: (i) provide an illustration of the reality of undertaking Action Research along with concomitant insights; (ii) illustrate its role in the elaboration and testing of the usefulness of the idea of emergent strategy, and (iii) present the role Action Research plays in developing method (in this case a soft-OR method).

¹ The interventions encompassed multi-nationals (e.g. Reed-Elsevier, Shell, ICL) and some that were national (e.g. AMEC). It included some SMEs as well as other national organisations in the private sector (e.g. large construction company) and others in the public sector (e.g. Strathclyde Police, Govan Initiative, and National Audit Office) and not for profit (Strathclyde Poverty Alliance). Some interventions were single one or two-day workshops, others encompassed an ongoing relationship. The work was with senior management teams of between 7 and 15 people.

1.1. Rigour and relevance

A tension between rigour and relevance had been an important context to our initial interest in soft-OR. This tension was typically expressed as a need to strike “the balance between OR as a knowledge-oriented science or a problem-oriented technology” (Corbett & Van Wassenhove, 1993: 628). In particular the extensive debate following Ackoff (1979a) arguing that “The Future of Operational Research is Past” raised issues about elegance of so-called solutions versus the pragmatism needed to deal with the messiness of the real problems faced by managers (Lilien, 1987: 38) as clients (Eden & Sims, 1979).

However, in addition, the last decade has seen many explicit pleas for rigour and relevance within the general field of business and management research with pleas to pay attention to this “double hurdle” (Pettigrew, 1997). Thomas and Wilson (2009: 678) commented that, “the ‘voice of practice’ has become lost” and Pearce and Huang (2012) reflect on how practicing managers are becoming less and less engaged with management research. “Our goal should be to seek rigour and relevance through boundary-spanning research focused squarely on phenomena of interest to managers” (Gulati, 2007: 775). This focus on relevance and rigour raises the issue of how research should have impact. Recently George (2016: 1869) argued that “an impactful research agenda would preclude an overt emphasis on theoretical “gaps” in the literature, and instead would move our collective attention toward addressing problems or understanding emergent phenomena that are significant and relevant to our stakeholders”. This requirement is a fundamental requirement for effective operational research, particularly given the definition of OR provided by INFORMS (2006): “OR is the discipline of applying advanced analytical methods to help make better decisions”.

Some writers have argued that the rigour-relevance gap is unbridgeable in management research (Kieser & Leiner, 2009). We do not accept these views. We support the very often repeated notion that “nothing is as practical as good theory” (Lewin, 1951: 169). What we take this to mean is that, for the most part, theory must be expressed in such a way that it is possible to *design practice as a reflection of the theory*, even if it is academic researchers who concentrate on initial design and it is practitioners and managers who comment on that design through their experience of it. As Cummings and Jones (2004) argue, knowledge must be actionable if it is ever to be useful to managers. This is very much the basis of the origins of OR as developed and used from WW2 (Kirby, 2002).

Theory grows and changes by shifting theory development from ‘pure research’ to practice based research, not as if either were wrong, but rather so that when brought together they enrich one another. In the work reported here we are aiming to act more as a bridge in the value chain of knowledge production (Starkey & Madan, 2001; Thorpe, Eden, Bessant, & Ellwood, 2011) by enriching theory and adapting theory into a form that can be applied in practice. As Gulati (2007) suggests “theory building is a cumulative enterprise and, as such, can only happen if we are *explicit* about both our theories and their impacts on managerial practice” (p780 our emphasis).

Although practical relevance is of concern across all the fields of management and organisation, specific concerns have been identified in relation to strategy research (Baldrige, Floyd, & Markoczy, 2004; Chakravarthy & Doz, 1992; Gopinath & Hoffman, 1995; Jarzabkowski, Balogun, & Seidl, 2007) despite strategy research claiming relevance to practice (Bettis, 1991; Pettigrew, Thomas, & Whittington, 2002). Acknowledging these particular concerns, this paper uses an example from strategic management the concept of emergent strategy. Concepts such as emergent strategy are often attractive to academics and have resonance with practitioners and managers. However, an important gap in strategic management re-

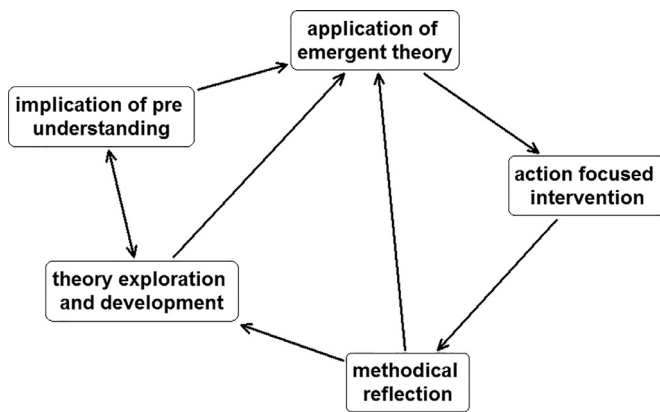


Fig. 1. The 1996 Action Research cycle (from Eden & Huxham, 2006:396).

search appears to be operationalising such attractive concepts and theories, and then using the process of operationalising as a basis for developing these theories and concepts further to ensure both relevance and rigour. In the example reported here it was the concept of emergent strategy (Mintzberg & Waters, 1985) that became the research topic of interest to both ourselves and managers, particularly as it emerged from research and engagement with the development of a particular soft-OR method.

1.2. The nature of the Action Research method

Action Research is an obvious candidate research method when the objective is to explore theory in relation to practice. Action Research (Lewin, 1946; Susman & Evered, 1978) emphasises knowledge produced in the context of application. Organisational settings provide rich data about what people do and say, and what theories are used and usable, *when faced with a genuine need to take action*. “[Action Research] demands valuing theory, with the elaboration and development of theoretical constructs as an explicit concern of the research process” (Eden & Huxham, 2006: 394). Action Research is not in competition with other ways of doing research, rather it is appropriate with respect to specific aims and particularly where “the method is likely to produce insights which cannot be gleaned in any other way” (Eden & Huxham, 2006: 396).

An involvement with practitioners and managers², however, does not necessarily guarantee successful contributions to knowledge that can significantly influence both the development of theory and managerial practice. There is a great danger that Action Research can be seen as a form of consultancy, where the engagement with practitioners is simply a way of enabling academic researchers to become involved in the practitioner world and then develop abstract theories as usual, but with the ability to hint at an engagement with practitioners and managers. Careful avoidance of this trap is necessary. Furthermore, not all Action Research will deliver useful knowledge and action research can be done badly.

The Action Research cycle (Fig. 1) as depicted by Eden and Huxham (1996) was the initial basis for the research, where each research cycle was made up of many organisational interventions spanning different contexts.

One outcome from our Action Research programme was a modification to the 1996 cycle (Fig. 1). Thus, in meeting our first contribution of this paper, providing concomitant insights in the pro-

cess of doing Action Research, the Action Research cycle was elaborated and adapted during the process of undertaking the research reported in this paper. Fig. 2 represents this adapted version. This new version emerged, in particular, through being explicit about what constitutes the commencement of an Action Research study and the drivers of the cycles of research. The figure shows two aspects of pre-understanding as the starting point for undertaking the research: being explicit about (i) the extant literature informing the initial understanding of the focal theory by the researchers, and (ii) the background tools and methods associated with the researchers. This requirement for explication is in contrast to Eden and Huxham (2006) who recommend not making these two aspects explicit until the stage of writing up. In addition, there is an explicitly stated trigger – a driving force from both researcher and practitioner – that initiates the first research cycle and ensures its relevance. It is the combination of pre-understandings and the trigger for the research that push the Action Research study into life. In particular each of these is crucial for effective reflection on the series of interventions that form the first research cycle of the Action Research programme. It is not possible to reflect properly on the shortcomings of the theories that guide the attempt to operationalise theory without an explicit pre-understanding of the theories that drive the design of the method. Our focus on a specific pre-understanding denies the notion that “theories quasi emerge by themselves from the data (without any previous theoretical input)” (Reichert, 2010:2). It is, however, perhaps important to note that in addition to the specific elements of action research shown in Figs. 1 and 2, an important aspect of any research is the continual scrutiny that comes from colleagues through conference presentations and publications and the research environment within a research oriented institution.

We undertook several cycles with respect to our research programme, each Action Research cycle encompassing a series of interventions, where each intervention sought to be faithful to the concepts and theories of interest. Each research cycle was: the application of nascent theory through a designed soft-OR method reflecting our best interpretation of the theory, application of the method with management teams in a real setting, methodical reflection on the intervention(s), and further exploration and development of the theory, before commencing the next research cycle through another set of interventions. This research programme took place over a period of many years and involved between fifteen and thirty interventions for each research cycle. Thus, each research cycle comprised: step 1 – the design step; step 2 – the intra-cycle exploration of interventions yielding data leading to saturation of both design and outcomes; and step 3 – the departure point for the next cycle of Action Research (when saturation has been achieved – i.e. enough data to be reasonably assured of robust conclusions). All three steps are regularly informed by or inform other bodies of theory (the step at the centre of Fig. 2 – “use other research and theory to inform”).

Each research cycle within the study is explored and analysed using a range of data collected from each intervention before the next cycle is commenced. Action Research involves working with a variety of different types of data sources. Reliable data relating to organisational life is predominantly qualitative, situational (context matters), and is collected opportunistically as well as planned. Traditional tests of validity cannot be used easily and with confidence (Reason & Rowan, 1981). Validity issues can, in part, be ameliorated by having at least two researchers each using a different ‘lens’ discussing the results of each data set captured. Data also includes, when possible, the implications of those actions managers assumed to be the consequences of the intervention. In addition ‘saturation’ is helped by continual triangulation of data, within and across interventions, undertaken when seeking convergent and contextual validity (Reason & Rowan, 1981:240). In this research

² In this paper we refer to practitioners, whether it be OR practitioners or strategy practitioners, as those who will be applying the method as opposed to managers who will be experiencing it.

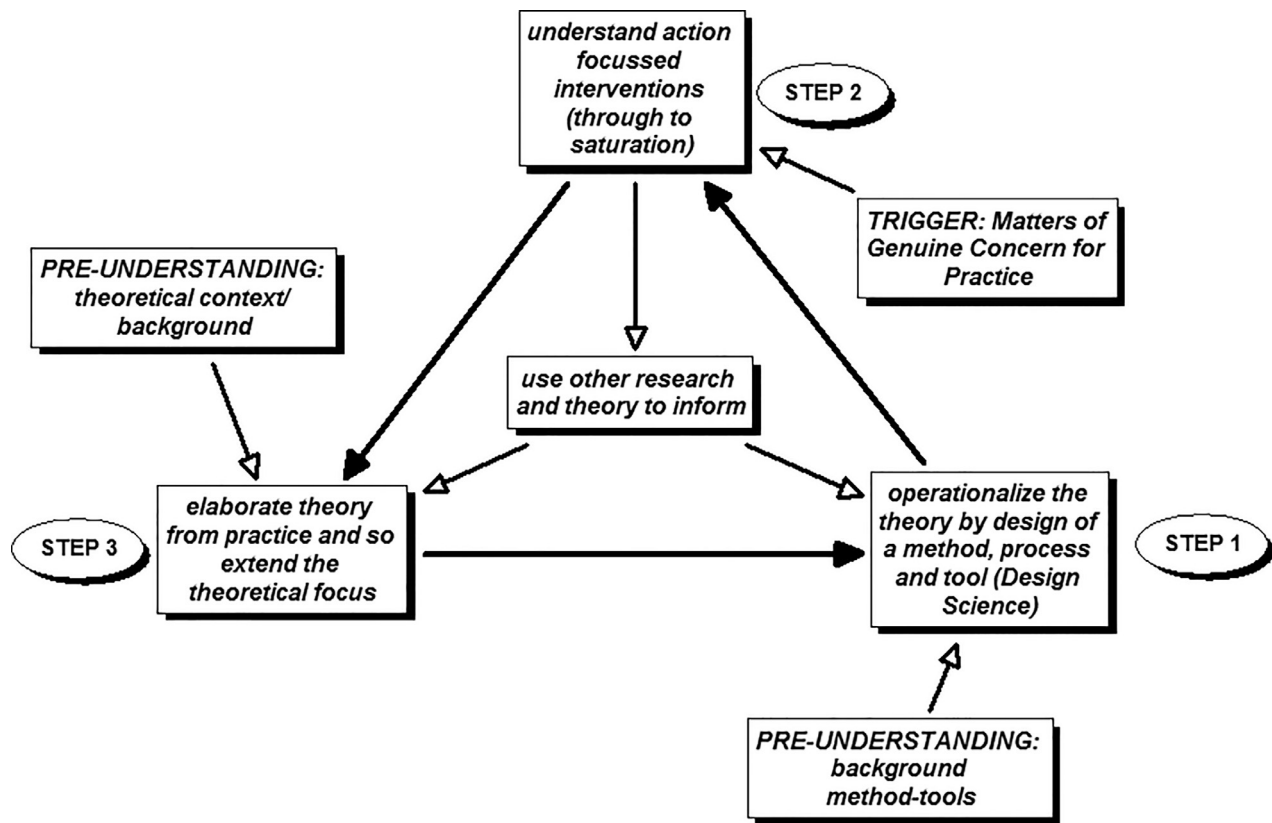


Fig. 2. Starting the Action Research cycle: explicating pre-understanding and identifying the practice based trigger.

programme we faced the usual issues in collecting data about the thinking of elites (Ford, 1977; Pettigrew, 1992) where interview protocols are difficult to adhere to (Norburn, 1989). Much of our data collection relied on informal discussion and comments as well as more formal interview/reflection sessions with individuals and in groups, taken alongside notes taken by both researchers during workshops. Critical incidents provided a useful source of data – obvious shifts in thinking and group behaviour, conflicts, etc. (Bryson, Ackermann, Eden, & Finn, 1996).

As we stated above, during the methodical reflection period following each cycle (step 3), potential changes to the intervention design are explored. The changes often result in the literature that had guided its development being re-examined and re-interpreted (as well as consideration of other published research). The reflection includes conclusions being checked for robustness by exploring alternative interpretations. In addition the designed method of each research cycle is continuously modified to reflect learning from all previous interventions. The iterative process of comparison between the method for a research cycle and the implications of the data from the interventions explored in the cycle is continued “until repetition from multiple sources is obtained. This provides concurring and confirming data, and ensures saturation” (Morse, 1994:230). Action Research thus follows a ‘fine-grained methodology’ which cycles between the worlds of practice and of theory (Harrigan, 1983; Tranfield & Starkey, 1998).

The development of tools/techniques/methods (in our case a soft-OR method) that are manifestations of theory is a way of developing theory. The Action Research cycle develops theory in practice: Application: *operationalise* an idea/theory/notion through an explicitly stated/*designed method*; Action: *apply* the method; Reflect: understand the use and impact of the method; Explore: look for *theory to explain* outcomes; and so further develop the method and so the theory; redesign the method.

2. Action Research in practice: exploring emergent strategy

2.1. Pre-understandings: our background

In our work with management teams, we had developed a problem structuring method known as Strategic Options Development and Analysis (SODA) (Rosenhead, 1989). This development had been influenced by the sociality of defining the situation (McHugh, 1968) and personal construct psychology (Kelly, 1955) as ways of understanding sense-making (Daft & Weick, 1984; Weick, 1995a). The notion of theories-in-use versus espoused theories (Argyris & Schon, 1978; Argyris & Schon, 1991) also provided insights to our understanding of what people said was the problem compared with how they responded to it. The problem structuring method designed to acknowledge these influences was additionally influenced by causal mapping in political science (Axelrod, 1976) which acted as a basis for a formal cognitive/causal mapping method based on personal construct psychology (Eden, 1988). Thus the influential body of literature provided an initial view about how to operationalise sense-making in a problem structuring context through the use of cognitive and causal mapping – formulating a ‘soft OR’ method.

2.2. The trigger for the Action Research programme: a matter of genuine concern for practice

SODA found its way into OR groups at several multi-national organisations where the OR practitioners were working alongside strategic planning groups. In each organisational setting circumstances had presented (i) a practitioner-identified opportunity for using the SODA method in the context of strategic problem-solving, and (ii) practitioner frustration with the practicality of what they saw as interesting and potentially useful strategic man-

agement concepts, for example emergent strategy as presented by Mintzberg and Waters (1985). We, and the practitioners, felt the use of the SODA OR method developed for problem structuring might put some flesh onto the detection of the emergent strategy of the organisation. In particular, the OR practitioners saw the problem structuring capabilities providing support with strategic problem-solving and therefore a potential process for detecting an *emergent strategy*, and the emergent strategy as being something that should be understood as a part of strategy making. This shared interest became the trigger for the research.

2.3. Preunderstanding: the theoretical context and background

The attractiveness of the notion of emergent strategy lay, in part, in its link back to the explanation of organisational behaviour as ‘muddling through’ as a “succession of incremental changes” (Lindblom, 1959: 86) and that “policy making is typically a never ending process of successive steps in which continual nibbling is a substitute for a good bite” (Lindblom, 1968:25). Each of these explanations had seemed appropriate to the situations our managers enjoyed. Mintzberg first defined an emergent strategy as the result of a “pattern in a stream of significant decisions” (Mintzberg, 1972). Mintzberg, (1978) later suggested that “the strategy-maker perceived an unintended pattern in a stream of decisions and made that pattern the intended one for the future” (p946). Even later Mintzberg and Waters (1985) viewed emergent strategy emanating from a pattern in a *stream of actions*. Emergent strategy could be seen as the consequence of antecedent multiple activities that would need to be changed in order to stop or to alter the strategy. “The crucial activities for decision making are not separate episodes of analysis. Instead, they are actions, whose controlled execution consolidates fragments of policy that are lying around, gives them direction, and closes off other possible arrangements” (Weick, 1983). “Strategies need not be deliberate – they can also emerge” (Mintzberg, 1987). Each of researchers, OR practitioners and managers viewed the process of strategic problem-solving, using SODA, to be potentially one very effective way of detecting emergent strategy.

3. The Action Research programme

3.1. Research cycle 1 (1992 onwards) – step 1: operationalise the theory by design of a method that reflects the theory

As noted above, OR practitioners and managers were intrigued with the notion of emergent strategy, they also felt that the SODA OR method we had developed could help detect emergent strategy. The detection of emergent strategy would assist with the strategic problem solving. There had been many instances where the problems being addressed were considered to have major strategic ramifications (Ackermann, 1992).

The original OR problem structuring design involved developing cognitive maps for each management team member, ‘back-room’ merging these into a group causal map, and then presenting a single merged map back to the group for them to work on together (Eden & Simpson, 1989). However, there are significant time demands associated with this design, where one-to-one interviews are conducted, individual maps checked with each participant, and then time devoted to merging all of the maps each with typically eighty to one-hundred-and-twenty nodes. For this reason, to meet the needs of strategic problem solving, the method was changed to that of building group causal maps with the simultaneous involvement of all members of the team (Bryson, Ackermann, Eden, & Finn, 1995).

This development of the method was a trade-off between seeking to understand the emergent thinking of individual managers

(through cognitive maps) that would be expected to influence the behaviour of each of them, as compared to the creation of a group causal map that might be expected to reveal aspects of group behaviour. Both practitioners and researchers saw the method to be a basis for operationalising the idea of emergent strategy by seeking to *detect it* (as explicit patterns in a stream of thinking of the group) through an explicit process of strategic problem solving.

Group causal maps were derived as participants were invited to express their views of the important strategic issues facing the organisation by writing these onto oval shaped cards and spreading them around a large wall and subsequently adjusting their position to reflect thematic clusters. These thematic clusters were temporary as they were subsequently adjusted to reflect causality as participants made judgements about how these strategic issues interacted with one another. This resulted in the creation of a group causal map where new clusters emerged from the network of links. Causality was seen as the basis for a group ‘definition of the situation’ facing the organisation where the group focused on means-ends causality that was action-oriented and still reflecting principles embedded in personal construct theory.

The group map enabled managers to continuously surface and refine issues, structure them through the links reflecting means-ends causality and then refine the emerging map. It was understood that as the picture on the wall began to stabilise, agreement about the prioritisation of issues could begin. This method was expected to reveal aspects of emergent strategy through the active process of solving a strategic problem.

3.2. Research cycle 1- step 2: action focused interventions

Analysis of the outcomes from over twenty interventions across several organisations in both the public and private sector consistently left both researchers and managers involved with the sense that the outcomes were a significantly better representation of the real *emergent* strategic future of the organisation, as compared to that indicated by their strategic plans.

The shift from merging individual interview maps into a single map to developing the map with the group using the ‘oval mapping technique’ appeared to be a helpful development in detecting emergent strategy. The method enabled the multiple perspectives to be captured ‘in real time’ allowing both for initial views to be elicited but also for participants to ‘piggy back’ on each other’s contributions.

As the interventions had progressed both managers and researchers expressed the concern that paying attention to an emergent strategy might inevitably be too embedded in the past. The method for operationalising emergent strategy was derived from recognising the significance of problem solving in determining the strategic future of the organisation. The method was, therefore, seen as perhaps too much of a focus on dealing with the present and so not capturing enough of a *redesigned* emergent strategic future. Counter to this view were arguments from managers that their definition of the situation necessarily anticipated worrying futures in their problem definition. They argued that the emergent strategising they had undertaken respected the manager’s ‘soft’ and judgmental beliefs about the future that were not recognised properly in a strategic planning process.

The strategy mapping was identified, by managers, as a process of *changing minds* through a form of cognitive and social negotiation, where the negotiation was founded on exploiting multiple (individual) perspectives, expressed through the group map. Thus, multiple perspectives were leveraged and were in continuous change as a form of group perspective was developed through the use of the model as a continuously changing artefact. Notably, attending to the multiple perspectives is a key characteristic of all soft-OR methods.

Thus, at the end of the first two steps of research cycle 1, the method for detecting emergent strategy was that of developing a group causal map directly with the team rather than using individual cognitive maps as the basis of a group map. This shift in method had indicated the need for a greater focus on two important processes as a part of detecting emergent strategy: the role of real-time social negotiation and the process of individual managers 'selling' their emotionally and judgmentally driven views of a problematic future. These consistent outcomes suggested that the cycle should draw to a close and a full review and reflection take place – step 3 in Fig. 2.

3.3. Research cycle 1 - step 3: elaborate theory from practice and so extend the theoretical focus: what is emergent strategy?

As an emergent strategy was being detected it was clear that it was an active process of strategizing rather than simply a strategy.

How management teams resolved messy issues of strategic significance had demonstrated the need to recognise the role of *social negotiation* in the process of agreeing a 'solution' to the problem. The process of developing a group definition of the situation through the development of a group causal map suggested emergent strategising reflecting the notion of the *organisation as socially negotiated order*.

The emergent strategising arose through the way managers addressed and managed key strategic issues. The strategic issues were influenced by the published strategy, but individual expertise, organisational politics, 'taken-for-granted's', culture, history, systems, and structure played a more significant role in the way strategy emerged. In many respects the method was allowing emergent strategising to be represented as a process that was getting close to detecting theories-in-action rather than espoused theories (Argyris & Schon, 1974). Emergent strategising, and so the emergent strategy, belonged to, and was created by, the managerial team in the everyday resolution of strategic issues, rather than primarily through a planning process often undertaken by a support group.

In summary, the idea of emergent strategy in practice could now be seen as emphasizing emergent strategizing, a process rather than a form of strategy, and strategising as a negotiation of priority issues and options, encompassing both cognitive and social negotiation.

3.4. Research cycle 2 (1996 onwards) – step 1: operationalise the theory by design of a method that reflects the theory

In the move from the first to second Action Research cycle the elaborated method thus required attention to the processes of cognitive and social *negotiation* – building in theory derived from the field of negotiation (see the central feature of Fig. 2). Our exploration of the field of negotiation led to two particularly helpful literatures, one 'handed to us' through serendipity. The first was the writing of Strauss and Schatzman (1963), and Strauss (1978), where there is a notion of a hospital as a *negotiated order* (see also Nathan & Mitroff, 1991). This conceptualisation led us to see the outcome of research cycle 1 as revealing a form of socially negotiated order and negotiated social order where solutions come from social negotiation and involve changes in social relationships (Eden & Ackermann, 1998: 48–49).

The second body of literature was from the field of international conciliation, and its impact on our understanding of research cycle 1 was significant particularly the book on negotiation by Fisher and Ury (1982). This book presented a key aspect of effective negotiation, namely parties socially create new options rather than 'fight over old options'.

As we revisited our research data this description of successful negotiation appeared to explain the way in which the developing group causal map enabled participants to use the map as a continuously changing definition of the problem revealing new options from the synthesis and elaboration of perspectives. This focus on negotiation also, interestingly, paralleled the suggestion that OR is effective when seen as facilitating negotiation (Eden, 1989; Eden, Jones, & Sims, 1994). The map was always in transition – acting as a 'transitional object' – providing a way of the group seeing and developing new options reflecting the process of emergent strategising.

The process of strategising was now seen as a process of negotiation where the *map as a transitional object* was a continually changing record of the strategising. Our understanding of the role of a transitional object was usefully informed by ideas from psychoanalysis (Winnicott, 1953) and much later with respect to organisation science by Carlile (2002, 2004). However, although the map changed as a reflection of the causal linking of points of view from different participants and the continual addition of elaborating views, the use of 'ovals' (in cycle 1) made continual edits of statements on the map difficult without losing the pace of the workshop. Thus, research cycle 2 demanded paying greater attention to enabling continuous transition, strategising, of the points of view as issues moved from belonging to an individual to belonging to the group. The revised method, therefore, utilised computer software³ designed as the transitional object for facilitating interactive causal mapping: a form of group support system (Eden & Ackermann, 1992).

Finally, a search for an understanding of the way in which participants initially seemed to be 'selling' their own sense of what was crucially important for success – making 'claims' on the future of the organisation. The research of Dutton (Dutton, 1986; Dutton & Ashford, 1993; Dutton & Ottensmeyer, 1987) introduced us to the notion of "issue selling", a description that illustrated what we had been experiencing. Later this conceptualization was reinforced by the research of Nutt (2002) into why decisions fail, and where he explicitly discusses the idea of "claims". Thus, issue selling became an integral part of research cycle 2.

Recent research on the performativity of strategy focuses on "matters of concern as what drives participants to defend or evaluate a position, account for or dis-align with an action, or justify or oppose an objective" (Vasquez, Bencherki, Cooren, & Sergi, 2018:2) reinforcing the need to attend to the issues and claims.

In summary, the designed method (method 2) now encompassed a specific focus on: (i) facilitating *negotiation*: developing *new options* that were likely to be the synthesis and adaptation of old options; (ii) using a more powerful *transitional object* (causal mapping software); and (iii) recognizing and legitimizing *issue selling* as a part of the intervention and as an important emotional aspect of emergent strategising.

3.5. Research cycle 2 – step 2: action focused interventions

As with Research cycle 1, a number of interventions took place (around 20) providing a range of insights. Firstly, it appeared to the researchers (confirmed through comments from managers) that the software version of the map had some important advantages. The map's ability to act as a *transitional object* helped the management team negotiate a continuous refining of the meaning of issues. The process allowed for continuous and easy editing of material (both wording and causal links) so that group ownership of the map developed as emergent strategising gradually developed. It became clear that the visual interactive modelling element al-

³ Decision Explorer – banxia.com.

lowed social readjustments to take place; as participants came together as a team each of their views was given more respect than usual, and new social relationships developed (negotiating social order). The transition of meanings enabled new options to be developed through the amalgam and refining of issues – more options were explored and developed. Visual Interactive Modelling (VIM) following a similar path was becoming an important aspect of OR (Hurrion, 1986; Smith, 1986; Bell, 1991).

Significantly, the detected emergent strategy was seen by managers to be more intelligent and robust because it encapsulated the depth of experience, specialist knowledge and expertise of specific roles. Managers felt the resultant emergent strategic direction was significantly less likely to lead to unintended, or unforeseen, consequences than the official strategic plan.

In addition, the presentation of the map as a means-ends hierarchy revealed that what one person regarded as an issue of strategic significance was sometimes seen by others as operational. Separating operations from strategy was regarded as unhelpful to strategising: managers not only explored the ‘what’ of strategy making but also the ‘why and how’, the means-ends agreements; as such they could not usefully separate these two aspects of operations and strategy in managing the future of the organisation.

The process of developing an emergent strategy meant there was no need to go through a stage of ‘making decisions’, as the act of continually refining the map (both in terms of the statements themselves and the map as a whole) resulted in agreements gradually emerging. As an emergent strategy was detected a deliberate strategy was being formed.

However, some problems became apparent. The ability of the mapping software to move statements and associated relationships (the causal links) around easily and so continuously rejig the presentation of a map into a hierarchy meant that the fast changing and complex nature of the map also, on occasion, confused managers. This confusion indicated a need for a clearer conceptualisation of the nature, or structure, of emergent strategy so that complexity could be managed without it being reduced. Categorising statements with respect to a view of their nature as a part of a strategy appeared to be the next development, but not by seeing some as strategic and others as operational: another conceptual structure of strategy was required.

3.6. *Research cycle 2 – step 3: elaborate theory from practice and so extend the theoretical focus: what is emergent strategy?*

The focus on negotiation as a critical part of a method for operationalising emergent strategy now seemed obvious and reflected the idea of organisations as negotiated order as well as strategy as “patterns in a stream of decisions” (Mintzberg, 1978). However, the impact and relevance of the work of Fisher and Ury on understanding the *process* of emergent strategising was profound. The process of members of a management team continually negotiating and renegotiating their view of the organisation’s strategic issues came alive through the use of a transitional object: a gradually stabilising ‘picture-on-the-wall’. The role of continual transition facilitated cognitive shifts: the essence of emergent strategy. So too was the group developing new options that reflected future opportunities rather than the constraining influence of a strategic plan. As such this focus on future opportunities appeared to resonate with Isenberg’s (1987) view regarding the reality of opportunism driving strategic futures thus further establishing the work in the extant literature.

The reality of issue selling was now reflected in the method of detecting emergent strategising and was enabling and encouraging connection between agreed actions and emotions. The act of selling issues was emotional – the method was legitimising anxieties about the future and the commitment of the managers to their

own role in creating a successful organisation. Detecting emergent strategy was grabbing the attention of managers and reinforcing the significant role of emergent strategy as the driver of an organisation’s future.

Thus, emergent strategy now reflected both analysis (through problem structuring) and the role of emotion in delivering organisational change (via issue selling through to negotiated agreements). However anxiety about the future, in contrast to the planning focus on goals, was revealed as a crucial and legitimate aspect of emergent strategising. This led to our conceptualisation of ‘negative goals’ (Eden & Ackermann, 2013). Negative goals, rather than constraints, express an aspiration to avoid a potential disaster. Thus, negative goals appeared as an important aspect of emergent strategy, and one that in many ways reflects research suggesting that managers focus on dealing with issues (Mintzberg, 1975).

In summary, the idea of emergent strategy in practice could now be seen to encompass: social and cognitive negotiation in the creation of new options through the use of a transitional object, the emotion of issue selling, the indivisibility of strategy and operations and the role of negative goals.

3.7. *Research cycle 3 (2000 onwards) – step 1: operationalise the theory by design of a method that reflects the theory*

The experiences of research cycle 2 implied elaborating the method (method 3) for research cycle 3 focusing specifically on managing the complexity of strategising by exploring the structure of emergent strategy.

Exploration of extant theory that would help understand the strategy structure led to the work of Ackoff and Emery (1972) on purposeful systems. This work resonated on two levels. The first being the use of a systems perspective: the map was a network, a system, of issues. The second being the focus on purpose, together with a clear and definitional approach to a hierarchy of goals. Pettigrew’s (1977) suggestion that strategy is about the “management of meaning” provided another important focus on the way in which the structure of a causal map provided meaning not just through the words in statements but more importantly through the implications for change implied by what is causing something (in-arrows) and why it matters (out-arrows) (Eden & Ackermann, 2010).

Through these theoretical concepts the method for research cycle 3 focused on the development of mapping coding rules that helped represent the structure of emergent strategy (Eden & Ackermann, 2001). Maps had been predominantly a ‘means-ends’ hierarchy and for strategic problem solving they had been further structured as options/actions leading to goals/objectives. In method 3, structure was maintained but elaborated to include strategies supporting goals, strategies encompassing strategic programmes that included more operational actions, and, agreed actions that were identified as particularly potent because they impacted many goals.

In addition, the previous action research cycle (research cycle 2) had identified the significance of anxiety where managers worried about avoiding disasters – these were categorised as ‘negative goals’. Understanding this aspect of the structure of emergent strategy took us back to Mintzberg’s research on the nature of a manager’s job (Mintzberg, 1972) where he argued that managers devote most of their time dealing with issues, and so by implication potentially addressing negative goals (whether explicit or implicit). His research suggested that the structure of strategy conversations, and so emergent strategy, might appropriately arise from a starting script that focuses on issues, and then encourages elaboration upwards in the hierarchy towards goals and downwards to strategic options.

Another outcome of the research cycle 2 had shown that the distinction between operational and strategic was problematic

(Ackermann & Eden, 2011a). The implication in our hierarchical structure was that conceptual distinctions should not be treated as if they were easy to determine, although managing complexity required conceptual clarity, the method should nevertheless reflect a fuzzy boundary between, for example, goals and strategies and actions/options. Thus, an emergent strategy would reflect the full extent of both strategic and operational considerations.

3.8. Research cycle 3 – step 2: action focused interventions

The focus of this cycle of interventions had been expected to be less demanding than the previous cycles because we had been used to using some form of mapping based conceptual structure for operational research based problem-solving interventions. This proved to be the case, with saturation occurring more quickly than the previous two research cycles involving around 15 interventions.

However, as the research cycle progressed the analysis of the emergent strategy maps gradually utilised more analysis tools than expected (Eden, 2004; Eden, Ackermann, & Cropper, 1992). For example, exploring the map through hierarchical cluster analysis revealed the emerging strategic arenas or themes that exercised the management team. It became important to use these arenas as an agenda for the development of agreed strategic programmes by making sure that each cluster showed at least one strategic programme designed to address the theme. Similarly, the use of analysis embedded in the software for finding feedback loops became an important recurring task as the map developed. The recognition of, in particular, vicious cycles became a key outcome of the detecting emergent strategy design. Vicious cycles were, of course, not a part of an emergent strategy per se as they had not hitherto been acknowledged however identifying their presence was important if effective strategy was to be produced. The beliefs about the future that created the potential vicious cycle often derived from the explicit merging of the beliefs of several individuals and reflected, therefore, the interactions between the perspectives of people in different roles. Consequently, as the group moved towards using detecting emergent strategising as a basis for agreeing a deliberate strategy, the development of strategies to reduce the impact of vicious cycles were important to identify and manage.

Unsurprisingly the development of an emergent goals system (Eden & Ackermann, 2013) that included recognition of negative goals turned out to be a crucial outcome of this research cycle of interventions. The emergent goals system was always compared with the official goals system and the emergent goals system was consistently seen as a more realistic reflection of the future purpose of the organisation. The emergent goals system reflected what the power brokers in the organisation wanted to achieve, and so would seek to achieve, rather than that laid out in the official plan (Eden & Ackermann, 1998; Eden & van der Heijden, 1995). It was these features of the cycle that reinforced a developing view that emergent strategising was, in practice, a key aspect of the actual strategy of an organisation and a powerful determinant of the strategic future of an organisation, and that it could be detected and used to help create a realistic deliberate strategy.

3.9. Research cycle 3 – step 3: elaborate theory from practice and so extend the theoretical focus: what is emergent strategy?

As a result of seeking to manage the complexity of the emergent strategy maps, an emergent strategy was seen to fit, in some respects, a conceptual structure that reflected the aspiration and purposefulness expected to be a part of a traditional strategy. But, there are important distinctions and elaborations.

Detecting emergent strategy had become the preface for agreeing a deliberate emergent strategy – a strategy that was regarded

as both realistic, because it based on an emergent strategy and yet also aspirational.

The *deliberate emergent strategy* reflected a hierarchy of causality (means-ends/how-why) that encompassed both operations and strategy with a fuzzy boundary between these two aspects. Significantly operations and strategy were not separate considerations for changing an organisation's future – they were integrally linked.

The deliberate emergent strategy also recognised a role for negative goals. Negative goals were aspirational, in the sense that they were not constraints but rather involved actively strategising about avoiding disastrous futures. The means-ends hierarchy therefore was capped by a *goals system* which is a network of interlinked goals that are good outcomes in their own right and yet also support and are supported by other goals. The goals system itself is a hierarchy. This structure of strategy provided a basis for strategy conversations that exploited emergent strategising.

4. Theory development

In this illustration of a real Action Research programme we have presented three cycles of the programme. In reflecting upon them (and subsequent Action Research programmes) it was interesting that each cycle focused primarily on one particular theoretical development. Research cycle 1 focused on emergent strategising as an active process through sense-making to detect emergent strategy, research cycle 2 focused on negotiation (both social and cognitive), issue selling and the role of a transitional object in sense-making, research cycle 3 on managing complexity through the structure of emergent strategy and so the analysis of strategy maps. There was one further cycle relating to this research topic which did not advance theory but did advance the method. This research cycle brought into play theories of Procedural Justice (Tyler & Blader, 2000) and the development of a Group Support System (*Group Explorer*⁴) to reflect the significance of procedural justice and also of negotiation (Ackermann & Eden, 2010; Ackermann & Eden, 2011a; 2011b).

Thus, in summary the primary theory development about emergent strategy was:

Research Cycle 1 - emergent strategy is an active *process* of strategising rather than simply a strategy – thus emergent strategising not emergent strategy; management teams *socially create new strategic options* through the explicit convergence and linking of perspectives and through a process of *cognitive and social negotiation* leading to changing of minds and agreement of priorities;

Research Cycle 2 - emergent strategy reflects both analysis and the *role of emotion* in delivering organisational change (i.e. *issue selling* through to negotiated agreements); *anxiety about the future*, in contrast to the planning focus on goals, is a crucial and legitimate aspect of emergent strategising; the conceptualisation of '*negative goals*' and their importance in an emergent strategy – '*negative goals*' rather than constraints, express an aspiration to avoid a potential disaster; and *operations and strategy are inextricably linked*.

Research Cycle 3 – the significance of the role of detecting emergent strategy *as the preface for agreeing a deliberate emergent strategy*; developing a strategy that is both realistic, because it based on an emergent strategy, and also aspirational; and is also based on a *coherent structure of strategy*.

These aspects of theory development, in turn, became reflected in the developing soft-OR method that gradually shifted

⁴ Group Explorer is software that permits each participants to contribute statement and links to the transitional object (causal map) in the own time and anonymously, as well as declare their own judgments about the emerging material through subjective rating or 'voting'. The facilitator is able to monitor activity on a continuous basis. The software is freely available through the authors.

from SODA (Strategic Options Development and Analysis) to Journey Making (Jointly Understanding and NEgotiating strategy) (Ackermann & Eden, 2011a; Eden & Ackermann, 1998).

5. Conclusions

We set out to address three aims in this paper: doing Action Research in practice and its implications for the Action Research method; Action Research for the development of theory, management research that is rigorous and relevant; and the role of Action Research in developing soft-OR. In this final section we summarise our conclusions with respect to each of these aims.

The process of writing this paper inevitably forced reflection in depth on the Action Research process being followed (Eden & Huxham, 2006). This reflection led to a different view of the Action Research cycle (from what is presented in Fig. 1) where the explication of pre-understanding was now a key feature and the role of encompassing new theory a more fundamental part of the cycle (see Fig. 2).

The research programme discussed in this paper, shows that Action Research demands attention to detailed design, deep understanding of the extant literature with respect to its implications for practice, and perhaps most significantly a willingness to engage with practitioners over long periods of time. Notably the Action Research cycle needs to be thought of as many mini-cycles/interventions (in this research program between 15 and 30 for each research cycle) before saturation occur. Aspects of the designed methods sometimes need to be ‘dumped’ as they are not viewed as relevant and or valued by a management team, and a balancing act maintained between working with the messiness of organisational life intersected by a desire to embed thoughtful coherent design that influences practice and yet reflects good theoretical ideas.

We introduced this paper by reference to the issues of making operational research/ management research both relevant and rigorous. The research we report here demonstrates that Action Research in practice can deliver rigour and relevance, as long as it is conducted as *Research Oriented* Action Research to distinguish it from “forms of action research that do not have research output as their *raison d’être*” (Eden & Huxham, 2006: 388). In particular the process of developing soft-OR through Action Research is a particularly significant opportunity for operationalising and developing promising theory – in this case making the concept of emergent strategy meaningful for strategy making in practice. In the debates on rigour with relevance there is often a presumption that application presumes the knowledge to be complete prior to its use in practice and that the issue of gaining relevance is simply that of translating the knowledge further down the knowledge chain (Thorpe et al., 2011). The work reported here strongly suggests that knowledge will become increasingly more complete as it is applied in practice. Developing operational research techniques involves working with managers on their problems and so through attempts to apply theory it is well placed to ensure rigour and relevance. Managers are part of the knowledge production process – through providing feedback. So too are OR practitioners as throughout the development of the method (from SODA to Journey Making) countless discussions have taken place.

Furthermore the apparent linearity of the process is to some extent not a true depiction of what occurs; Action Research comprises research cycles which constitute not only insights from the particular set of interventions taking place within the cycle but also through reflections on interventions or literature exploration gained from later research cycles’ impact and influencing developments made in earlier cycles. As such this paper reflects a macro examination of the research programme. Moreover, in order to present a clear view of the process of Action Research this paper

has necessarily presented a view that is tidier than the reality of the research process but has done so without diverging from the logic as described.

In sympathy with Tranfield and Starkey (1998) the focus of this type of research is directed towards design for practice – exactly the nature of OR. As Tsoukas and Chia (2002) write, “only a direct perception of reality will enable one to get a glimpse of its most salient characteristics – it’s constantly changing texture; it’s indivisible continuity; the conflux of the same with the different over time. [...] Only by placing ourselves at the centre of an unfolding phenomenon can we hope to know it from within” (p571, our emphasis). Deep theoretical and practical insights come from (i) the process of understanding theory from the perspective of application, (ii) the process of *designing theory* for practice, (iii) application with managers determined to get value from it and act on its implications, and (iv) undertaking a continuing cycle of elaboration and redesign of ideas and theory and its re-application. Therefore, in essence, accepting “that theory is approximated” (Weick, 1995b: 386) in the field of organisational studies, and so will usually need elaborating towards creation of a strong theory and legitimate knowledge (Suddaby, 2014). Thus, by being solution-oriented there is a natural affinity with Action Research as both seek to help managers confronting business problems in a manner that is robust. We therefore see operational research and Action Research as overlapping and complementary.

In this paper we have discussed the application of Action Research in practice: practice from theory (a soft-OR method) and theory from practice (emergent strategy). The Action Research programme used to illustrate Action Research was designed to develop a method that morphed from problem structuring to an effective strategic problem solving and ultimately strategy making method; an OR ‘design for practice’, building on the concept of emergent strategy. The research evolved through the use of the focal and additional concepts and theories that seemed attractive and apposite to both the researchers/authors and to senior management teams and practitioners. As such, it should not be a surprise that an important outcome of this project was the requirement for Action Research, and the development of a soft-OR method, to be open to an inter/trans-disciplinary approach to the application of theories that are presented in the literature as if sitting within a single discipline. Behavioural OR is now beginning to legitimise opening up OR to consider wider aspects of the organisational world – a widening that was being argued for in the OR literature in the 1970’s and 1980’s (Ackoff, 1979a, 1979b; Dando & Eden, 1980; Eden, 1978; Eden, Jones, & Sims, 1983; Jackson, 1997).

The research represented here suggests that Action Research stimulates managers and practitioners in exploring other promising related ideas from the management research literature. In some respects this creates the potential for ‘never ending cycles’ where a new research cycle is introduced from the previous cycle and where saturation of one concept development naturally leads to the encompassing of new research avenues. In our case the research focus on emergent strategy generated interest in competitive advantage as ideas from the resource based view became entwined in discussion about developing competitive advantage (Bryson et al., 2007; Eden & Ackermann, 2010), and also in stakeholder management (Ackermann & Eden, 2011b). There were not clear break-points between each research foci as there are not clear break-points between the research cycles. Operational researchers, and particularly practice oriented OR academics, can exploit such opportunities.

For those considering using Research Oriented Action Research for the design of OR method the following guidelines may prove useful:

1. being willing to pay attention to the detailed design of the research, including the key initial theoretical and practice drivers,
2. developing an on-going and deep understanding of the extant literature with respect to its implications for practice,
3. being willing to engage with practitioners over long periods of time,
4. recognising that aspects of the designed methods sometimes need to be 'dumped' as they are not viewed as relevant and or valued by a management team
5. maintaining a balance between working with the messiness of organisational life intersected by a thoughtful coherent design that influences practice and develops good theoretical ideas
6. appreciating that managers and OR (or other discipline) practitioners are part of the knowledge production process
7. being open to eliciting insights not only from the interventions taking place within the focal cycle but also through reflections on interventions or literature exploration gained from later cycles,
8. being open to encompassing theory across a range of disciplines.

Designing methods that operationalise good ideas/theories that can be used by others and that reflect sound theory has provided us with the privilege of not only working intimately with some impressive senior management teams but additionally seeing the results of the interventions embedded within organisational practice. In seeking to design methods that adequately reflect theory the requirement for clear explication of their use in practice means they can be used by others – in our case by operational researchers and consultants. To some extent soft-OR is vulnerable because the modelling approach is easy to apply it poorly (Ackermann, 2012). Research Oriented Action Research (ROAR) offers an opportunity to attack this vulnerability as dispel the accusations that soft-OR is too atheoretical. OR has an opportunity/skills to take 'good' ideas from management theorists and convert them into rigorous, well-grounded and relevant and usable method. The work has also supported Dyson's (2000) view that Problem Structuring Methods (soft-OR) provide a valuable aid to managers in the strategy arena (see also Franco, Bryant, & Hindle, 2007).

References

- Ackermann, F. (1992). Strategic direction through burning issues - using SODA as a strategic decision support system. *OR Insight*, 5, 24–28.
- Ackermann, F. (2012). Problem structuring methods in the Dock. *European Journal of Operational Research*, 219, 652–658.
- Ackermann, F., & Eden, C. (2010). The role of group support systems: negotiating safe energy. In D. M. Kilgour, & C. Eden (Eds.), *Handbook of group decision and negotiation* (pp. 285–299). Dordrecht: Springer.
- Ackermann, F., & Eden, C. (2011a). *Making strategy: Mapping out strategic success*. London: Sage.
- Ackermann, F., & Eden, C. (2011b). Strategic management of stakeholders: Theory and practice. *Long Range Planning*, 44, 179–196.
- Ackoff, R. L. (1979a). The future of operational research is past. *Journal of the Operational Research Society*, 30, 93–104.
- Ackoff, R. L. (1979b). Resurrecting the future of operational research. *Journal of the Operational Research Society*, 30, 189–199.
- Ackoff, R. L. (1981). The art and science of mess management. *Interfaces*, 11, 20–26.
- Ackoff, R. L., & Emery, F. (1972). *On purposeful systems*. London: Tavistock.
- Argyris, C., & Schon, D. (1978). *Organizational learning: A theory of action perspective*. Reading, MA: Addison-Wesley.
- Argyris, C., & Schon, D. A. (1974). *Theories in practice*. San Francisco: Jossey Bass.
- Argyris, C., & Schon, D. A. (1991). Participatory action research and action science compared: A commentary. In W. F. Whyte (Ed.), *Participatory action research* (pp. 85–96). London: Sage.
- Axelrod, R. (1976). *Structure of decision*. Princeton: University of Princeton Press.
- Baldrige, D. C., Floyd, S. W., & Markoczy, L. (2004). Are managers from Mars and academicians from Venus? Toward an understanding of the relationship between academic quality and practical relevance. *Strategic Management Journal*, 25, 1063–1074.
- Bell, P. C. (1991). Visual interactive modelling: The past, the present, and the prospects. *European Journal of Operational Research*, 54, 274–286.
- Bettis, R. (1991). Strategic management and the straightjacket: And editorial essay. *Organization Science*, 2, 315–319.
- Bryson, J. M., Ackermann, F., Eden, C., & Finn, C. (1995). Using the 'Oval Mapping Process' to identify strategic issues and formulate effective strategies. In J. M. Bryson (Ed.), *Strategic planning for public and nonprofit organisations* (pp. 257–275). San Francisco: Jossey Bass.
- Bryson, J. M., Ackermann, F., Eden, C., & Finn, C. (1996). Critical incidents and emergent issues in the management of large scale change effects. In D. Kettl, & H. Brinton Milward (Eds.), *The state of public management* (pp. 267–285). Baltimore, M.D.: John Hopkins Press.
- Bryson, J. M., Ackermann, F., & Eden, C. (2007). Putting the resource-based view of strategy and distinctive competencies to work in public organizations. *Public Administration Review*, 67(4), 702–717.
- Carlile, P. R. (2002). A pragmatic view of knowledge and boundaries: Boundary objects in new product development. *Organization Science*, 13, 442–455.
- Carlile, P. R. (2004). Transferring, translating, and transforming an integrative framework for managing knowledge across boundaries. *Organization Science*, 15(5), 555–568.
- Chakravarthy, B. S., & Doz, Y. (1992). Strategy process research: Focusing on corporate self-renewal. *Strategic Management Journal*, 13, 5–14 Special Issue.
- Checkland, P., & Holwell, S. (1998). Action research: Its nature and validity. *Systems Practice*, 11, 9–21.
- Checkland, P., & Scholes, J. (1999). *Soft systems methodology in action*. Chichester: Wiley.
- Corbett, C. J., & Van Wassenhove, L. N. (1993). The natural drift: What happened to operations research? *Operations Research*, 41, 625–640.
- Cummings, T. G., & Jones, Y. (2004). Creating actionable knowledge. *Academy of Management conference*. <http://meetings.aomonline.org/2004/theme.htm>.
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretive systems. *Academy of Management Review*, 9, 284–295.
- Dando, M., & Eden, C. (1980). Reflections on operational research. In R. H. Collcutt (Ed.), *Successful operational research*. Birmingham: Operational Research Society.
- Dutton, J. E. (1986). The processing of crisis and non-crisis strategic issues. *Journal of Management Studies*, 23, 501–517.
- Dutton, J. E., & Ashford, S. J. (1993). Selling issues to top management. *Academy of Management Review*, 18, 397–428.
- Dutton, J. E., & Ottensmeyer, E. (1987). Strategic issue management systems: Forms, functions and contexts. *Academy of Management Review*, 12, 355–365.
- Dyson, R. G., & O'Brien, F. A. (1998). *Strategic development: Methods and models*. Chichester: Wiley.
- Dyson, R. G. (2000). Strategy, performance and operational research. *Journal of the Operational Research Society*, 51, 5–11.
- Eden, C. (1978). Operational research and organizational development. *Human Relations*, 31, 657–752.
- Eden, C. (1988). Cognitive mapping: A review. *European Journal of Operational Research*, 36, 1–13.
- Eden, C. (1989). Operational research as negotiation. In M. C. Jackson, P. Keys, & S. A. Cropper (Eds.), *Operational research and the social sciences* (pp. 43–50). NY: Plenum Press.
- Eden, C. (2004). Analyzing cognitive maps to help structure issues or problems. *European Journal of Operational Research*, 159, 673–686.
- Eden, C., & Ackermann, F. (1992). Strategy development and implementation- the role of a Group Decision Support System. In S. Kinney, R. P. Bostrom, & R. Watson (Eds.), *Computer augmented teamwork: A guided tour* (pp. 325–342). New York: Van Nostrand and Reinhold.
- Eden, C., & Ackermann, F. (1998). *Making strategy: The journey of strategic management*. London: Sage.
- Eden, C., & Ackermann, F. (2001). A mapping framework for strategy making. In A. Huff, & M. Jenkins (Eds.), *Mapping strategy* (pp. 173–195). London: Wiley.
- Eden, C., & Ackermann, F. (2010). Decision making in groups: Theory and practice. In P. Nutt, & D. Wilson (Eds.), *Handbook of decision making*. Oxford: Blackwell 2301–272.
- Eden, C., & Ackermann, F. (2013). Problem structuring: On the nature of, and reaching agreement about, goals. *EURO Journal of Decision Processes*, 1, 7–28.
- Eden, C., Ackermann, F., & Cropper, S. (1992). The analysis of cause maps. *Journal of Management Studies*, 29, 309–324.
- Eden, C., & van der Heijden, K. (1995). Detecting emergent strategy. In H. Thomas, D. O'Neal, & J. Kelly (Eds.), *Strategic renaissance and business transformation*. New York: Wiley.
- Eden, C., & Huxham, C. (1996). Action research for the study of organizations. In S. Clegg, C. Hardy, & W. Nord (Eds.), *Handbook of organization studies* (pp. 526–542). Beverly Hills: Sage.
- Eden, C., & Huxham, C. (2006). Researching organizations using action research. In S. Clegg, C. Hardy, & W. Nord (Eds.), *Handbook of organization studies* (pp. 388–408). Beverly Hills: Sage.
- Eden, C., Jones, S., & Sims, D. (1983). *Messing about in problems*. Oxford: Pergamon.
- Eden, C., Jones, S., & Sims, D. (1994). Misunderstandings: Understanding problems and the problems of misunderstanding. In R. Armon, & R. Paton (Eds.), *Organizations: Cases, issues, concepts*. London: Paul Chapman Publishing.
- Eden, C., & Sims, D. (1979). On the nature of problems in consulting practice. *Omega*, 7, 119–127.
- Eden, C., & Simpson, P. (1989). SODA and cognitive mapping in practice. In Jonathan Rosenhead (Ed.), *Rational analysis for a problematic world* (pp. 43–70). Chichester: Wiley.
- Fisher, R., & Ury, W. (1982). *Getting to yes*. London: Hutchinson.

- Ford, C. H. (1977). "The 'elite' decision-makers: What makes them tick?". *Human Resource Management*, 16, 14–20.
- Franco, A., Bryant, J., & Hindle, G. (2007). Problem Structuring and the building and negotiation of strategic agendas. In F. O'Brien, & R. G. Dyson (Eds.), *Supporting strategy: Frameworks, methods and models* (pp. 87–114). Chichester: Wiley.
- Franco, L. A., O'Brien, F., & Bell, P. (2011). Supporting strategy: Contributions from OR. *Journal of the Operational Research Society*, 62, 815–816.
- Friend, J., & Hickling, A. (2005). *Planning under pressure: The strategic choice approach* (3rd edition). Oxford: Elsevier.
- George, G. (2016). Management research in AMJ: Celebrating impact while striving for more. *Academy of Management Journal*, 59, 1869–1877.
- Gopinath, C., & Hoffman, R. C. (1995). The relevance of strategy research: Practitioner and academic viewpoints. *Journal of Management Studies*, 32, 575–594.
- Gulati, R. (2007). Tent poles, tribalism, and boundary spanning: The rigor-relevance debate in management research. *Academy of Management Journal*, 50, 775–782.
- Harrigan, K. R. (1983). Research methodologies for contingency approaches to business strategy. *Academy of Management Review*, 8, 398–405.
- Hurriion, R. D. (1986). Visual interactive modelling. *European Journal of Operational Research*, 23, 281–287.
- Huxham, C., & Dando, M. (1981). Is bounded vision an adequate explanation of strategic decision-making failures? *Omega*, 9, 371–379.
- Iseberg, D. J. (1987). The tactics of strategic opportunism. *Harvard Business Review*, 92–97 March–April.
- Jackson, M. (1997). Pluralism in systems thinking and practice. In J. Mingers, & A. Gill (Eds.), *Multimethodology: The theory and practice of combining management science methodologies* (pp. 347–378). Chichester: Wiley.
- Jarzbakowski, P., Balogun, J., & Seidl, D. (2007). Strategizing: The challenges of a practice perspective. *Human Relations*, 60, 5–27.
- Kelly, G. A. (1955). *The psychology of personal constructs*. New York: Norton.
- Kieser, A., & Leiner, L. (2009). Why the rigour-relevance gap in management research is unbridgeable. *Journal of Management Studies*, 46, 516–533.
- Kirby, M. (2002). *Operational research in war and peace: The British experience from the 1930s to 1970*. London: Imperial College Press.
- Lewin, K. (1946). Action Research and minority problems. *Journal of Social Issues*, 2, 34–46.
- Lewin, K. (1951). *Field theory in social science: Selected theoretical papers*. New York: Harper & Row.
- Lilien, G. L. (1987). MS/OR: A mid-life crisis. *Interfaces*, 17, 35–38.
- Lindblom, C. E. (1959). The science of muddling through. *Public Administration Review*, 19, 79–88.
- Lindblom, C. E. (1968). *The policy-making process*. New Jersey: Prentice-Hall.
- McHugh, P. (1968). *Defining the situation*. New York: Bobbs-Merrill.
- Mingers, J. (2011). Soft OR comes of age - but not everywhere!. *Omega*, 39, 729–741.
- Mingers, J., & Rosenhead, J. (2004). Problem structuring methods in action. *European Journal of Operational Research*, 152, 530–554.
- Mintzberg, H. (1975). The manager's job: Folklore and fact. *Harvard Business Review*, 49–61 July–Aug.
- Mintzberg, H. (1978). Patterns in strategy formation. *Management Science*, 24, 934–948.
- Mintzberg, H. (1987). Crafting strategy. *Harvard Business Review*, 66–75 July–August.
- Mintzberg, H., & Waters, J. A. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 6, 257–272.
- Mintzberg, H. (1972). Research on strategy-making. In *Proceedings of the management conference*. Minneapolis.
- Mitroff, I. I., & Featheringham, T. R. (1974). On systemic problem solving and the error of the third kind. *Behavioural Science*, 19, 383–393.
- Morse, J. M. (1994). Designing funded qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 220–235). Thousand Oaks, CA: Sage.
- Nathan, M., & Mitroff, I. (1991). The use of negotiated order theory as a tool for the analysis and development of an interorganizational field. *Journal of Applied Behavioural Science*, 27, 163–180.
- Norburn, D. (1989). The chief executive: A breed apart. *Strategic Management Journal*, 10, 1–15.
- Nutt, P. C. (2002). *Why decisions fail: Avoiding the blunders and traps that lead to debacles*. San Francisco: Berrett-Koehler Inc.
- O'Brien, F. A., & Dyson, R. G. (2007). *Supporting strategy: Frameworks, methods and models*. Chichester: Wiley.
- Pearce, J. L., & Huang, L. (2012). The decreasing value of our research to management education. *Academy of Management Learning and Education*, 11, 247–262.
- Pettigrew, A. M. (1977). Strategy formulation as a political process. *International Studies of Management and Organization*, 7, 78–87.
- Pettigrew, A. M. (1992). On studying managerial elites. *Strategic Management Journal*, 13, 163–182.
- Pettigrew, A. M. (1997). The double hurdles for management research. In T. Clarke (Ed.), *Advancement in organizational behaviour: Essays in honour of Derek S. Pugh* (pp. 277–296). London: Dartmouth Press.
- Pettigrew, A., Thomas, H., & Whittington, R. (2002). Strategic management: The strengths and limitations of a field. *Handbook of strategy and management* (pp. 3–30). London: Sage.
- Reason, P., & Rowan, J. (1981). *Human inquiry. A sourcebook of new paradigm research*. Chichester: Wiley.
- Reichert, J. (2010). Abduction: The logic of discovery of grounded theory. *Forum: Qualitative social research*, 11(1) Article 13.
- Rosenhead, J., & Mingers, J. E. (2001). *Rational analysis in a problematic world revisited*. Chichester: Wiley.
- Rosenhead, J. (1989). *Rational analysis for a problematic world: Structuring methods for complexity, uncertainty and conflict*. London: Wiley.
- Simon, H. A. (1956). Rational choice and the structure of the environment. *Psychological Review*, 63, 129–138.
- Smith, V. L. (1986). Visual interactive modelling. *Journal of the Operational Research Society*, 37, 1017–1020.
- Starkey, K., & Madan, P. (2001). Bridging the relevance gap: Aligning stakeholders in the future of management research. *British Journal of Management*, 12, S3.
- Strauss, A. (1978). *Negotiations: Varieties, contexts, processes and social order*. San Francisco: Jossey-Bass.
- Strauss, A., & Schatzman, L. (1963). The Hospital and its negotiated order. In E. Friedson (Ed.), *The hospital in modern society* (pp. 147–169). New York: Macmillan.
- Suddaby, R. (2014). Editor's comments: Why theory? *Academy of Management Review*, 39, 407–411.
- Susman, G., & Evered, R. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly*, 23, 582–603.
- Thomas, H., & Wilson, A. (2009). An analysis of the environment and competitive dynamics of management research. *Journal of Management Development*, 28, 668–684.
- Thorpe, R., Eden, C., Bessant, J., & Ellwood, P. (2011). Rigour, relevance and reward: Introducing the knowledge translation value-chain. *British Journal of Management*, 22, 420–431.
- Tranfield, D., & Starkey, K. (1998). The nature, social organisation and promotion of management research: Towards policy. *British Journal of Management*, 9, 341–353.
- Tsoukas, H., & Chia, R. (2002). On organizational becoming: Rethinking organizational change. *Organization Science*, 13, 567–582.
- Tyler, T. R., & Blader, S. L. (2000). *Cooperation in groups: Procedural justice, social identity, and behavioural engagement*. Oxford: Psychology Press.
- Vasquez, C., Bencherki, N., Cooren, F., & Sergi, V. (2018). From 'matters of concern' to 'matters of authority': Studying the performativity of strategy from a communicative constitution of organization (CCO) approach. *Long Range Planning in press*.
- Weick, K. E. (1983). Managerial thought in the context of action. In S. Srivastava (Ed.), *The executive mind* (pp. 221–242). San Francisco: Jossey-Bass.
- Weick, K. E. (1995a). *Sensemaking in organizations*. Thousand Oaks, CA: Sage.
- Weick, K. (1995b). What theory is not, theorizing is. *Administrative Science Quarterly*, 40, 385–390.
- Williams, T. (2008). *Management science in practice*. Chichester: Wiley.
- Winnicott, D. W. (1953). Transitional objects and transitional phenomena: A study of the first not-me possession. *The International Journal of Psych-Analysis*, XXXIV(Part 2), 89–97.