Methods of collecting and analysing information while conducting action research in organisations for academic research

Chad Perry and Shankar Sankaran
Graduate College of Management, Southern Cross University
PO Box 42
Tweed Heads NSW 2485
AUSTRALIA
Fax: 61 7 5536 6794
Phone: 61 7 5536 2964
Email: cperry1@scu.edu.au

Abstract

Although many papers and books have been written about conducting action research it is difficult for academic researchers to find information on how to collect, analyse and present action research data. This paper aims to distinguish the scientific paradigms underlying action research and other management research, focussing on the critical theory and realism paradigms respectively. Because the paradigms are so different, we develop a two-project approach to using action research in management research. One
project is based on the customary action research cycles, and the other project is based on
the more common stages of an academic research project like a journal article or a thesis.
How to integrate and implement the two projects is detailed. Examples of the use of these
data collection and analysis methods by postgraduate students, are provided. Most of
these researchers are working managers who are carrying out research at their workplace
to implement change.

Introduction

Because action research develops more human, social and professional competencies
than traditional research, we address the question of how action research can be
incorporated into a social sciences research program. That is, an action research project
may enhance learning within an organisation, but how can it also make a contribution to a
body of knowledge that interests academics? A student faces two goals or ‘imperatives’
(McKay and Marshall (2001, p. 46). One goal is to solve a practical problem within an
organisation, and the second is to generate new knowledge and understanding. How to
address both these goals has been addressed rarely in the literature (Perry and Zuber-
Skerritt 1994; Carson et al. 2001) and there is ‘little direct guidance on “how to do” it’

Essentially, this paper argues that these two goals reflect the two different paradigms of
organisational action researchers and the readers of academic journals and theses. Indeed,
at least three ‘worlds’ of phenomena can be distinguished. For each world, scientists
share a worldview or paradigm that is internally consistent, rational and logical. In more
detail, we consider three worlds and their corresponding scientific paradigms (based on
Magee (1985) and Guba and Lincoln (1994)):

- World 1 fits the positivism paradigm consisting of objective, material things. Here, in
  essence, reality is a straightforward concept that is easy to measure.
- World 2 fits the critical theory and constructivism paradigms and ‘consists of the
  subjective world of minds’, that is, of meanings. Here, ‘perception is reality’. Action
  research fits into this world and the critical theory paradigm.
- World 3 fits the realism paradigm and consists of abstract things that are born of
  people’s minds but exist outside and independently of any one person. Here, a
  person’s perceptions are a window onto that blurry, external reality. This is the world
  and paradigm of readers of academic journals and theses.

The aim of this paper is to show how the critical theory and realism paradigms can be
blended by distinguishing between a ‘core’ action research project and a ‘article or thesis
action research project. Essentially, we argue that action research could be considered to
be a mere methodology rather than an ideology. Our contribution is one practical way of
bridging the gulf between the two paradigms.

The paper has two parts. First, the three worlds above are introduced and evaluated.
Then, the core action research project and the thesis action research projects are described
and examples presented.
**Positivism paradigm**

Just two paradigms are sometimes distinguished in action research writing, for example, Bawden (1991). But a finer-grained distinction is required for this paper. A four paradigm categorisation is modern and widely-used: positivism, critical theory, constructivism and realism (based on Guba and Lincoln 1994). The first, positivism paradigm is the most widely used paradigm for business school research (Orlikowski and Baroudi 1991) and assumes implicitly or explicitly that reality can be measured by viewing it through a one way, value-free mirror (this discussion of paradigms is based on Perry 2002). Its World 1 assumptions are summarised in the left-hand column of Table 1. These assumptions are used by engineers, for example, to research a physical science phenomenon like a bridge.

However, some studies shows these almost ‘default’ assumptions of business school research are inappropriate to research social science phenomena like management and marketing. For example, replication research does not usually produce the same results as prior research, as one would expect in positivism research. Hubbard and Armstrong (1994) found that only 15 percent of replication studies in the social science of marketing fully confirmed the prior findings and only 25 percent partially confirmed them. In other words, fully 60 percent of replication studies provided results that conflicted with their predecessor. Indeed, of those few studies that support prior research, over half were done by the same researcher as did the prior research (Hubbard and Vetter 1996), suggesting that the research was not done in the value-free way that positivism supposes.
<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Positivism</th>
<th>Constructivism</th>
<th>Critical theory</th>
<th>Realism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontology</strong></td>
<td>reality is real and apprehensible</td>
<td>multiple local and specific 'constructed' realities</td>
<td>'virtual' reality shaped by social, economic, ethnic, political, cultural, and gender values, crystallised over time</td>
<td>reality is 'real' but only imperfectly and probabilistically apprehensible and so triangulation from many sources is required to try to know it</td>
</tr>
<tr>
<td><strong>Epistemology</strong></td>
<td>findings true – researcher is objective by viewing reality through a 'one-way mirror'</td>
<td>created findings – researcher is a 'passionate participant' within the world being investigated</td>
<td>value mediated findings – researcher is a 'transformative intellectual' who changes the social world within which participants live</td>
<td>findings probably true – researcher is value-aware and needs to triangulate any perceptions he or she is collecting</td>
</tr>
<tr>
<td><strong>Common methodologies</strong></td>
<td>Mostly concerns with a testing of theory. Thus mainly quantitative methods such as: survey, experiments, and verification of hypotheses.</td>
<td>In-depth unstructured interviews, participant observation, action research, and grounded theory research</td>
<td>Action research and participant observation</td>
<td>Mainly qualitative methods such as case studies and convergent interviews</td>
</tr>
</tbody>
</table>

Note: Essentially, ontology is 'reality', epistemology is the relationship between that reality and the researcher and methodology is the technique used by the researcher to discover that reality.

*Source: based on Perry, Riege and Brown (1999), which itself was based on Guba and Lincoln (1994) from which the quotations come*
Meta-analyses of several positivism studies often confirm this picture of the inadequacy of positivism to investigate social phenomena. A meta-analysis compares several quantitative studies on a common scale. For example, the correlations over many studies between customer satisfaction and these constructs cover a wide range of values that even spread across positive and negative values (Szymanski and Henard 2000):

- expectations: -.13 to +.66
- disconfirmation: -.24 to +.87
- performance: -.37 to +.81

This picture of disappointing results from using positivism as the default paradigm in management and marketing research, is confirmed by Redding (1993, p. 6). In a review of 30 year's research into a complex social science phenomena like organisational culture, he concluded that the research had uncovered little because most of it was positivist:

> This review of the major reviews leads to the conclusion that thirty years' work has made little impression on the immensely complex problem of cultures and organizational behaviour... The main body of work is clustered incompetently, unadventurously, but with comfortable conformity in the positivist... corner. (emphasis added)

Thus it should not surprise that real world managers consider that most academic research coming out of business schools is irrelevant. Porter and McKibbin's (1988, p. 180) thorough investigation of senior managers, new MBA recruits into firms, their
superiors and consultants, found that business school research was definitely not useful to practicing managers:

as far as we could tell, many key managers and executives pay little or no attention to such research and findings [of business academics]... the direct impact appears nil... not a single [manager] who was interviewed cited the research of business schools as either their most important strength or their major weakness.. The business world is... ignoring the research coming out of business schools.7 (emphasis added)

In brief, we argue that using positivism as the default paradigm in social sciences like management and marketing has led to nowhere in particular. This paper will not return to it.

Constructivism and critical theory paradigms

The major alternative to positivism in the social sciences is postmodernism or interpretivism, which can be categorised within the next two paradigms of constructivism and critical theory. The two paradigms relate to World 2 in the introduction and are summarised in the middle columns of Table 1. Essentially, these paradigms argue that the world is ‘constructed’ by people and that these constructions should be the driving forces investigated in social science research. They are the implicit or explicit paradigms behind action research and action learning, for they focus on the group’s or the individual’s learning. Similarly, some people perceive Levi jeans are the best jeans and
worth buying, even though tests done within a positivism framework by consumer magazines show their cloth, stitching and buttoning is not as well-constructed as other brands' jeans. Similarly, a person can commit suicide because of the black world they perceive themselves to be in, whether that eternal world is 'really' as bad as they perceive it or not. That is, a core element of these two paradigms is that each person's constructed reality is so powerful an influence on their behaviour that any external reality is relatively unimportant and, moreover, there is no way of comparing the multiple constructed realities of different people.

But this incommensurability of perceptions, that is, the relativism at the heart of these paradigms, makes the two paradigms a cul de sac for many academic researchers. For example, Hunt (1991) asks how these paradigms can help in trying to research whether the Holocaust occurred to Jews in the 1940s - some people perceive that it occurred and some that it did not, and these differences cannot be compared within the two paradigms of constructivism and critical theory:

- It is indeed true that one of the 'multiple realities' that some people hold... is that the Holocaust never occurred... An alternative 'multiple reality' is that the Holocaust did in fact occur... Which 'multiple reality' is correct? Sincere...

- advocates of reality relativism must stand mute when confronted with this question.

One way offered out of this cul de sac is negotiations between people with different constructed worlds, to arrive at some shared understanding. But will these negotiations be
possible when they have unequal power? For example, will burglars who perceive that taking possessions of wealthier people is equitable, and wealthy householders who do not want their homes burgled, be able to negotiate some shared understanding? Pawson and Tilley (1997, pp. 16-21) answer that question with a clear ‘No’:

it is hard not to snigger when Guba and Lincoln talk about getting stakeholders to agree to and formally sign ‘conditions for a productive hermeneutic dialectic’…

[Their] hermeneutic dialectic circles (not surprisingly) go round in circles, rather than constituting a linear advance on truth.

In particular, constructivism and critical theory are not especially relevant in research about an organisation having to survive within a market, because marketing managers have to deal with a world that is external, that is out there and that does not particularly care about the perceptions of an individual manager:

In marketing, the company’s external environment is always more important than the internal. The real decisions are made in the world outside - among consumers, middlemen, competitors, politicians, legislators and trade organisations. The external environment is neither particularly knowledgeable nor interested in the company and its development. (Gummesson 2000, p. 105; emphasis added)

In brief, subjective ‘meaning’ within constructed realities may indeed determine some outcomes like customers’ choice of jeans but not issues concerning the marketing management of those perceptions. Overall, constructivism/critical theory may be useful for research about important social science phenomena like suicide, falling in love,
family life, office power politics in big organisations with slow or blurry feedback loops to the outside, political ideologies, racism and nationalism. But many academic researchers are interested in a school of thought about many manifestations of phenomena like these, across many situations that do need to be compared. In particular, much management and marketing management in particular are about mere transactions in an external market place. In this sort of world, research has to be like a court room trial where evidence is sought about the external reality of ‘guilty or not guilty’ that exists independently of what did or did not drive a person to commit the crime, even though that external reality can only be known imperfectly. We need a picture (even though it will be an imperfect one) of how managers can manage the perceptions of many customers within an external market, at a profit. In short, constructivism and critical theory are a cul de sac for much management research such as research about marketing management.

Realism paradigm

That is, we sometimes need to move away from Worlds 1 and 2 noted in the introduction, into World 3 and its paradigm of realism. This worldview of realism consists of abstract things that are born of people’s minds but exist independently of any one person ... ‘the third world is largely autonomous, though created by us’ (Magee 1985, p. 61). That third world could be a country’s legal system or the body of academic knowledge about leadership or market segmentation, for example. A person’s perceptions are a window on to that blurry, external reality. Realism is summarised in the right-hand column of Table
I am about mechanisms of structures within a social context that do exist ‘out there’ (Easton 1998; Pawson and Tilley 1997). That world of mechanisms and their contexts is not as straightforward as the world that physical scientists like engineers work within. An engineer knows that too much weight upon a bridge will definitely cause the bridge to fall. But social science realists work with causal tendencies rather than causal certainties — A may cause B sometimes but not always or even mostly. For example, whether lights at a carpark will cause car thefts to decrease may depend upon the hours that the carpark is used and its location. In other words, sometimes the lights will reduce crime and sometimes it may not, depending on the context. Similarly, whether a marketing communication tactic is successful will depend upon many contextual conditions like competitor’s reactions. The imprecision of these causal tendencies is exacerbated by the ability of people to change their behaviour after reflecting upon it.

**Action research as a blend of two paradigms**

Upon this foundation of paradigms, consider how an academic researcher has to somehow blend the critical theory and the realism paradigms. Essentially, we argue that action research is one way of conducting research within an organisation that can benefit both the organisation and the body of knowledge about which readers of an academic journal article or thesis are interested. This section will firstly cover a definition of ‘pure’ action research for managers and consultants that shows it is process-oriented, emancipatory and does not bother with generalisation. Then it will show how an
academic's research can be divided into a core action research project and a thesis project to provide ‘general’ action research results for academics.

Before discussing action research, we need to clarify its meaning. In its purest form, action research emphasises three key aspects of action research (Zuber-Skerritt 2001):
• a group of people at work together
• involved in the cycle of planning, acting, observing and reflecting on their work as shown in Figure 1, more deliberately and systematically than usual; and
• a public report of that experience (such as a report to an organisation’s board).
That is, ‘pure’ action research is process-oriented in one work situation. It looks at action to bring about change of one workgroup’s processes, and also at adding to the workgroup’s understanding of those processes. Therefore change and learning are its two outcomes.

This definition highlights the critical theory paradigm underlying action research by noting that involves a group of people who are transforming how they construct their perceived work ‘reality’. Of course, the action researchers’ spirals are testing out their perceptions of reality against reality, but the emphasis is on the perceptions because they drive behaviour within one organisation in a way that perceptions of one person or a small group cannot drive a school of academic thought.

An example of such pure action research is James’ project. He was a human resource manager in a large government body which was introducing a new information system in
a project involving contracted information systems consultants. He arranged 1½ hour meetings each fortnight for three other public servants who were also involved in the project, and two consultants. He facilitated the meetings and focused the reflection discussion on the processes they were using in the project. They wrote a report of their deliberations for the body’s senior management with conclusions about the IT system introduction.

Note that this definition of action research distinguishes action research from action learning in that action research necessarily focuses on a workgroup within an organisation or community, all of whom are involved in the cycles of planning/acting/observing/reflecting shown in Figure 1. In contrast, action learning emphasises individual learning and so should be placed within the constructivism paradigm. Admittedly, the set of associates or ‘comrades in adversity’ (Revans, 1982) in action learning is a group, but each individual within that group learns from separate experiences that do not necessarily involve other associates, and the separate experiences may not even involve workgroups. Action research involves action learning, but not vice versa, because action research is more deliberate, systematic, critical, emancipatory and rigorous.

When could this pure form of action research be an appropriate methodology within an academic research project? There are four justifications for an academic researcher using action research rather than some other methodology of data collection (adapting Yin’s
(1994) justifications for case research in general and for research about a single case in particular):

- little is known about the research problem - it is a ‘pre-paradigmatic’ body of knowledge and so an inductive, theory-building methodology is needed;
- context and phenomenon are not clearly distinct – the research is about a complex social science phenomena, that is, it investigates the processes in which work people work together;
- the phenomena is contemporary and dynamic; and
- the phenomena is rarely accessible to academic researchers and the research provides a window on to a critical part of the phenomena

Figure 1 The spiral of action research cycles

Source: Zuber-Skerritt (2001, p. 15)
But does the action research used by an academic researcher have to be as pure as the
definition above suggested? There are three reasons why it need not be. Firstly, this type
of action research fits within the critical theory paradigm, that is, it is process-oriented.
In contrast, most managers and academics are results-oriented, in their own ways.
Moreover, pure action research is ideally emancipatory where all members of the
workgroup have equal responsibility for the outcomes, as shown in Table 2. However,
management situations are usually technical or practical because of different levels of
responsibility for budget outcomes among group members. Finally, pure action research
virtually ignores analytic generalisation (Yin 1994), that is, how the findings from one
situation can be applied in other situations or firms or industries. It is this generalisation
that readers of academic article and theses are interested and explains why one of the
most common criticisms of published action research is that ‘it lacks theory’ (Coghlan
and Brannick 2001, p. 115). Perhaps these are the main reasons why critical theory
paradigm research is marginal among academics (Guba and Lincoln 1994).

To address these limitations of pure action research, the ‘general’ form of action research
uses two ‘projects’: a core action research project and a ‘thesis’ (or article) project (Perry
and Zuber-Skerritt 1992, 1994). That is, ‘the action research project and your dissertation
are not the same. They are integrally integrated, but they are not the same’ (Coghlan and
Brannick 2001, p. 21). But how are they different and exactly how are they linked? The
first project consists of the normal spirals within a workgroup that produces reflection
data in the form of journals, memorandums, minutes of meetings and so on. These spirals
will normally conclude with a report to senior management of that organisation. In turn, the second project takes that data from the first project and uses it in its own, normal thesis or article processes of literature review, data collection and analysis, and conclusions that provide analytic generalisation from the findings of the first project. The thesis or article will finish with a newly built theory about a phenomenon that exists in several situations. Figure 2 shows these two projects and how they are linked at the point of data developed during the reflection processes of the first project. The data collection parts of the thesis or article will cover methodological issues covered in all academic reports such the steps/spirals taken and their justification, and how issues of validity and reliability were covered (for example, through a discussion of the five points of these being construct validity, neutrality/confirmability, truth value/credibility, applicability/transferability, and consistency/dependability based on a synthesis of Lincoln and Guba (1985) for critical theory, and Healy and Perry (2001) for realism).
<table>
<thead>
<tr>
<th>Type of action research</th>
<th>Aims</th>
<th>Facilitator’s role</th>
<th>Relationship between facilitator and participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technical</td>
<td>➢ effectiveness/efficiency of professional practice</td>
<td>outside 'expert'</td>
<td>co-option (of practitioners who depend on facilitator)</td>
</tr>
<tr>
<td></td>
<td>➢ professional development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Practical</td>
<td>➢ as (1) above</td>
<td>Socratic role,</td>
<td>co-operation (process-consultancy)</td>
</tr>
<tr>
<td></td>
<td>➢ practitioner's understanding</td>
<td>encouraging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ transformation of their consciousness</td>
<td>participation and self-reflections</td>
<td></td>
</tr>
<tr>
<td>3. Emancipatory</td>
<td>➢ as (2) above</td>
<td>process moderator</td>
<td>Collaboration (symmetrical communication)</td>
</tr>
<tr>
<td></td>
<td>➢ participants' emancipation from the dictates of tradition, self-deception, coercion</td>
<td>(responsibility shared equally by participants)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ their critique of bureaucratic systematisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>➢ transformation of the organisation and of its system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: after Carr and Kemmis (1986)*
Figure 2 General action research uses two ‘projects’: core and thesis

Note: the numbers in the thesis project refer to the ‘standard’ chapters of a thesis (Perry 1998), but they could be parts of an article.

This two-project approach makes the differences between their two underlying paradigms clear. The aim of the first project is the ‘thematic concern’ of the workgroup (Kemmis and McTaggart 1988) and the aim of the second project is to fill a gap in the literature that interests readers of academic journals and theses. Similarly, while chapter 3 of a thesis may use the person ‘I’ to reflect its critical theory worldview, the other chapters will follow normal academic conventions to reflect their realism worldview. This two-project structure provides equal importance to both paradigms whereas other action research structures place overwhelming emphasis upon the critical theory paradigm (for example, Dick 1999; McNiff et al. 1999). For example, they do not differentiate between the two different goals of the action research and the academic research. As well, they require a story of what took place and self-reflection by the action researcher. But these items are relegated to an appendix in our thesis project’s structure or not even written up
at all, because they occur in *all* academic research and will have to be included in a thesis or article at the expense of theory-building issues. Note, too, that the story of how fuzzy methods and answers becomes clearer - the essence of the spirals of action research (Gummesson 2000) – is only described in the context of workgroup activities and not in terms of how the thesis or article was written. After all, *all* academic writing and research is an exercise in ‘gradually reducing uncertainty’ as it is progressively narrowed and refined (Phillips and Pugh 1987, p. 37).

Consider an example of how these two projects can be carried out. Jean had a consulting project to develop a strategic plan for the managers of an innovative architectural practice. She conducted indepth interviews with the two most senior professionals and then facilitated a strategic planning retreat with all five professionals. These were spirals 1 and 2 of the core action research project. She then developed a five-year plan that incorporated the professionals’ visions for change, which was spiral 3. The senior professionals accepted this report.

It was after the first project had finished before she had time to start her second project. She wrote a dissertation about the processes she had used, relating concepts in the literature like Porter’s generic strategies and forces of competitive advantage to a professional practice (about which little had been written). As well, she justified why she had done things the ways she had, in particular why she did them differently from the way they were normally done in a large, private firm. Her thesis data was collected from the minutes, reports and journals she had written during the action research project. Not
all of this data was relevant to the thesis project’s research problem, but much of it was and that part was content analysed for patterns about the thesis’ research problem. She then said how the findings could be fitted into the literature about strategic planning and used in other types of professional practice and possibly in other organisations, summarised in new theory being built. The first report and the dissertation were both submitted for her degree.

Consider the thesis or article structure in more detail. An example of the five chapters of a thesis is:

#1 Research problem: How and why can the leadership potential of indigenous staff be developed in large Australian firms?

#2 Define ‘leadership development’ and then review literature about leadership development and indigenous management development, to lead into the core research issues/objectives of the thesis project

#3 Action research methodology: the methodology is justified because the thesis concerns a complex social situation about which little is known, as noted above; the thematic concern is how we as senior managers can develop indigenous staff in my firm, using three plan-act-observe-reflect cycles described in detail; the paradigmatic issues are discussed, as is validity and reliability, and ethical issues.

#4 Analyse the reflection data from the 3 cycles of the thesis

#5 Analytical generalisation of the analysed data to other organisations in Australia and overseas, so that a new theory about the research problem is built.
In brief, it is possible to write a report of an action research project done within the critical theory paradigm, that will interest readers of journal articles and theses who operate within the realism paradigm. Each paradigm has its own, self-evident worldview, but they can be bridged where reflection dates feeds into the academic report.

Conclusions

In summary, science can look at three types of 'world'. Scientific paradigms are coherent worldviews that are appropriate for these types of world. Of these paradigms, the critical theory paradigm underlies action research and the realism paradigm underlies most academic social science research. Blending those two paradigms in two separate projects that are linked at the reflection processes’ data is one way of handling the gulf between them. The result is an adjustment to a body of knowledge about a social science phenomena that is necessarily imperfect but an improvement on the sketchy picture in the literature that existed when the research began.

List of references


Perry, C. (2000). Realism also rules OK: scientific paradigms and case research in marketing, Keynote address at First QUAL_RAWC AT Workshop on Qualitative Research in Marketing and Management, Department of Retailing and Marketing, University of Economics and Business Administration, Vienna, 8-11 April.


