This is the published version of:


PERMISSIONS
Permission has been granted by the copyright holder to deposit this published version as Open Access in the USC Research Bank. Open Access research is digital, online and free of charge, and is made possible by the consent of the author or copyright holder.

Copyright © 1998 Michael Trimarchi.
Theory Building: A Realist Methodology for Case Study Driven Research

1. Introduction
The present paper builds on past work of a number of researchers who advocate the use of a realist approach in qualitative research. However, although past research identifies the applicability of the realist research paradigm, there has been scant attention paid to Bhaskar’s (1978, 1989) retroduction model for use in theory building. The paper therefore integrates a case study method within a realist philosophy, in an attempt to operationalise the retroduction model.

The paper first begins with a short discussion on research paradigms and research methodology. Second, the critical realist research paradigm, which provides a scientific method for underpinning methodology is discussed. Third, the case study approach is reviewed, including the issues relevant for research design. Fourth and last, the paper suggests a method for operationalising Bhaskar’s (1978) retroduction model.

2. Research Paradigms and Methodology
A research paradigm may be viewed as “...a loose collection of logically held-together assumptions, concepts, and propositions that orientate thinking and research” (Bogdan & Biklen, 1982, p.30). In addition, Guba & Lincoln (1994, p.105, 108), suggest that it may also be viewed as “...the basic belief system or worldview that guides the investigator, not only in choices of method, but in ontologically and epistemologically fundamental ways”, or alternatively, as an inquiry paradigm, “...which define for enquirers what it is they are about, and what falls within and outside the limits of legitimate enquiry”.

The choice of appropriate research methodology will be influenced by the prior selection of a research paradigm to guide analyses. As will become evident to the reader, a realist philosophy provides an appropriate philosophy for researchers utilising methodologies that are case study driven. A qualitative research methodology is the preferred approach when the goal of research is primarily on “...description and explanation and not

---
2 The writer acknowledges that case studies are not the only social research methods compatible with critical realism.
prescription” (Easton, 1992, p.7). Consistent with this approach, the realist paradigm provides for an inductive methodology, capable of generating research yielding sequences of theories, progressively richer in explanatory power (Bhaskar, 1989, p.82). As Bhaskar (1979, p.165) discusses, ‘realists’ “...will not wish to make prediction the main criterion of successful theory. Such criteria will more usually be purely explanatory.”

3. Critical Realism
Bhaskar (1978, 1979, 1989, 1991) has developed a systematic realist account of science. Within this paradigm, realists acknowledge there is a difference between the world and a researchers particular view of it (Riege, 1996, p.131). While there is a real world to discover, realists believe it is only imperfectly and probabilistically apprehensible. Objective connections exist in the nature of ‘things’, and they are identified as “...enduring mechanisms, which bind or link some but not other events and states of affairs” (Bhaskar, 1978, p.223). As such, a general account of the social and economic world represents enduring structures and generative mechanisms that underlie and produce observable phenomena and events.

The task of science is to therefore discover, then produce, an adequate account of such real mechanisms that exist, rather than view them as hypothetical or imagined (Bhaskar, 1978, p.146). We are searching for “...ways of getting at the fundamental structures and generative mechanisms of social life...” (Outhwaite, 1983, p.329). However, such structures and mechanisms are not clearly apparent in an observable pattern of events. As such, where social phenomena are the product of a plurality of structures, realism helps to guide “...empirically controlled investigations into the structures generating social phenomena” (Bhaskar, 1989, p.3).

3.1. Philosophical Assumptions of the Realism paradigm

As a philosophy for science it is “...uniquely consistent with the historical emergence, substantive content and practical presuppositions of the fundamental explanatory sciences as we know them today” (Bhaskar, 1991, p.141).

Critical realism (realism) has roots back as far as Aristotle, however, it has only become increasingly prominent over the last twenty years (Outhwaite, 1983, p.321). This is well exhibited in the disciplines of marketing and management which have traditionally tended to use a quantitatively oriented analysis (based on the research paradigm of deductive scientific positivism). A suggested by a number of authors, the position for research in these disciplines is moving towards what ‘seems implicitly to assume a realist perspective’ (Hunt, 1990, p.8; Anderson, 1983; Deshpande, 1983; Perry & Coote, 1994; Riege, 1996; Perry, Alizedeh, & Riege, 1997; Riege & Nair, 1996).

As Outhwaite (1983, pp.321-2) suggests “(t)he combined tendencies of these structures and mechanisms may generate events that in turn may be observed, but the events take place whether or not there is anyone around to observe them,
The philosophical assumptions or basic beliefs which support inquiry paradigms can relate to three concepts: ontology, epistemology, and methodology (Guba & Lincoln, 1994). Ontology refers to reality, or specifying what exists. It deals with the nature of being and encompasses the form and nature of reality. Specifically, it encompasses the fundamental assumptions being made about the primitive elements of reality, which fall within the realm of legitimate scientific inquiry.

Epistemology refers to the relationship between the reality of the research and the researcher. Specifically, it assumes the criteria for constructing and evaluating knowledge and provides a basis for questioning what, in a qualitative sense for example, “...can be learned from the single case” (Riege, 1996, p.129). As discussed earlier in this section, realists adhere to the notion that social scientific investigations manifest themselves in ‘open systems’, where empirical regularities do not pertain. Findings, therefore, are viewed as probably true (Riege, 1996; Wollin, 1995). Methodology, on the other hand, refers to the technique for studying a particular phenomenon, assisting the researcher to discover the reality. Here, methods are suitably adapted to a predetermined methodology to generate valid evidence (Guba & Lincoln, 1994). These philosophical assumptions (displayed in Figure 1), as applied to the realist research paradigm, are further discussed below.

**Figure 1. Basic Belief Systems of the Realist Research Paradigm**

<table>
<thead>
<tr>
<th>Item</th>
<th>Realism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontology</strong></td>
<td><em>critical realism</em>: ’real’ reality but only imperfectly and probabilistically apprehensible</td>
</tr>
<tr>
<td><strong>Epistemology</strong></td>
<td><em>modified objectivist</em>: findings probably true</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td><em>case studies/convergent interviewing</em>: triangulation, interpretation of research issues, mainly qualitative methods</td>
</tr>
</tbody>
</table>

Source: Adapted for this research from the work of Riege (1996, p.129)

---

and the tendencies of the underlying structures of reality remain the same even when they counteract each other in such a way as to produce no (directly or indirectly) observable change in reality.”
3.1.1. Ontological assumptions of Critical Realism

Realists distinguish the world across three distinct domains of reality; the real; actual; and empirical (refer to Figure 2). The real domain consists of the processes that generate events. Causal powers or generative mechanisms exist independently but possess a tendency to produce “...patterns of observable events under contingent conditions...” (Perry et al., 1997). Patterns occur in the actual domain, however, they may or may not be observed. In the empirical domain, experiences are obtained by direct observation (Bhaskar, 1978, p.13; Outhwaite, 1983, p.322; Tsoukas, 1989, p.553).

Figure 2. Ontological Assumptions of Realism

<table>
<thead>
<tr>
<th>Domain of Real</th>
<th>Domain of Actual</th>
<th>Domain of Empirical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanisms</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Events</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Experiences</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Source: Bhaskar (1978, p.13)

Bhaskar (1989) also suggests that the realist paradigm is most appropriate for the study of relational objects. Realists argue that social science research programmes should take account of the concept of relationalism (Bhaskar, 1989, p.85). A new development in the social sciences is, in a sense, a product of a previous development, depicting the existence of a relational tie in the development of an ‘object’. A specific feature of realism is that social science is regarded as a social activity, and ‘thus’ realists establish an intimate link between social theory and the philosophy of science (Outhwaite, 1983, p.321)\(^6\). Indeed, society, viewed as social structures (for example, the family, language, the state, and the economy) “...depend upon or presuppose social relations” (Bhaskar, 1989, p.4). Such structures “...advance an understanding of the social world as essentially consisting in or depending upon relations” (Bhaskar, 1989, p.3).

3.2. Critical Realism and Conducting Research in Open Systems

\(^6\) Bhaskar (1989, p.84) argues that the “...chief relational difference is that the social sciences are part of their own field of enquiry, in principle susceptible to explanation in terms of the concepts and laws of the explanatory theories they employ; so that they are internal with respect to their subject matter in a way which natural science is not”.

23
For realists, perception and experimental activities respectively provide us with access to things and structures that exist independently of society (Bhaskar, 1978; Outhwaite, 1983; Tsoukas, 1989). By describing an object this way we can draw out its complexity; “...the way in which it is determined by its internal and external relations as an outcome of a multiplicity of interacting tendencies” (Outhwaite, 1983, p.328). Here, the intelligibility of perception functions in an environment where events occur often out of phase with, or independently of, actual patterns of events or experiences; viz., in open systems.

The concept of open systems is the converse to a closed system. In closed systems, laws can be universal due to the existence of “...constant conjunction of events” (Bhaskar, 1978, p.14). However, social science research takes place in open systems where most events are not deductively predictable. Events are subject to a wide range of causal influences, making it unable, or at least difficult, to predict ex ante which mechanisms are actually at work. In such environments most events “...must thus be regarded as ‘conjunctures’” (Bhaskar, 1978, p. 119). Laws cannot be regarded as reporting correlations between independent or equivalent variables, nor identified with constant conjunctions of atomistic events. They must be analysed as the tendencies of things, where consequents of laws are not always able to be realised.

A tendency is something which is characteristic, usual or typical of a thing which makes it distinctive from others of its kind (i.e. ‘ontological preference’). A tendency, in the first instance can be regarded as “...a power which may be exercised unrealized” (Bhaskar, 1978, p.229). However, that complex structures may exhibit a number of powers, a tendency may not be just the exercise of a power. It may include, for example, some of the conditions that inherently enable the power to be exercised. That is, “...it is in something of a state or condition to do it” (p.230). A thing must not only have the power to do something, it must also possess the tendency to do it. As Bhaskar (1978, p.230) suggests, a thing possesses

---

7 For realists, “Open systems, then, are the rule rather than the exception” (Outhwaite, 1983, p. 324).
8 This means that the “...criteria for theory choice will, in principle, have to be exclusively explanatory rather than predictive (Outhwaite, 1983, p.325).
powers in virtue of its falling into a natural kind, tendencies in virtue of its being one of a type within that kind...(for example)...All men (living in certain kinds of societies) possess the power to steal; kleptomaniacs possess the tendency to do so.

The identification of a structured object will therefore require the researcher to distinguish between the existence of powers and tendencies, of possible actions of a ‘thing’. Power and tendency statements are categorical, rather than hypothetical, and must be interpreted indicatively, to identify that there actually is a generative mechanism at work (Bhaskar, 1978, p.98). Indeed, the application of an explanatory theory may assist the discovery of a tendency. This assists the researcher to more accurately specify an individual and/or clusters within groups of a particular kind.

The important questions for research will revolve around identifying why particular sets of relations appear as they do?; to what extent are they attributable to the actions of human beings?; and most importantly, to what extent do ‘deeper causes’, that are “...opaque to human consciousness”, contribute to (their) structure(s)? (Outhwaite, 1983, p.328-9). A tendency, once discovered, allows us to identify the existence of an inclination to perform a certain type of action which a thing is oriented or prone to perform9. In such environments, the researcher, by identifying and analysing generative mechanisms and structures may arrive at findings both applicable and true (viz., real). Although this helps to account for what actually happened, it does not completely determine the reasons for it. Given such complexity, the knowledge obtained by realists is “...considered real but fallible” (Wollin, 1995, p.80).

3.2.1. The Explanatory Schemata in Open Systems

Given a realist perspective, explanatory problem solving in science requires the identification of new and existing concepts, rather than universal quantifiers (Bhaskar, 1989, p.90). As such, realists attempt to draw distinctions between structures and events

---

9 ie. Given that it is open to a number of natural possibilities.
operating within real and actual domains. Next, empirical adequacy is achieved within the empirical domain, via explaining or capturing sciences essential movement\(^{10}\).

Where theoretical explanations are sought, they are “…iteratively analogical and retroductive” (Bhaskar, 1989, p.90). As such, theoretical explanations follow a process where

…antecedently available cognitive resources are used to construct plausible models of the mechanisms producing identified patterns of phenomena, which are then empirically checked out, and, if deemed adequate, in turn explained, in a continually unfolding dialectic of taxonomic and explanatory knowledge (Bhaskar, 1989, pp.90-1).

This retroductive approach to theory building, viz., \textit{retroduction}, entails four stages in the explanation of an event in an open system (Bhaskar, 1978, pp.125). They include:

(1) \textit{Causal analysis (or resolution) of the event}: First, some degree of ‘causal type’ analysis of the complex event is required, to identify components of the event and the causal agents related to the components.

(2) \textit{Theoretical redescription of the component causes}: The components will then require theoretical redescription, so that the various kinds of mechanism at work in the generation of the event can be brought to bear on the event’s explanation.

(3) \textit{Retrodiction via normic statements to possible causes of the components}: The next step is to conduct retrodiction analysis. This is the “…inference from present effects to prior (perhaps hidden, perhaps just unrecorded) causes, via the application of normic statements” (Bhaskar, 1978, p.135).

\(^{10}\) Indeed, “It is the task of the philosophy of science to capture science’s essential movement, not to guess its eventual destination” (Bhaskar, 1989, p.147).
(4) Elimination of alternative causes: Empirical adequacy requires “…devising or finding conditions under which the referent of the (conceptual) object posited in the explanans operates free from extraneous influences” (Bhaskar, 1989, p.90)

Research therefore seeks to discover and describe, or identify, ‘things’ that have the power to act, using theory to assist the discovery of a tendency of a thing to act; the generative mechanisms at work; and the resultant structures associated with the phenomenon being studied. That is: (1) to enter the actual domain, where patterns of events that may or may not be observable occur; (2) use theoretical reasoning to study the empirical domain and identify, name and describe generative mechanisms that are observed; and (3) identify structures that exist within the real domain; to discover what is real, viz.,

...the processes that generate events, in which generative mechanisms or causal powers exist independently with the tendency to produce patterns of observable events under contingent conditions... (Riege, 1996, p.131).

This approach requires the use of process-oriented research methodologies, such as the rigorously analytical method of case study inquiry to study underlying causal tendencies or powers, vis-à-vis, the study of cause and effect relationships (Bhaskar, 1978, p.20; Yin, 1994, 1993; Perry & Coote, 1994; Riege & Nair 1996; Perry, 1997). As we are operating in an open system, there is little control over behavioural events. The case study method has a distinct advantage when research issues focus on “…a contemporary set of events over which the investigator has little or no control” (Yin, 1994, p.9). The method is also well suited to research where the “…boundaries between phenomenon and context are not clearly evident” (Yin, 1994, p.13; Havila, 1996). It therefore enables the research to focus on the identification and explanation of components of tendencies and structures that are “…too complex for the survey or experimental strategies” (Yin, 1994, p.15).

The case study approach is also preferred when conducting exploratory and explanatory research, using research issues that include how and why questions (Yin, 1994, p.6). Case studies are also appropriate for addressing what questions, particularly when other
methodologies seem impractical, or the research is exploratory (Neuman, 1994, pp.18,31; Yin, 1994, pp.5,7). The realism approach which encompasses the use of case study approach is summarised in Figure 3.

**Figure 3. The Realist Approach for Conducting Research**

<table>
<thead>
<tr>
<th>Dimension/item</th>
<th>Realist approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research position (goal of investigation)</td>
<td>Exploratory, descriptive, theory building, inductive analytical</td>
</tr>
<tr>
<td>Direction of inquiry research</td>
<td>Development of idiographic knowledge based social experiences such as human ideas, beliefs, perceptions, values, etc.</td>
</tr>
<tr>
<td>Ontology</td>
<td>Critical realism</td>
</tr>
<tr>
<td>Nature of perspective</td>
<td>Holistic, comprehensive, expansive</td>
</tr>
<tr>
<td>Epistemology</td>
<td>Findings are “probably true”</td>
</tr>
<tr>
<td>Research strategies</td>
<td>Case study</td>
</tr>
<tr>
<td>Methodology</td>
<td>Process oriented, discovery oriented</td>
</tr>
<tr>
<td>Causality</td>
<td>Causal tendencies/generative mechanisms</td>
</tr>
<tr>
<td>Interview questions</td>
<td>Open with probing</td>
</tr>
<tr>
<td>Judgement of research quality</td>
<td>Construct validity is important; external validity is critical</td>
</tr>
<tr>
<td>Sample size</td>
<td>Small</td>
</tr>
<tr>
<td>Data collection</td>
<td>Semi structured, unstructured (researcher as primary instrument)</td>
</tr>
<tr>
<td>Interaction of interviewer and phenomenon</td>
<td>Mutually interactive but controlled by triangulating data; an open window</td>
</tr>
<tr>
<td>Respondent’s perspective</td>
<td>Emphasis on the “insider’s” perspective</td>
</tr>
<tr>
<td>Information per respondent</td>
<td>Extensive (broader question)</td>
</tr>
<tr>
<td>Type of data gathered</td>
<td>Information rich, contextual, non-statistical, somewhat subjective reality</td>
</tr>
<tr>
<td>Hardware, software</td>
<td>Tape recorders, interview guides, transcripts, qualitative software programs, visual methods</td>
</tr>
<tr>
<td>Type of data analysis</td>
<td>Interpretive, value laden, theory laden, non–statistical</td>
</tr>
</tbody>
</table>

Source: Adapted for this research using the work of Riege (1996, p.134), and Perry et al., (1997, p.8)11.

4. The Case Study Method

For the use of case studies to be appropriate, they must not only be descriptive, but also “...must blend theory building and theory confirmation” (Perry et al., 1997, p.1). Indeed, Yin (1993, p.4) suggests that use of prior theory is essential for generalising results. Use
of theory also assists to delimit the case analysis to its most effective design. It underpins the development of research issues, providing a sufficient ‘blueprint’ for the study, thus allowing for strong guidance in developing strategies for data collection and subsequent analysis (Yin, 1994, p.28).

Generalising to a theory, or analytic generalisation is an important component of research using the case study approach. Prior theory provides a template “...with which to compare the empirical results of the case study” (Yin, 1994, p.31). Multiple cases provide for multiple experiments in the sense that if the empirical case data from two or more cases support a previously developed theory, the researcher can claim replication, ie. a form of replication logic depicting an analytic generalisation. Further, a ‘level two’ inference, evidenced when the results from two or more case studies support one theory and do not support an “...equally plausible, rival theory”, makes the results more potent (Yin, 1994, p.31). The use of analytic generalisation, vis-à-vis statistical generalisation, is also consistent with the realist paradigm’s search for capabilities vis-à-vis regularities (Tsoukas, 1989; Perry, 1997).

The aim is to develop idiographic or case specific knowledge to understand the deeper structures and meanings of the case (Perry et al., 1997). That case studies “...tend to spread the net for evidence widely”, assists to capture the complex nature of a phenomena (Mirriam, 1988, p.29). This knowledge, which is based on natural and social experiences, may then be used to inform other settings or cases (Outhwaite, 1983). Research may utilise, for example, an embedded case study approach, using multiple units of cases of analysis to assist the identification of structures operating within the ‘atmosphere’ that surrounds the phenomenon, the actors involved, and the complexity surrounding it.

4.1. Case Study Design

The authors develop their work using the work of Bhaskar (1978); Bonoma (1985); Guba & Lincoln (1994), Hirschman (1986); Hunt (1991); Merriam (1988); Neuman (1994); and Perry & Coote (1994); Reichardt & Cook (1979).

Analytical generalisation is method also used by scientists conducting experiments; it “...allows scientists to generalize from one experiment to another...” (Yin, 1994, p.36).
Multiple case study design is useful for investigation, description, and explanation of complex social phenomena (Stake, 1994; Yin, 1994). Triangulation of evidence in multiple case studies provides results that are more robust than might be experienced when using, for example, single case designs (Herriot & Firestone, 1983; Bonoma, 1985; Eisenhardt, 1989; Neuman, 1994; Stake, 1994; Yin, 1994). Indeed, a variety of types of evidence provide for superior case study analysis (Jensen & Jankowski, 1991). For example, using multiple cases allows the consideration of the possible impacts of the environment on the phenomenon of analysis, given the constructs specified within the research issues or questions being used to guide the study. Multiple cases also provide more background to assist in theory generalisation (Deshpande, 1983; Bonoma, 1985; Lincoln & Guba, 1985; Patton, 1990). It will also assist the collection of replicable data for literal replication and/or theoretical replication (Bonoma, 1985; Eisenhardt, 1989; Yin, 1994).

The logic underlying the use and choice of multiple case studies rests with concepts of theoretical and literal replication; viz., replication logic. Theoretical replication occurs when cases being analysed produce “...contrasting results but for predictable reasons” (Yin, 1994, p.46). Alternatively, theoretical replication may also occur when selected cases achieve predicted contradictory outcomes, under conditions which it is probable that a phenomena will not be found. Literal replication occurs when cases selected for analysis predict similar results (Yin, 1994). Specifically, literal replication occurs when selected cases achieve similar findings under similar conditions, assisting the probability that a phenomena may be found.

Replication logic provides for rigour in multiple case study analysis (Bailey, 1982; Parkhe, 1993; Robson, 1993; Yin, 1994; Riege, 1996), particularly, where the development of a rich theoretical framework underlies the use of replication procedures. This framework “…later becomes the vehicle for generalizing to new cases…” (Yin, 1994, p.46). Indeed, research issues developed from prior theory can be expected to guide the collection of data to “…satisfactorily explain the available empirical evidence” (Parkhe,
The present research utilises a rich theoretical framework to assist the use of literal and theoretical replication.

5. **A Retroduction Model for Inductive Research Using a Case Study Approach**

As outlined earlier (Section 3.2.1.), a retroductive approach to theory building entails four stages in the explanation of an event in an open system (Bhaskar, 1978, pp.125). The paper now concludes by utilising the case study approach, as outlined above, to assist the operationalisation of the retroductive model. It is hoped that the model will provide researchers with some insight into utilising a realist philosophy of science for developing a comprehensive methodology to underpin inductive theory building research. The stages are presented below:

**(1) Causal analysis (or resolution) of the event:** Some degree of ‘causal type’ analysis of the complex event is conducted by using prior theory, to assist the initial identification of the event (or interaction). Next, components of the event and the causal agents related to the components are identified. Given that generative mechanisms of the event exist as the causal power of ‘things’, it is the causal agents that provide the stimulus for generative mechanisms of events. And this provides a “…perfectly acceptable ontological basis for causal laws” (Bhaskar, 1978, p.50).

**(2) Theoretical redescription of the component causes:** The theoretical redescription of the components into various kinds of mechanisms will assist to provide an explanation of the mechanisms at work in the generation of an event. The generative mechanism, or acting of a thing, endures for as long as the properties that account for it persist, thereby creating the appropriate circumstances for it to be actioned. Laws are not therefore statements of events, or empirical statements (ie. statements about experiences), they are statements about “…the ways of acting of independently existing and transfactually active things” (Bhaskar, 1978, p.52)\(^4\).

**(3) Retrodiction via normic statements to possible causes of the components:** Normic statements are used to identify possible hidden or unrecorded effects via inferences
between present and prior effects. The analysis of statements of interviewees may reveal redescribed states of affairs, or component events that shed light on explanations of their causes; this is necessary when operating in open systems. As Bhaskar (1978, p.136) suggests, a normic statement locates the problem “in the context of an explanatory theory”. As part of the empirical process, a normic statement will assist to locate an analytical generalisation in categorical form, within the context of an explanatory theory (Yin, 1994).

(4) Elimination of alternative causes: This is possible through what Yin (1994) terms the analysis and discovery of level two inferences. Multiple cases provide for multiple ‘experiments’ resulting in two or more cases that support a theory; thus enabling the researcher to claim replication of theory in cases, viz., analytical generalisation. However, a level two inference will be evidenced when the results support one theory and do not support an “…equally plausible, rival theory” (Yin, 1994, p.31). Such ‘replication logic’ extends the concept of analytical generalisation, making the results more potent.

\[14\] They are transfactual; “…they take us to a level at which things are really going on irrespective of the actual outcome” (Bhaskar, 1978, p.51).
References


Bhaskar, R. 1979 *The Possibility of Naturalism; A Philosophical Critique of the Contemporary Human Sciences*, Harvester, Brighton.


