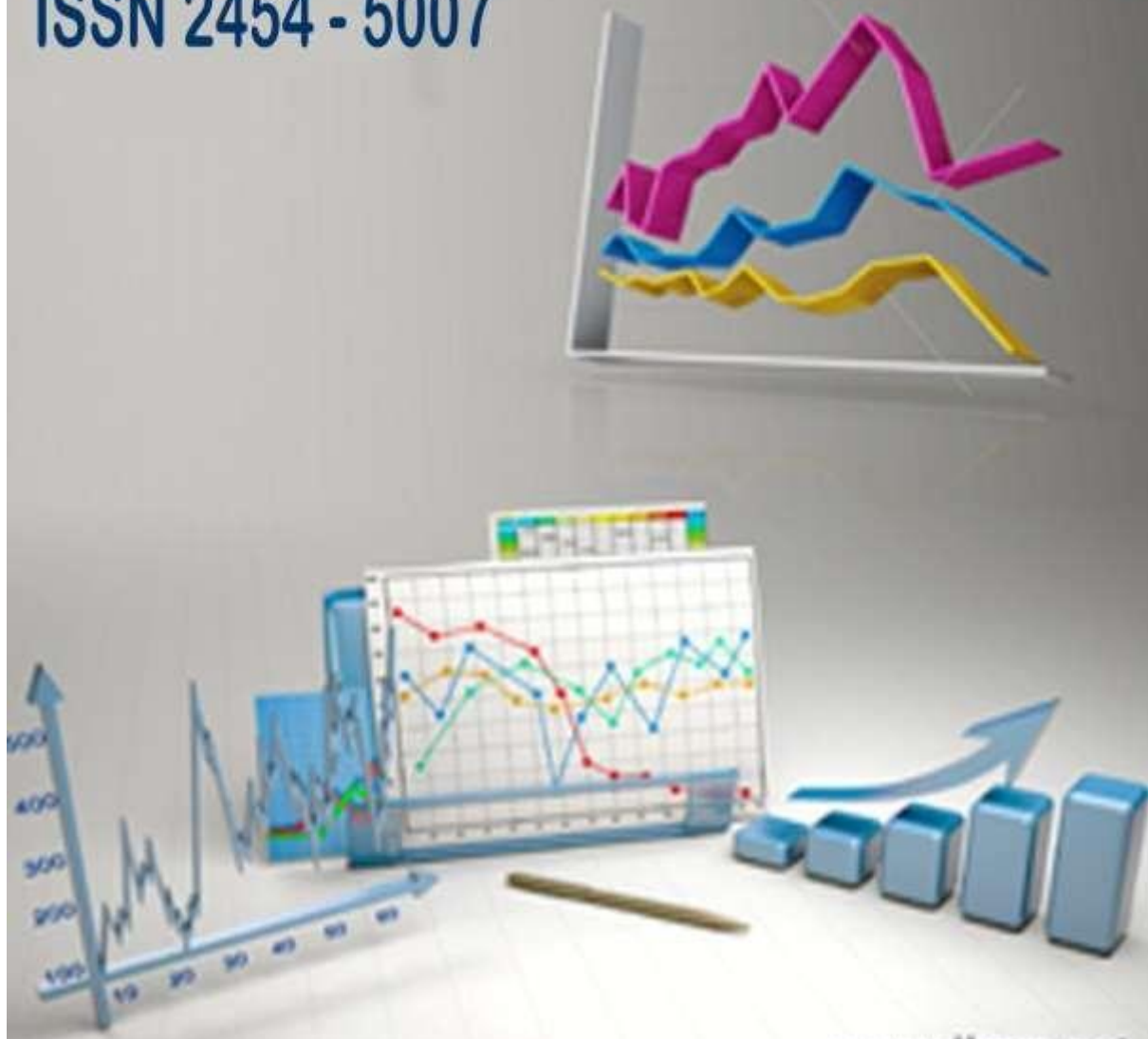




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# Case study research based on critical realism

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## A b s t r a c t

Researchers in the field of industrial marketing favor the use of case studies above any other methodology. A variety of solutions have been proposed, however the issue of adequately explaining case research persists. In this work, we argue that case study research is supported by the philosophical perspective of critical realism, which also has important consequences for theory building and the research process as a whole. This article provides an overview of Sayer's critical realist methodology and elaborates on how this methodology might be used more broadly to case studies. A case study of how a buyer-seller relationship evolved following the implementation of a new MIS system is provided to illustrate its practical use.

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*Keywords:* Case study research , Critical realism, MIS , Causality

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## 1. Introduction

Case study research is, probably, the most popular research method used by industrial marketing researchers. This may be, in part, because of the nature of the subject. The main units of analysis are organisations and relationships, which are difficult to access, and complex in structure in comparison with, for example, consumer markets. As a result a case study of a single, or a small number, of such entities can provide a great deal of, largely qualitative, data which can be written up as a case study, offering insights into the nature of the phenomena. But how do we know that what is written as a case analysis represents the "truth"? How can we justly claim that we know, in some fundamental sense, what it is that we have researched? Often the use of the case method is not justified at all in the resulting published work. When it is warranted, the justification is made on the grounds of the interesting and novel nature of the results, exemplifications of particular phenomena or applications of specific concepts or models. Few authors of case based papers offer a defence of their choice of the case method on formal epistemological grounds. Such reticence is hardly surprising. Making truth claims based upon such seemingly limited data is clearly a daunting prospect. This discretion is at least partly due

to the dominance of the epistemologically positivistic underpinnings of most academic research in marketing. Clearly the sample size in any case study research project is never going to be large enough to qualify for the use of statistical inference. However a number of writers on case research as a research method seem to take a positivist position without perhaps realising it. For example, Eisenhardt in a widely cited paper offered the following advice on the number of cases to be used. "Finally, while there is no ideal number of cases, a number between 4 and 10 cases will usually work out well" (Eisenhardt (1989)). The justification for this statement is based on her experience with case research and is implicitly about increasing the number of cases as a way of finding the same results in each case. However there are a number of reasons why positivism would not be the answer anyway. Its defining feature is its nomothetic epistemological stance which implies that there exist regularities or law-like generalisations in material or social settings that provide the basis for both explanation and prediction. This regularity allows positivists to believe that they can make causal statements. If two events occur in sequence regularly then one is said to explain the other.

However this simple and elegant formulation has any number of problems which makes its use in any research situation problematic. The most crucial problem is that constant conjunction of elements or variables is not a causal explanation or indeed an explanation of any kind. It is simply an atheoretical statement about the world. It doesn't answer the question why? Sometimes interpretivism, in one of its many forms, is used as a way of defending the use of case studies. Researchers simply interpret cases placing the weight of the research on authentic ways of data capture and sensitive and detailed data analysis. In general interpretivists deny the possibility of knowing what is real and reject the possibility of discerning causality. They can only provide their own interpretation. What is not clear in the interpretivist approach is by what standards one interpretation is judged to be better than another. It is even more problematic when the interpretations are particularistic since this would appear to rule out not just regularity as a criterion but also any form of comparison. In complete contrast the original pragmatists, such as Dewey, James and Pierce argued that it is the uses to which truth is put that are important. Pragmatism espouses usefulness but only specifically and in context. Truth is what is useful to people researching in a field, what helps the research project, what can be accepted and defended, what is open to criticism and renewal. It is a linguistic convention, a sort of shorthand that helps us to achieve our various objectives when researching and theorising. Clearly pragmatism can provide a very powerful justification for the use of case studies since case studies as a research method offers the possibility of studying a problem defined situation in great detail. Indeed many action research and illuminative evaluation studies are, in effect, based on single cases of, usually, organisations. However there have been very few papers published in industrial marketing where the data describe problem solving situations and none that use pragmatism as a justification for the validity of the interpretation. For a more extensive discussion of philosophical orientations and case research see [Easton \(1995\)](#), [Easton \(1998\)](#). In this paper I argue that critical realism offers a way forward.

Critical realism is, by philosophical standards, a relatively new approach to ontological, epistemological and axiological issues. In a search of the ISI Web of Science database there were 334 papers which included critical realism in the title or abstract. Of those only 42 were in

journals that could be said to be in management or organisation studies (and mostly in the latter). Again, of those 42 only 4 papers were in marketing journals and I was author or co-author of 3 of them. Only 2 of the 334 dealt with case research and critical realism and I was a co-author of both of them.

The fundamental tenet of critical realism is that we can use causal language to describe the world. Since all philosophical positions rely on assumptions they can only be ultimately judged pragmatically, not in the limited sense used by pragmatists but in terms of our beliefs that they result in better explanations. One powerful pragmatic argument in favour of critical realism is that it is performative.

Critical realists assume that there is a real world out there. However there is no way that such an assumption can ever be proved or disproved, as social constructivists, pragmatists and even positivists are ready to argue. But this assumption is surely performative. In other words we behave as if it was true, as if the world was real. In general this supposition works, especially for the physical world. For example no constructivist would dare to say any longer that the world is totally socially constructed since that is in itself a realist statement. "In both everyday life and social science, we frequently explain things by reference to causal powers" ([Sayer, 2000](#), p.14). Critical realism mirrors the language and procedures we routinely adopt and the explanations that we create. We use causal language without thinking. Critical realists argue for the use of causal language with thinking. Critical realism is particularly well suited as a companion to case research. It justifies the study of any situation, regardless of the numbers of research units involved, but only if the process involves thoughtful in depth research with the objective of understanding why things are as they are. The paper is structured as follows. It begins with a discussion of the nature of case research and proceeds to a description of critical realism. It then offers an examination of the implications of adopting a critical realist justification of case research and continues with an example of a critical realist case analysis involving the creation of a buyer-seller relationship through the (problematic) implementation of a new Management Information System (MIS). The issue of the generalisability of case research is then discussed, managerial implications are suggested and the paper concludes with a summary of the issues covered.

## 2. What is case research?

This is a very difficult question to answer since, in practice, the label is often attached to quite disparate forms of research method.

“The term ‘case study’ may refer to several different epistemological entities” (Mitchell (1983) in Verschuren (2003 p.122)). “Indeed the case study is probably best understood as an ideal type rather than a method with hard and fast rules. Yet the fact that the case study is fuzzy round the edges does not mean that it doesn't have distinctive characteristics” (Gerring, 2004 p.346).

However sampling mode surely defines case research. A case is a single instance; a sample of one. Once the decision to use case research has been made a set of constraints and opportunities are realised. The key constraint is its low (statistical) representativeness. Although it is possible to research several cases this is not done in order to increase the sample size in the conventional sense. The logic of generalisability is totally different for case research and this will be dealt with later in the paper. A single case study must be able to stand on its own. The key opportunity it has to offer is to understand a phenomenon in depth and comprehensively.

Research questions are definable in terms of the questions; who, what, where, how and why (Yin, 1989, p.18; Yin, 2003, p.5). Case studies are more suited to how and why questions which can be explanatory in nature. “This is because such questions deal with operational links needing to be traced over time, rather than mere frequency or incidence” (Yin, 1989 p.18; Yin, 2003, p.6). Case research allows the researcher the opportunity to tease out and disentangle a complex set of factors and relationships, albeit in one or a small number of instances. This is a process of iterative-parallel research which “...implies a continuous moving back and forth between the diverse stages of the research project” (Verschuren, 2003). The flexibility that case research allows in this respect is one of its major advantages and one that is not shared by, for example, survey based methods. Case research can therefore be defined as a research method that involves investigating one or a small number of social entities or situations about which data are collected using multiple sources of data and developing a holistic description through an iterative research process.

## 3. Critical realism

### 3.1. Provenance

Critical realism assumes a transcendental realist ontology, an eclectic realist/interpretivist epistemology and a generally emancipatory axiology. While critical realism is a relatively new orientation it is being taken up in many disciplines including economics (Lawson, 1997), sociology (Sayer, 2000; Layder, 1990), criminology (Pawson & Tilley, 1997), geography (Proctor, 1992; Yeung, 1997), linguistics (Nellhaus, 1998), religious studies (Robbins, 1999), history (Steinmetz, 1998), psychiatry (Hanley, 1995), social work (Houston, 2001), ecology (Trosper, 2005), environmental studies (Bania, 1995), law (Hanson & Yosifon, 2004), information studies (Wikgren, 2005), media studies (Lau, 2004),

interdisciplinary science studies (Dickens, 2003) and management (Ackroyd & Fleetwood, 2004).

There are a number of differing views and approaches to realism (Hunt, 2003). This paper espouses the version due to Sayer since his account of critical realist ontology is the most detailed and comprehensive and so makes it easier to demonstrate how it can provide both a philosophical justification for case research and a guide to its use in practice (Sayer, 1992). In addition Hunt recognises Sayer as the key figure in the critical realism movement (Hunt, 2000 p.286). Therefore in what follows the phrase critical realism means Sayer's version of the ontological position.

### 3.2. Basic assumptions of critical realism

Sayer sets out what he regards as the 8 key assumptions of critical realism in the following extract from his book.

1. “The world exists independently of our knowledge of it.
2. Our knowledge of the world is fallible and theory-laden. Concepts of truth and falsity fail to provide a coherent view of the relationship between knowledge and its object. Nevertheless knowledge is not immune to empirical check and its effectiveness in informing and explaining successful material practice is not mere accident.
3. Knowledge develops neither wholly

continuously, as the steady accumulation of facts within a stable conceptual framework, nor discontinuously, through simultaneous and universal changes in concepts.

3. There is necessity in the world; objects—whether natural or social—necessarily have particular powers or ways of acting and particular susceptibilities.
4. The world is differentiated and stratified, consisting not only of events, but objects, including structures, which have powers and liabilities capable of generating events. These structures may be present even where, as in the social world and much of the natural world, they do not generate regular patterns of events.
5. Social phenomena such as actions, texts and institutions are concept dependent. We not only have to explain their production and material effects but to understand, read or interpret what they mean. Although they have to be interpreted by starting from the researcher's own frames of meaning, by and large they exist regardless of researchers' interpretation of them. A qualified version of 1 therefore applies to the social world. In view of 4–6, the methods of social science and natural science have both differences and similarities.
6. Science or the production of any kind of knowledge is a social practice. For better or worse (not just worse) the conditions and social relations of the production of knowledge influence its content. Knowledge is also largely—though not

exclusively— linguistic, and the nature of language and the way we communicate are not incidental to what is known and communicated. Awareness of these relationships is vital in evaluating knowledge.

7. Social science must be critical of its object. In order to be able to explain and understand social phenomena we have to evaluate them critically” (Sayer, 1992, p.5).

Points 1, 4 and 5 set out the key critical realist assumptions about ontology. Critical realists propose an ontology that assumes that there exists a reality “out there” independent of observers. A naïve realist epistemology would assume that this reality can be readily accessed. This is a view often espoused by researchers in the natural sciences because of their ability to measure accurately and their access to controllable and / or closed systems. However these conditions rarely occur in social systems. As a result critical realists accept that reality is socially constructed and points 2, 3, 6 and 7 spell out this proposition thus creating a tension between these apparently contradictory views. However critical realists resolve the tension by arguing that the world is socially constructed but not entirely so. The “real” world breaks through and sometime destroys the complex stories that we create in order to understand and explain the situations we research.

### 3.3. Objects/entities

Objects, or more generally entities, provide the basic theoretical building blocks for critical realist explanation and can be such things as organisations, people, relationships, attitudes, resources, Management Information Systems (MIS), inventions, ideas and so on. They can be human, social or material, complex or simple, structured or unstructured.

Entities stand in contrast to the idea of variables that dominates most social research traditions. Variables are measures of things and not the

things themselves. “Similarly, the concept of variable that is used in quantitative analysis is an indifferent one as regards causal explanation: variables can only register (quantifiable) change, not its cause” (Sayer, 1992, p.180). This modification radically alters the way that we need to think about theory. It directs our attention to the fundamental nature and capabilities of the things we research rather than simply their measurable properties. It requires a shift from epistemology and methodology to ontology.

### 3.4. Causal powers and liabilities

Entities have causal powers and liabilities. Causality is, of course, a subtle and disputed concept which Sayer attempts to capture by a process of interpolation using what he describes as an “ordinary” (arguably pragmatic) account of causality.

“To ask for the cause of something is to ask ‘what makes it happen’, what ‘produces’,

‘generates’, ‘creates’ or ‘determines’ it, or, more weakly, what ‘enables’ or ‘leads to’ it” (Sayer, 1992, p.104.) Sayer also argues, “....particular interpretations (of causality) can only be justified in terms of their compatibility with our most reliable beliefs...” Put another way, they rely on an assumption which, together with other assumptions, create a system of thinking about

the world that we find acceptable. We must have reason to believe that bodies that we study have powers or liabilities to cause events to occur. They make things happen. Using an example from the case study used in the latter part of the paper, MIS have the powers to change organisations in any number of ways. Similarly organisations have the powers to modify new MIS that are in the process of being implemented or in the ways in which they operate. A liability may be regarded as a

### 3.5. Events

Events or outcomes are what critical realists investigate, that is the external and visible behaviours of people, systems and things as they occur, or as they have happened. However it is important to acknowledge that most social science research methods create data that are reported rather than directly observed. Descriptions of the events that occur during the implementation of an MIS are rarely experienced at first hand or recorded in a way that is close to the event.

Particular attention is paid to processes in critical realist accounts, especially those that produce and reproduce the ordering of events and

### 3.6. Structure of entities

Entities will usually be structured. Structure is "...a set of internally related objects or practices" (Sayer, 1992, p.92). For example an organisation may be considered to comprise a series of other entities (departments, people, processes, resources) all of which can affect one another. Structures are nested within structures. For

### 3.7. Emergence

In the language of critical realism, entities may be analysed at a number of different levels of aggregation. A crucial critical realist assumption concerns the existence of emergence in such situations. The properties of entities at a higher level of aggregation are not necessarily understood through a summative process or, working from the top down, a reductionist approach. They emerge from those of the lower level but are not easily derived from them. For example MIS systems have emergent properties that are more than, and different from, the sum of their constituent parts. Similarly entities at a higher level such as organisations cannot simply be reduced to the summation of their components such as MIS. The implication is that in choosing a

susceptibility to the action of other entities, for example particular kinds of organisations may be liable to have particular MIS implementation problems.

The benefit of this conceptualisation is that it focuses attention on

three key questions. What are the entities that define our research field, what are their relationships and what are their powers and liabilities?

social institutions. Again MIS are systems that reproduce themselves and are reproduced by other systems in place in organisations. Critical realists also believe that the non occurrence of an event when one is expected not only requires explanation but may also provide very useful insights. Failure of an MIS to provide some of its designed outcomes would be an example of such a non occurrence. Again this is a subtly different approach to that normally adopted in social research. It places the focus, at least in the beginning, on that which we can mostly clearly discover.

example entities can be organisations that have departmental structures and relations and, within them, individuals who have particular characteristics such as gender and psychological structures. Gender forms part of the internal relations of a person if gender is to be regarded as a necessary part of the structure that is being built.

level of analysis one accepts that ready access to other levels is not necessarily easy. The current inability of biochemists and physiologists to find a biochemical model of consciousness provides a case in point. Emergence must always involve some element of connectedness. For example biology could be regarded as an emergent from chemistry in the sense that it is the combinations and connections among atoms and molecules that create and sustain biological processes. Similarly the social world is only understood through the connections between the people that comprise a society not by studying the individuals in isolation. Closer to home the properties of organisations stem, in part, from the connections among the individuals and groups they contain.

### 3.8. Necessary relations

Critical realists argue that there are two kinds of relationships among entities; necessary and contingent. As Sayer writes "...the relation between a slave and a master is necessary, in that what the object is dependent on its relation to the other; a person cannot be a slave without a master and vice versa" (Sayer, 1992, p.89). In terms of MIS, for example, organisations and MIS have a necessary causal relation since one cannot exist without the other. Organisations are managed and involve information systems, though not necessarily ones that are electronically based. MIS must exist within organisations.

Necessary relations are not tautologies but derive directly from the nature of the bodies involved. The relation between entities and the events they cause will usually be a rich and varied one. Thus the elements of the relation are not simply given by the mutual definition. MIS and organisations have many ways of relating to and affecting one another. Entities are, however, defined in terms of their necessary relations. A person must be able to use or ignore an MIS. For complex entities there may be any number of relations that define both it and the other entities to which it is related.

Necessary relations are not inevitably rigid though changes in one entity will, of necessity, lead to changes in the other. Necessary relations do not have to be particularly important since this depends on the nature and objectives of the

### 3.9. Contingent relations

A contingent relation occurs when "It is neither necessary nor impossible that they stand in any particular relation" (Sayer, 1992, p.89). Put at its simplest this distinction recognises that entities can have some relations (necessary) that will affect one another and some (contingent) that may affect one another. The implementation of a new MIS system may be affected by the home country of the system supplier or it may not. There is no necessity because the relation is a contingent one. However contingent relations are different from necessary relations only in the nature of those relations. "...the contingently related conditions are never inert, but are themselves the product of causal processes and have their own causal powers and liabilities" (Sayer, 1992,

### 3.10. Context

Distinguishing between context and contingency is possible. The former offers a

research being carried out. Of course that does not mean they do not exist.

None of these ideas are likely to be particularly surprising. Research builds up theories that comprise a number of concepts that refer to particular entities and specify the relations among them to create a theory or theoretical framework. But it is clear that in doing so we are relying on the relations among entities to hold the whole edifice together. In other words the definitions become referential and interdependent.

Change in one body leads to change in another body with which it has necessary relations. That does not mean that there have to be regular changes though there may be. The change may also lead to the body changing its nature (e.g. from a national to a multinational corporation). Internal relations do not have to be symmetric. One body may be not be able to exist without the other, for example an organisation cannot exist without individuals but individuals can exist without, at least, formal organisations.

While bodies may define relations it is equally likely that there will also be an element of mutual definition. A Chief Information Officer will be defined in terms of the necessary relations he or she has with other board members, other institutions, certain employees, etc. We rely on these referential and interdependent relations to underpin our theoretical understandings.

p.140).

The theoretical framework chosen governs the difference between necessary and contingent. All events need to be explained by a combination of necessary and contingent relations. If all relations were contingent then each explanation would be unique and incapable of contributing towards anything by way of generalisation. Sayer puts it this way. "...Structures can therefore be said to be 'invariant under certain transformations', that is, they can continue to exist while their constituents undergo changes in attributes which are not relevant to their reproduction" (Sayer, 1992, p.94). This is crucial because it recognises that there will and indeed must be invariance in the system. Building theory and progress then become possible.

simpler, less well-articulated version of the latter. Context is simply "relevant circumstances". It is

a very general concept and says little about the relationship between the focal entities and the environment except that it is (possibly) relevant. In the case of critical realism the entity should not

only be defined but the form of the causal relationship clearly set out. The question should be “in what ways may the external contingency affect the events that have occurred?”

3.11. The structure of causal explanation

The most fundamental aim of critical realism is explanation; answers to the question “what caused those events to happen?” In Fig. 1 causal explanation is structured in terms of the relationships among the concepts that have so far

been discussed. This is a formal statement of the critical realist structure of explanation. Less formally a very simple example demonstrates the

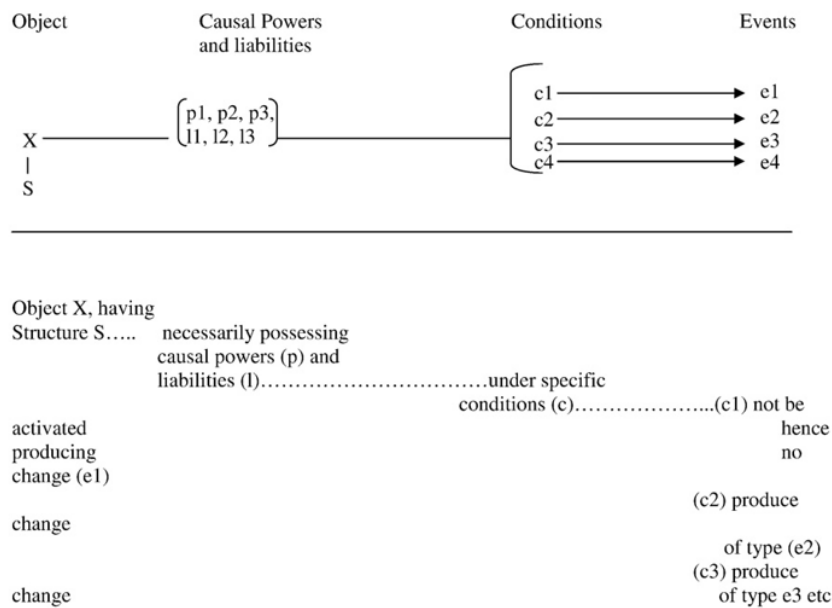


Fig. 1. The structure of casual explanation (Sayer, 1984).

most basic form that such a formal explanation can take. Objects (a salesperson) having structures (knowledge and personality traits etc) and necessarily possessing causal powers (to persuade a buyer, who is another object) and liabilities (to be rejected by technical buyers, to get tired towards the end of the day) will, under specific condition c1 (the buyer has a need for the product and the offering is suitable) result in an event e1 (a sale), or alternatively under specific condition c2 (the buyer has a need for the product but the offering is not suitable) will result in an

event e2 (no sale). In practice such formal explanations will not normally be possible because of the complexity of real world behaviour but they do provide a logical framework to guide case researchers. However critical realists argue that there should always be competing explanations since different interpretations of the data are necessary to ensure that the “best” current interpretation is made. But there should always be room for revision through the normal processes of academic presentation and critique.

4. Conclusions

Case study research is the prevalent research method in B2B research. However it is often justified, when it is justified at all, in terms of the interesting results or unusual phenomena it reveals. What it lacks is philosophical validation, i.e. ontological and epistemological underpinnings. I argue in this paper that critical

realism provides such underpinnings and seems ideally matched to case research. Certainly case research cannot be justified in terms of positivism since case research is almost always small numbers research. Interpretivism is more relevant but is largely epistemological in its objectives. Critical realism however provides not only a basis



for justification but also guidelines as to how case research might be done and how theory can be

fashioned.

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