

RESEARCHING MANAGEMENT ACCOUNTING PRACTICE: THE ROLE OF CASE STUDY METHODS

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Case studies are being increasingly used as a research method for studying management accounting practice. However, little has been written about the nature and role of case study research. This paper examines different uses which can be made of case studies and attempts to locate a role for case study methods in researching management accounting practice.

During the past decade accounting researchers in the UK have become increasingly interested in the nature of management accounting practice. This interest was initially prompted by a perceived gap between the theory and practice of management accounting, and especially the generally held belief that the conventional wisdom of management accounting textbooks is not widely used in practice. However, this belief was based on anecdotes, occasional visits to companies and a few published studies of the use of particular management accounting techniques. There was clearly a need to establish the nature of management accounting practice (Cooper *et al.*, 1983, p. 2).

At first, surveys were used. But it was soon realised that they can give only a very superficial view of management accounting practice and that more intensive fieldwork and/or case studies were required. Consequently, there has been an increasing interest in case studies of management accounting practice. One interesting aspect of case study-based research, particularly in the UK, has been that some researchers have drawn on insights gained from the work of social theorists, such as Habermas, Foucault and Giddens. In addition, however, there are UK researchers whose case studies have been informed by more traditional economic frameworks.

The importance of fieldwork and case studies has also been recognised by researchers in the US, notably Kaplan and his colleagues. Such researchers are particularly interested in the management accounting prob-

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lems of manufacturing firms which use high technology and modern management techniques: for example, CAD/CAM, robotics, just-in-time and so on. Their approach to management accounting case studies is similar to approaches used in the UK, but there are also some differences—as will be seen later.

It is probably fair to say that much current management accounting research is concerned with the nature of management accounting practice. However, case studies are not the only methods used—a variety of other research methods are also being adopted. Some researchers are constructing theoretical models using agency theory, contingency theory and other approaches. Others are using behavioural experiments, field studies and empirical tests of theoretical models. Nevertheless, there are many researchers using case study methods, and probably even more planning to use them. However, case study methods can be used in various ways. In particular, research informed by social theory is likely to make rather different uses of case study methods compared to research informed by traditional economic theory. This should not be surprising given the different methodological underpinnings of such theories. In order to understand these different uses of case study methods it will be helpful to examine changes in the methodologies used by management accounting researchers during the last 20/30 years.

The changes which have taken place over that period in themselves provide an interesting case study of accounting research. Over that period researchers have used normative models, positive theories, and in some instances interpretive and critical approaches. The next section will review some of these developments, beginning with the move from normative models to positive theories. Subsequent sections will discuss some of the uses made of case study methods, explore the methodological basis of case study research and describe case study research methods. The final section will examine the implications for management accounting case studies.

POSITIVE MANAGEMENT ACCOUNTING RESEARCH

Normative and positive theories

Normative theories have had a long history in accounting research; they have been used in both financial accounting and management accounting. But during the 1960s and 1970s accounting researchers became increasingly interested in positive theories. Whereas normative theories are concerned with prescription (what ought to happen), positive theories are concerned with explanation and prediction (what does happen). Positive theories, being grounded in empirical data, offer researchers the prospect of avoiding the value judgements and theoretical speculations of normative models.

The methodological arguments in favour of positive theories generally proceed as follows (Jensen, 1983; Watts & Zimmerman, 1986). Decision-makers' choices of particular courses of action are based on their desires, needs, preferences, etc., and are informed by their understanding of how the world works. Positive researchers cannot assist in the choice of a decision model, but they can help the decision-maker to understand how the relevant variables interact—i.e. how the world works. Thus, positive theories are concerned with the way in which variables interact in the real world, and are quite separate from the normative decisions which are the province of individual decision-makers. However, in order to determine the relevant variables for positive research, it is necessary for researchers to make assumptions about the decision models used by the decision-maker.

In management accounting research it is normally assumed that the decision-maker is a utility maximiser and that his/her actions are set within a system of competitive markets. As will be discussed below, these are the core assumptions of neoclassical economics. Such assumptions are not formulated as hypotheses to be subjected to empirical testing. They are conditions of the decision-maker which are taken for granted within the research. As neoclassical economics has an important role in management accounting research (see Scapens, 1984) we will now briefly review its nature and origins.

Neoclassical economics¹

Neoclassical economics emerged in the second half of the nineteenth century and its essential characteristics have changed very little over the past hundred years. It has been translated into mathematics and some of its rougher edges have been removed, but its core has remained intact. However, as will be discussed later, neoclassical theory is coming under increasing attack from both inside and outside the economics profession.

Classical economists (such as Smith and Ricardo) grounded their economics on a theory of value based on the notion of production surplus. Neoclassical economists shifted the emphasis from value to utility and from production to demand. Tinker *et al.* (1982) argued that this shift of emphasis was a response to the political implications of classical economics. Neoclassical theory appeared to take economics out of the political arena by denying value judgements and by avoiding questions of income distribution. Despite this apparent attempt to depoliticise economics, it has been suggested that neoclassicism borders on an ideology (Wiles, 1983) or a political philosophy (Eichner, 1983). As argued by Tinker *et al.* (1982, p. 191), it is impossible to divorce economics from political and social processes (see also Hopper, 1988).

Neoclassical economics has been referred to as the 'marginal revolution'

(Kristol, 1981, p. 208). The distinctive features of marginalism in neo-classical economics are (i) the interpretation of prices as marginal valuations, and (ii) the concept of opportunity costs. Over the decades of the twentieth century, as mathematical techniques were developed and used to refine the elegance of economic models, the neoclassical core of micro-economics remained unchanged, and it is still deeply entrenched in modern economic theory. The following quote aptly summarises this neoclassical core:

'Modern economic theory is based upon two specific assumptions about human behaviour and its social setting. One is the idea of 'utility maximization' as the motivational foundation for action, the other is a theory of markets as the structural location where transactions take place. The assumptions converge in the thesis that individuals and firms seek to maximise their utilities (preferences, wants) in different markets, at the best price, and that this is the engine that drives all behaviour and exchange. It is the foundation for the idea of the comprehensive equilibrium'. (Bell, 1981, p. 70).

These two postulates have been the subject of much debate, however. There is now a considerable body of empirical evidence which suggests that the individual does not possess the degree of rationality required to undertake the marginal analysis needed for utility maximisation (see Kahneman *et al.*, 1982). Consequently, a number of economists, including Simon (1959, 1979), Cyert & March (1963), Leibenstein (1976) and Williamson (1985), have proposed alternative approaches to the study of economic behaviour—based on satisficing, rather than maximising, behaviour. In addition, the centrality of market based transactions has been questioned. Neoclassical theory assumes that the market mechanism automatically equates prices and marginal utilities; thereby achieving an efficient allocation of economic resources. However, issues such as externalities, public goods and imperfect information have led some economists to examine market failures and to study alternative forms of resource allocation; such as, administered behaviour in hierarchies—see for example, Williamson (1975).

Despite the criticism of these two basic postulates, neoclassical economics has for many years remained the core of micro-economics. However, according to Bell & Kristol (1981) there is a 'Crisis in Economic Theory'. Their book contains 12 contributions which attempt to demonstrate that the neoclassical consensus no longer exists. The proposed solutions to the 'crisis' emphasise the political and ideological nature of economic theory. For our purposes, it is important to recognise that neoclassical economics involves a political philosophy. It cannot be regarded as a politically neutral representation of economic processes.

Nevertheless, neoclassical economics has provided a valuable basis for management accounting decision models. Textbooks contain many nor-

mative decision models for attaining optimal, profit maximising behaviour; for example, linear programming models, capital investment decision models, cost-variance investigation models, and so on. In addition, the core elements of neoclassical economics are embedded in positive theories of accounting. For example, Jensen talks about minimising agency costs and the survival of the fittest (1983, p. 331)—these are clearly derived from the two core elements of neoclassical economics. In view of the criticisms of neoclassical theory mentioned above, researchers should be sensitive to its limitations in management accounting research.

Limitations of positive management accounting research

Despite the criticisms, neoclassical theory remains both the core of modern micro-economics and the basis for much management accounting research. The empirical validity of the objections to utility maximisation and the market mechanism is not generally denied by neoclassical economists. Their responses to such objections are normally expressed in methodological terms.

It is argued that the realism of a theory's assumptions is irrelevant; what is important is the theory's ability to predict economic phenomena (Friedman, 1953). It has been claimed that neoclassical theory can help answer questions such as 'how will the price of cotton textiles be affected by an increase in wage rates?'. But it cannot answer such questions as 'what will be the price of cotton textiles?' or 'what price will the X Corporation charge?' and it is of doubtful validity in answering questions such as 'how will the X Corporation change its prices when wage rates are increased?' (Machlup, 1967, p. 8).

Such methodological arguments recognise that neoclassical economics does not explain 'the process' of individual behaviour; rather, it provides a calculus which, at some level of generality, can predict certain classes of economic phenomena. In other words, it is an abstract model which can be used to generate predictions, or hypotheses, for empirical testing. The testing of such hypotheses provides empirical evidence about the hypothesised relationships, but does not confirm the underlying model. The model is merely an instrument for generating hypotheses or predictions; it is not an empirical explanation of the processes leading to the predicted behaviour. The power of such models lies in their predictions, not in their explanations.

Neoclassical economics has been very successful in predicting economic behaviour at the market level, but has been far less successful in predicting the economic behaviour of individual decision makers (Cohen & Cyert, 1975, p. 51). In management accounting, however, we are often concerned with the behaviour of individual firms, and of individuals within firms. Unfortunately, it is at this level of analysis that economists generally admit

the limitations of neoclassical theory; and in particular, the neoclassical theory of the firm.

To summarise, neoclassical theory was developed by economists to predict general patterns of economic behaviour (Machlup, 1967). It was never intended to be an explanation of the processes of individual behaviour. Furthermore, some economists believe that neoclassical theory cannot even be used to predict individual economic behaviour; for example, Simon (1959), Cyert & March (1963), Leibenstein (1976) and Williamson (1985). They would argue that it is useful only in predicting 'aggregate' economic behaviour.

In management accounting research positive theories informed by neoclassical economics may be useful for similar purposes; for instance, in predicting general trends in accounting. But they will be less helpful in explaining the process which leads to individual accounting practices. It is here that case study research methods have a particular role—as will be argued below.

THE USE OF CASE STUDY METHODS

Case studies and fieldwork

Fieldwork is usually taken to mean studies of social practices, such as accounting practices, in the field of activity in which they take place. This could be a study of a single company, or a number of companies. A case study, however, usually implies a single unit of analysis. This might be a company; but it could also be a more aggregated unit of analysis. For example, a case study could be undertaken of the development of management accounting in a particular country. In the literature, the terms case studies and fieldwork are both used to refer to studies of management accounting in its organisational context. In this paper, the term case studies will be used in this way.

Case studies offer us the possibility of understanding the nature of management accounting in practice; both in terms of the techniques, procedures, systems, etc. which are used and the way in which they are used. In undertaking case studies we need to be careful to distinguish the formal accounting systems which senior managers believe are used and the ways in which they are actually used. Case studies which examine only formal accounting systems run the risk of failing to understand how these systems are embedded within the day-to-day practices of accountants and managers.

In recent years Kaplan has probably been the most notable writer calling for work of this kind. He has encouraged researchers 'to leave their offices and study the practices of innovating organizations (1984, p. 415). Furthermore, Johnson & Kaplan (1987) argue that although management

accounting in general has not developed to meet the needs of modern businesses, we can still learn from the practices of successful companies. Before discussing the nature of the work proposed by Kaplan, it should be noted that case studies can be used in a variety of ways.

Descriptive case studies. These are case studies which describe accounting systems, techniques and procedures currently used in practice. A number of companies may be selected as cases to illustrate different accounting practices or the similarities in the practices of different companies. The research objective of these studies is to provide a description of accounting practice.

Illustrative case studies. These are case studies which attempt to illustrate new and possibly innovative practices developed by particular companies. Such case studies provide an illustration of what has been achieved in practice. However, there is an implied assumption that the practices of 'innovative' companies are, in some sense, superior to the practices of other companies. The case study itself cannot provide a justification for such an assumption.

Experimental case studies. Accounting researchers frequently develop new accounting procedures and techniques which are intended to be helpful to accounting practitioners. However, it can sometimes be difficult to implement the recommendations of the researchers. An experimental case study could be used to examine the difficulties of implementing the new proposals and to evaluate the benefits to be derived.

Exploratory case studies. Case studies can be used to explore reasons for particular accounting practices. As such, they represent preliminary investigations which are intended to generate ideas and hypotheses for rigorous empirical testing at a later stage. The objective is to produce generalisations about the reasons for accounting practices. The exploratory case study is a first step in such a project.

Explanatory case studies. Such case studies attempt to explain the reasons for accounting practices. The focus of the research is on the specific case. Theory is used in order to understand and explain the specific, rather than to produce generalisations. If available theories do not provide convincing explanations, it may be necessary to modify them.

The distinctions between these different types of case studies are not necessarily clear-cut. For example, it may not be apparent which practices should be thought of as new developments and the subject matter of illustrative case studies, and which should be regarded as existing pro-

cedures and the basis of descriptive case studies. Ultimately, it is the intention of the researcher which determines the appropriate classification. Furthermore, the distinction between exploration and explanation can be quite ambiguous. An exploratory study, for instance, may be concerned with generating initial ideas to form the basis of an explanation of accounting practices. Despite such ambiguities, the above list gives an indication of the various uses of case studies.

In a particular piece of research the use made of case study methods depends on both the nature of the research and the methodology of the researcher. It should be recognised that case studies are a research method, and not a methodology. Nevertheless, the different types of case studies are better suited to some methodologies than others. We will explore this issue by contrasting case studies informed by neoclassical economics and case studies informed by social theory.

Case studies informed by neoclassical economics

Kaplan has urged researchers to study the innovative practices of successful companies and to 'discover the Pierre du Ponts, Donaldson Browns, Alfred Sloans, and Frederick Taylors of the 1980s (1984, p. 415). Such an approach presupposes that researchers can identify innovative practices, and distinguish them not only from common practices, but also from inferior practices. What are the distinguishing characteristics of innovative practices? Kaplan would probably respond that such a question can only be answered by the research itself. However, the researcher enters the research site with personal theories and beliefs and these will inevitably influence the research process.

In his paper on 'Measuring Manufacturing Performance', Kaplan took the view that a 'cost or managerial accounting system is supposed to provide information useful for manager's planning and control systems' (1983, p. 688). In his 'Evolution of Management Accounting' paper (1984) he talks about 'summarizing the economic events affecting a firm or division' (p. 413), 'motivating and evaluating managers' (p. 413), 'the gains a manager sees from short-run opportunistic behavior' (p. 415), and the 'financial gamesmanship . . . available to profit center managers' (p. 410). These statements were contained in a discussion of the potential for field-based research, they were not the findings of particular case studies or fieldwork. In general, Kaplan's writings clearly indicate that he sees management accounting as a device to be used by senior managers to maintain their control of the economic activities of the business, and especially the control of middle management. From such a perspective, the objective of case study research is to improve the control exercised by senior management.

The role of management accounting is taken for granted in such a

research process and there is an underlying dependence on conventional wisdom, with its neoclassical economics underpinning. Kaplan views case studies as part of the process of developing positive theories of accounting. But he is concerned that case study research may not be accorded academic credibility and so in a 1986 paper he set out his arguments for case studies in management accounting research. In so doing, he made the following statements: 'case studies tend to be used more for hypothesis-generation than for hypothesis-testing' (p. 442) and 'case studies will also provide a firmer basis for our modelling, theory building, and hypothesis-formation activities' (p. 445).

This suggests that Kaplan (probably along with others in North America) locates case studies within the positive research methodology. Case studies are treated as small samples which can be used to develop hypotheses, construct models, and in some instances, provide limited empirical tests. Thus, although there is a role for case studies within positive accounting research, they are not central to the research programme. Kaplan appears to be advocating descriptive, illustrative and exploratory case studies. Furthermore, experimental case studies might also be appropriate if the new models and theories lead to the development of particular accounting procedures and techniques. But as will be discussed below, explanatory case studies are not part of such a research programme.

The use of a neoclassical economic framework by case study researchers constrains the explanations that they can give about the nature of management accounting practices. Their explanations derive as much from the theoretical framework, as from the case studies themselves. In a discussion of case study research in accounting, Smith *et al.* (1988) criticised Kaplan for his failure to locate cases in their historical, economic and social context, and for his uncritical concern with improving the power and enhancing the control of corporate management (pp. 96–7). Such criticism, however, is based on quite a different research agenda. Within the neoclassical research programme the case studies advocated by Kaplan have a role to play. But as with all research methods, their role is dictated by the ideology and methodology of the research programme. Case studies informed by neoclassical economics are, by and large, concerned with exploring the use of accounting information by managers taking planning and control decisions; and used by researchers to generate hypotheses which will be tested by other empirical research methods.

Case studies informed by social theory

There are various social theories which can be used to inform management accounting case study research. However, most start from a belief that accounting practices are not natural phenomena; they are socially constructed. Consequently, they can be changed by the social actors them-

selves. This means that the researchers are not seeking universal laws (as in the natural sciences), but the rules, both explicit and implicit, which structure social behaviour. These rules, however, are themselves the outcome of social behaviour. In other words, social structures are both a condition and a consequence of social action (Giddens, 1984).

To study management accounting as social practice, it is necessary to look at the relationship between day-to-day social action and the dimensions of social structure. This will involve locating structures in both time and space, i.e. setting them in their wider social context and examining how they have evolved through time. For example, exploring how management accounting is conditioned by the socio-economic system, how it provides a set of rules which structure certain types of organisational behaviour, and how these rules emerge out of the social practices of the organisational participants.

More specifically, we might start by recognising that accounting provides a structure of meanings which are drawn upon in organisations, but which are themselves the outcome of organisational activities. As such, it provides organisational participants with a system of relevance which they can use to make sense of their day-to-day activities. It is also used to legitimise particular forms of organisational activity and as a source of power for particular groups within the organisation (see Roberts & Scapens, 1985; and Macintosh & Scapens, 1990).

To understand accounting from this perspective requires detailed studies of accounting in practice. It is necessary to locate practice in its historical, as well as its economic, social and organisational contexts. Case studies are particularly suitable for this type of research. They allow the researcher to adopt a holistic orientation and to study accounting as part of a unified social system. They can be used to build up a picture of the system's wholeness, i.e. how the various elements contribute to the 'individuality' of the system.

Such studies do not provide the type of predictive theory which is sought by positive theorists. But as pointed out above, social theorists would argue that accounting practices are socially constructed and can therefore be changed by the activities of the social actors themselves. Nevertheless, it is still possible to construct social theories of accounting; viz. explanatory theories which help us understand the social structures which shape current practice. It is here that case studies have an important role in the research process. Descriptive, illustrative, experimental and exploratory case studies are all potentially useful, and explanatory case studies are essential.

To the socially informed researcher, case studies are far more central to the research process than they are for the positive accounting researcher, such as Kaplan. Whereas the essence of positive theory construction is

large numbers of observations and relatively simple relationships, the construction of explanatory social theories requires an understanding of the complex inter-relationship of a large number of elements in a single system. The next section will outline the methodological basis for case study research, beginning with a discussion of the claim that it is difficult to generalise from case studies. In that discussion, and in the remainder of the paper, the objective will be to establish the nature and potential of *explanatory* case studies in management accounting research.

THE METHODOLOGICAL BASIS OF CASE STUDY RESEARCH

Generalising from case studies

Case studies are sometimes referred to as small sample studies. For example, *The Accounting Review* has a section devoted to them. In addition, authors of accounting case studies frequently apologise for their inability to generalise their findings. The interpretation of case studies as small samples stems from the positive research programme described earlier. In general terms, the objective of positive research is to determine the extent of particular occurrences in a given population. The researcher selects a sample from a population and attempts to draw inferences about that population by studying the sample. From such a perspective, a case study is only a small sample from which it is difficult to make a statistical generalisation about the population from which it was drawn. Nevertheless, case studies are useful in generating hypotheses that can be tested later with larger samples.

It is sometimes argued that case studies are particularly appropriate in areas where theory is not well developed and that they are a precursor to 'scientific' research. As such, the use of case studies reflects an immature or 'pre-science' subject area. As theories are developed it will be possible, so it is argued, to exploit 'scientific' research methods. However, such arguments reflect a particular conception of science. Much of the development of science has been based on experimental work, and in many instances experiments provide only a single observation of a phenomenon. Thus, we might ask, how can we generalise from a single experiment?

Experimental science is based on a logic of replication. Individual experiments examine whether observations accord to a particular theory; in other words, whether the theory explains the observations. If not, the theory must be modified (assuming the researcher is satisfied about the validity of the experimental methods used). If the theory does explain the experimental observations, other researchers will want to replicate the experiment, both in similar conditions and in different conditions. Conse-

quently, theories develop and are retained so long as they continue to explain the experimental observations.

As we will see, such experimental methods have parallels in case study research. Consequently, it is probably more appropriate to compare case studies with experiments, than with surveys; and to apply the logic of replication, rather than sampling logic, to case study research. This means viewing case study research as a method by which theories are used to explain observations. The theories which provide convincing explanations will be retained and used in other case studies, whereas theories which do not explain will be modified or rejected. The objective of individual case studies will be to explain the particular circumstances of the case, and the objective of a research programme to generate theories capable of explaining all the observations which have been made.

Such an approach to case study research requires that we look for 'theoretical generalisations', and not 'statistical generalisations'. The former attempt to generalise theories so that they explain the observations which have been made. The latter, however, are concerned with statements about statistical occurrences in a particular population. Although such statements may enable researchers to make predictions about occurrences, they do not necessarily provide explanations of individual observations.

The distinction between theoretical and statistical generalisations provides a means of further elaborating the distinction between exploratory and explanatory case studies. Researchers who adopt a sampling logic and seek to produce statistical generalisations will inevitably regard case studies as no more than an exploratory research method. However, case studies can be explanatory and their real potential will be realised when they are used in conjunction with the logic of replication to produce theoretical generalisations, as will be described below. This is not to dismiss exploratory case studies—they clearly have a place in positive accounting research, but they are not central to that research programme.

The potential of case study research

An illustration of a statistical generalisation would be a theory that, in general, participation in setting budgets leads to greater employee satisfaction, which in turn leads to higher performance. Such a theory has a standard form: in general, if X then Y. However, an observation of X without Y would not refute such a theory. As the relation holds in general, it does not necessarily hold in every case. Consequently, such a theory does not provide satisfactory explanations in all cases. For instance, it does not explain why in some instances participation in budget setting does not lead to high performance.

Such theories deal with aggregates, not specifics. Thus, statistical generalisations do not necessarily provide explanations of individual cases.

Their objective is to derive general laws and theories, which *simplify* our understanding of the empirical observations. An alternative is to attempt to *expand* our understanding of the empirical observations by developing theories which explain individual observations in their actual context. Such an alternative is provided by holistic research.

The holistic approach is based on the belief that social systems develop a characteristic wholeness or integrity and it is inappropriate to study their individual parts taken out of context. Holistic research methods seek to explain this holistic quality and to locate social systems in their particular contexts. Clearly, there is a role here for case study research. Case studies have been used by holistic researchers in political economy (Wilber & Harrison, 1978; and Ramstad, 1986), and in other areas of the social sciences, such as anthropology and sociology.

The objective of holistic research is to develop a rich theoretical framework which is capable of explaining the holistic quality of observed social systems and practices. The replication logic of experimental methods is more appropriate for such work than the sampling logic of positive research. Thus, there is a real potential for case studies in holistic research. Case studies can be more than the exploratory methods implied by the term 'small sample studies'. To develop this point further, it will be necessary to look at the nature of explanation in the social sciences.

Pattern versus deductive models of explanation

The traditional 'scientific' method of explanation in the social sciences, especially in economics and accounting, relies on a process of deduction. In the deductive model, a particular occurrence or a relation is explained by deducing it from one or more general laws. Every observation is deemed to belong to an implicit class and their explanation depends on statistical generalisations (covering laws) which link the empirical and the theoretical. A clear distinction is drawn between the *explanandum* (the thing to be explained) and the *explanans* (which do the explaining). The explanans are always at a more abstract (theoretical) level and more general than the explanandum. For any explanation to be valid, there must be at least one general law from which the empirical observation can be predicted.

However, from a holistic perspective, generalisations and general laws do not explain; only the specific circumstances of a case can explain. The particular social system being studied and its context provide the basis for an explanation. It is the relationship between various parts of the system and the system's own relationship with the larger system of which it is part (i.e. its context) which serve to explain the system. This type of explanation is what A. Kaplan (1964) termed the pattern model of explanation.

In the pattern model both the explanandum and the explanans are of the same level of generality, i.e. the level of the particular system. No general laws appear in the explanation; it comprises only the various elements which make up the system being explained and its context. This is not to deny that regularities do exist. There may be certain regularities within the system, or within the larger system of which it is a part. But it does deny the possibility of general laws which transcend all social systems.

Whereas the deductive model of explanation provides predictions of occurrences at the empirical level, based on more abstract general laws or theories, it does not provide explanations of these occurrences. Statistical generalisations do not explain, they only indicate the statistical regularities. The pattern model, however, provides empirical explanations of particular occurrences, but it may not be suitable for making predictions about other occurrences. The explanations provided by the pattern model are intended to help us *understand* the world (or the social systems) in which we live. 'To arrive at some understanding of what is going on is hard enough, without having also to meet the demand that we anticipate what will happen next' (A. Kaplan, 1964, p. 351).

A researcher who favours the pattern model of explanation will view case studies as an opportunity to understand social practices in a specific set of circumstances. Theories will be used to explain observations, and observations will be used to modify theory. As will be discussed below, there should be a two-way interaction between theory and observation. Researchers who favour a deductive approach, however, will view case studies as a means of exploring phenomena in order to generate hypotheses for later testing. The following section will describe the methods of case study research in more detail, and unless specifically stated to the contrary, it should be assumed that the case studies are being used in holistic research with explanations based on the pattern model.

METHODS OF CASE STUDY RESEARCH

Selecting suitable cases

Researchers who approach case studies from a positive methodological perspective may fall into what Yin (1984, p. 39) calls 'the trap of trying to select a "representative" case or set of cases'. Such a researcher, being concerned with producing statistical generalisations, will view case studies as a sample which, if correctly selected, may be used to generalise to a larger population. However, as already argued case studies, like experiments, can rely on theoretical generalisations. Thus, the issues involved in selecting cases should be similar to those considered in selecting topics for experiment, rather than those used for selecting a statistical sample.

Where there is a well-formulated theory and the major research issues

are clearly defined it may be possible to select a 'critical case' which directly addresses those issues. The objective of such a case study would be to determine whether the theory provides good explanations, or whether alternative explanations need to be developed.

In situations where the researcher wants to extend a theory to cover a wider range of circumstances, it may be appropriate to select an 'extreme case'. Such a case study would indicate the extent to which existing theory can be extended to provide explanations in widely differing circumstances, and to identify areas where the theory needs to be modified. The line of argument can be extended to situations where there is little available theory. Here an 'exploratory case' could be used to begin the process of theory development. The selection of the particular case for study is relatively unimportant. What is needed is a case within the relevant area which will enable the researcher to begin the process of theory development. This is similar to the exploratory case study used by positive researchers. It should be emphasised, however, that the exploration need not necessarily be part of a hypothesis-generation process, but could be part of a theory development process. In other words, the researcher would be looking for patterns in the case which explain the particular situation (including the apparently idiosyncratic), rather than for factors which potentially could be generalised. Theory developed in this way will be extended as additional cases are studied by the researcher, or by other researchers.

This brings us to the issue of multiple case studies. In a programme of case study research multiple case studies can be used for two purposes—replication and theory development. A number of similar cases might be selected to replicate the theoretical explanations. Alternatively, dissimilar cases may be selected to extend the theory to a wider set of circumstances. The differences between the individual cases will be determined by the direction in which theoretical extension is desired. The objective of such multiple cases is to develop a rich theoretical framework, capable of explaining a wide range of circumstances.

Main steps in a case study²

This section sets out the main steps in a case study, assuming that a case has been selected and access arranged. Although these steps will be listed in what might appear to be a logical sequence, it must be emphasised that case study research is a complex interactive process which cannot be characterised by a simple linear model. In the course of a case study, the researcher may have to iterate through these steps many times, possibly in different orders and with different interactions between the individual steps.

Preparation. The researcher should review the available theories which may be relevant to the case, and if appropriate develop a checklist of things to look for in the study. This review of prior theory will determine the way in which the researcher approaches the case. It has on occasions been suggested that the researcher should begin a case study unencumbered by prior theory. This is quite impossible. Every researcher will be influenced by his/her past experience, previous research, papers read, and so on. Thus, in any case study there will be considerable prior theory, even if it is only implicit. To make the research meaningful to others, the researcher should make explicit, and as comprehensive as possible, the theory which shapes the case study. In addition to a preparatory review of prior theory, additional theory may be introduced as the case proceeds and new theories are developed. The researcher should be sufficiently flexible to allow such developments to take place.

Collecting evidence. The preparatory review of theory will give an initial indication of the types of evidence which should be looked for in the case study. However, the researcher should be constantly alert for evidence which appears to be important in explaining the case, and should allow issues and theories to emerge out of the case, rather than being imposed on it. Typical sources of evidence include interviews, documentation, direct observation and participant observation. While collecting evidence formally, it is important for the researcher to be aware of informal evidence. For example, when interviewing a manager about the use of an accounting system, clues may be obtained about, say, the relationship between production and accounting staff through casual comments, tone of answers, physical gestures, etc. The researcher should be prepared to follow up such informal clues in any appropriate way—for example, by asking additional questions, interviewing other managers, observing meetings, and so on. Apart from suggesting new issues to explore, informal evidence may also give indications about the validity of information sources.

Assessing evidence. When using quantitative research methods, researchers are concerned with the reliability and validity of evidence. In such research, reliability is the extent to which evidence is independent of the person using it and validity is the extent to which the data is in some sense 'true'. Such interpretations of reliability and validity may not be appropriate in case study research, especially holistic research. Reliability which implies an independent, impersonal investigator and validity which implies an objective reality are likely to be meaningless to a holistic researcher.

Research is a social activity. For example, interviews are a social process

in which both the researchers and the subject take part. What can be learnt from such a process? Some argue that we can only learn about the interview situation, whereas others believe that it is possible for the researcher to derive interpretations about the 'external' factors which are the subject matter of the interview (Silverman, 1985). In holistic research, the researcher and his/her relations to the subject and the subject matter are an essential part of the 'interpretations' and explanations of the case. Consequently, case study researchers can only assess the validity of their evidence in the context of the particular case, i.e. its 'contextual validity'.

First, the validity of each piece of evidence should be assessed by comparing it with other kinds of evidence on the same issue. Other subjects might be interviewed, records checked or observations made. The process of collecting multiple sources of evidence on a particular issue is known as triangulation. Second, the validity of a particular source of evidence should be assessed by collecting other evidence from that source. If characteristic distortions emerge about a particular source the researcher will be able to assess the validity of evidence from that source.

In addition to assessing the evidence, researchers should also assess the validity of their own interpretations of that evidence. Researchers sometimes work in teams in order to avoid the bias an individual researcher might bring to the study. By using a number of researchers, possibly with different academic backgrounds, areas of interest, research experience, and so on, it may be possible to arrive at an agreed interpretation of the case, rather than one based on the personal characteristics of an individual researcher. Feeding back evidence to the subjects of the study can also help in confirming the researchers' interpretations.

Identifying and explaining patterns. As the case study progresses various themes and patterns should emerge. It is sometimes helpful to prepare models (diagrams, flow charts, etc.) which attempt to link the various themes and issues. In this way missing connections, inconsistencies, etc., can often be identified and avenues suggested for further investigation. As more evidence is collected, it may be possible to expand the model, add new connections, and even re-interpret the evidence collected earlier.

The patterns suggested by the model serve both to describe and explain the case. As discussed earlier, we do not need general theories to explain, it is the pattern discovered in the case which does the explaining. Nevertheless, theories still have their place. Patterns observed in the case may be related to patterns discovered in other cases (prior theories). Consequently, the pattern model developed to explain a case should always be compared to existing theories.

Theory development. If existing theories conflict with the patterns

observed in the case it will be necessary to collect evidence in order to ascertain explanations for these conflicts. In this way, theories can be extended to meet the new circumstances. In principle, the pattern model can be extended indefinitely as new evidence is collected. But in any individual case, the researcher must select boundaries for the study. This inevitability means that *all* explanations are partial and capable of development in the future.

Report writing. The final step in a case study is to prepare a report which will make the case and its explanations intelligible and plausible to outsiders. This means not only setting down the circumstances of the case, but also providing enough evidence to convince readers that the researcher has a good understanding of the relevant circumstances and that the explanations given are based on sound reasoning. In addition, the report should draw out theoretical implications which will carry over to other case studies. As argued earlier, this does not imply statistical generalisations to some larger population, but theoretical generalisations which may be helpful in studying other cases.

Weaknesses and problems of case studies

Traditional prejudices against case study research stem from a perceived lack of generalisations and academic rigour. However, the above discussion has indicated that in case study research it is important to give considerable care and attention to the collection and evaluation of evidence which is used in developing and generalising theory. Thus, case study research has its own internal rigour and is capable of generalisation. Nevertheless, this is not to suggest that there are no weaknesses or problems in case study research. The following are three aspects of case studies which are a common source of difficulty for researchers.

First, there is the difficulty of drawing boundaries around the subject matter of the case. The holistic perspective emphasises the importance of relating parts of social systems to the larger systems of which they are part. But how far should a researcher expand the case in studying interrelations with larger systems? A similar problem occurs in the historical dimension, as social systems and practices evolve through time. For example, accounting practices in a particular organisation will have evolved with the development of the business. How far back in time should the case study researcher probe?

The holistic ideal of studying all aspects of a social system is clearly unattainable and we must be satisfied with approximations. Case study researchers must place some limits on the subject matter. One possibility is to place limits on the area of study, and to make those limits quite explicit. This will permit a detailed study of the area, and allow other

researchers to extend the work into other areas. The other possibility is to attempt to study 'everything', but in a more superficial way. To some extent, the work of survey researchers can contribute to the latter, whereas case study methods are essential for the former.

The second difficulty for case study researchers stems from the nature of the social reality which is being researched. If, as argued earlier, social systems are not natural phenomena, they cannot be understood independently of human beings and the researcher cannot be regarded as a neutral independent observer. The social reality must be *interpreted* by the researcher and, thus, case studies represent interpretations of the social reality. There can be no such thing as an 'objective' case study. This raises the problem of researcher bias. As discussed earlier, it may be possible to reduce such bias in the collection and assessment of evidence by using a team of researchers, with different backgrounds, experiences, etc., and by feeding back the researchers' interpretations to the subjects of the study. Nevertheless, it has to be accepted that case study research provides an interpretation of the social system being studied, not an objective representation. But can any social science research method claim to do more?

The final difficulty of case study research which we will discuss is the ethics of the researcher's relationship with his/her subjects. Many accounting case studies require access to organisations and to confidential information. Access may only be secured if confidentiality is assured. In addition, subjects may be much more open in their dealings with the researcher if they are confident that the information disclosed will be treated in confidence. This raises particular problems in writing case reports. For instance, it may be necessary to disguise the identity of the organisation studied. Whilst this will limit an appreciation of the context of the study, it may be essential in order to obtain confidential information. Furthermore, in a study of relationships between members of an organisation it may be necessary to guarantee the confidentiality of information received *within* the organisation. A subject may not be prepared to reveal his/her views, opinions, etc., if the researcher is to give this information to others in the organisation. Maintaining such confidences within an organisation may prevent the researcher from checking the validity of evidence through feedback to the subjects. Other means of checking must then be found; e.g. observing the subject's actions, examining documentation and appropriate questioning of other subjects.

For the researcher to maintain good relations with subjects in the study, and to avoid damaging the prospects for other case study researchers it is essential that all confidences are respected. Thus, a balance must be struck between the need to obtain access to confidential information and the prospects for using that information in a wider arena either in the study or in publishing the results.

IMPLICATIONS FOR MANAGEMENT ACCOUNTING RESEARCH

In a book on the methods of field based research, Burgess (1984) described certain developments in anthropological fieldwork in the twentieth century which has clear implications for case study research in management accounting. In the early years of the century anthropological fieldwork was based on what Burgess called the 'Veranda Model'. Researchers viewed the natives from the verandas of colonial homes, often with a certain amount of contempt. They frequently relied on the reports of vested interest groups, such as administrators and missionaries, and when they questioned natives they removed them from their day-to-day experiences. The shortcomings of such a research method for understanding the natives' culture and way of life are now well accepted by social science researchers. But let us look at accounting fieldwork and case studies.

Accounting researchers are beginning to use case studies to examine management accounting practices. How should we evaluate this research if it is based on interviews with vested interest groups (senior executives and accountants), treats managers with contempt (as irrational and unable to understand accounting information) and stresses the centrality of accounting in relation to production, sales and other functional areas? Such an approach looks very similar to the Veranda Model in anthropological research. Perhaps in accounting, it might be called the 'Senior Management' model. If accounting researchers want to exploit the full potential of case study methods to understand management accounting, they must be prepared to study accounting practices at various levels within the organisation and the relationships between the various groups of managers. The implication of the above analogy for accounting research is that case studies should explore the day-to-day accounting practices of real people in the context in which they work.

In comparison with the more traditional forms of accounting research, it is important to recognise that case studies are concerned with explanation, rather than prediction. Researchers should avoid the temptation of thinking of case studies only in terms of statistical generalisations. Researchers who see generalisations only in this sense will either reject case study methods or not fully exploit their potential. Management accounting research will be greatly strengthened if case studies focus on explanation and theoretical generalisation. They will provide clearer understandings of management accounting practice and help both managers and accountants to work out their problems on a day-to-day basis. They may also act as a stimulus for resolving problems which have remained below the surface. Case study methods themselves will not provide the answers to such problems, but they should provide practitioners with a deeper and

richer understanding of the social context in which they work and make them aware of the problems, and the possibilities for solutions.

An interesting parallel to this view of case studies was contained in a comment on management consultancy made by a former director of McKinsey and Company: 'in McKinsey's practice we could explore ways of thinking about problems but we could not explore solutions . . . because each case took place in a different historical and cultural context' (quoted by Smith *et al.*, 1988, p. 102). In the same way accounting case studies may not locate general solutions to the problems faced by managers and accountants, but they can provide a better awareness of the issues which are involved. Case studies can provide ways of thinking about problems and, as such, are an important tool for the management accounting researcher.

In the UK, case studies are becoming an increasingly important part of management accounting research. In North America also, there is a move towards case study research. In this paper, case studies informed by neo-classical economics and case studies informed by social theory were used to illustrate different methodological bases for case study research. In general terms, the former approach treats case studies as an exploratory tool in the construction of positive theories, and gives only an incidental role to case studies in management accounting research. The latter, however, gives a much more central role to case studies—indeed, they are fundamental to the development of explanatory theories of management accounting practice.

NOTES

1. This section is based on Scapens & Arnold, 1986.
2. These steps are based on the recommendations contained in Diesing, 1972.

REFERENCES

- Bell, D. (1981). 'Models and reality in economic discourse'. In (Bell, D. & Kristol, I., eds), *The Crisis in Economic Theory*, New York, Basic Books, pp. 46–80.
- Bell, D. & Kristol, I. (eds) (1981). *The Crisis in Economic Theory*, New York, Basic Books.
- Burgess, R. G. (1984). *In the Field: An Introduction to Field Research*, London, Allan & Unwin.
- Cohen, K. J. & Cyert, R. M. (1975). *Theory of the Firm: Resource Allocation in a Market Economy*, 2nd edn, Englewood Cliffs, N.J., Prentice-Hall.
- Cooper, D., Scapens R. & Arnold, J. (1983). *Management Accounting: Research and Practice*, London, CIMA.
- Cyert, R. M. & March, J. G. (1963). *A Behavioral Theory of the Firm*, Englewood Cliffs, N.J., Prentice-Hall.

- Diesing, P. (1972). *Patterns of Discovery in the Social Sciences*, London, Routledge & Kegan Paul.
- Eichner, A. S. (1983). 'Why economics is not yet a science'. In (Eichner, A. S., ed.), *Why Economics is not yet a Science*, London, Macmillan, pp. 205–241.
- Friedman, M. (1953). 'The methodology of positive economics'. In (Friedman, M., ed.), *Essays in Positive Economics*, Chicago, University of Chicago Press.
- Giddens, A. (1984). *The Constitution of Society*, Cambridge, Polity Press.
- Hopper, T. (1988). 'Social transformation and management accounting: finding relevance in history'. Paper presented at the Interdisciplinary Perspectives in Accounting Conference, Manchester.
- Jensen, M. C. (1983). 'Organization theory and methodology', *The Accounting Review*, April, pp. 319–339.
- Johnson, H. T. & Kaplan, R. S. (1987). *Relevance Lost—The Rise and Fall of Management Accounting*, Boston, Harvard Business School Press.
- Kahneman, D., Slovic, P. & Tversky, A. (1982). *Judgement under Uncertainty: Heuristics and Biases*, Cambridge, Cambridge University Press.
- Kaplan, A. (1964). *The Conduct of Inquiry*, San Francisco, Chandler Publishing.
- Kaplan, R. S. (1983). 'Measuring manufacturing performance: a new challenge for managerial accounting research', *The Accounting Review*, October, pp. 686–705.
- Kaplan, R. S. (1984). 'The evolution of management accounting', *The Accounting Review*, July, pp. 390–418.
- Kaplan, R. S. (1986). 'The role for empirical research in management accounting', *Accounting, Organizations and Society*, Vol. 11, No. 4/5, pp. 429–452.
- Kristol, I. (1981). 'Rationalism in economics'. In (Bell, D. & Kristol, I., eds), *The Crisis in Economic Theory*, New York, Basic Books, pp. 201–218.
- Leibenstein, H. (1976). *Beyond Economic Man*, Boston, Harvard University Press.
- Machlup, F. (1967). 'Theories of the firm: marginalist, behavioral, managerial', *The American Economic Review*, March, pp. 1–33.
- Macintosh, N. B. & Scapens, R. W. (1990). 'Structuration theory in management accounting', *Accounting, Organizations and Society*, Vol. 15, No. 5.
- Ramstad, Y. (1986). 'A pragmatist's quest for holistic knowledge: the scientific methodology of John R. Commons', *Journal of Economic Issues*, December, pp. 1067–1105.
- Roberts, J. & Scapens, R. (1985). 'Accounting systems and systems of accountability—understanding accounting practices in their organizational contexts', *Accounting, Organizations and Society*, Vol. 10, No. 4, pp. 443–456.
- Scapens, R. W. (1984). 'Management accounting—a survey paper'. In (Scapens, R. W., Otley, D. T. & Lister, R. J., eds), *Management Accounting, Organizational Theory and Capital Budgeting: Three Surveys*, London, Macmillan, pp. 15–95.
- Scapens, R. W. & Arnold, J. A. (1986) 'Economics and Management Accounting Research'. In (Bromwich, M. & Hopwood, A. G., eds), *Research and Current Issues in Management Accounting*, London, Pitman, pp. 78–102.
- Silverman, D. (1985). *Qualitative Methodology and Sociology*, Gower.
- Simon, H. A. (1959). 'Theories of decision-making in economics and behavioral science', *The American Economic Review*, June, pp. 233–283.
- Simon, H. A. (1979). 'Rational decision making in business organizations' (Nobel Prize Lecture), *The American Economic Review*, September, pp. 493–513.
- Smith, C., Whipp, R. & Willmott, H. (1988). 'Case study research in accounting: methodological breakthrough or ideological weapon', *Advances in Public Interest Accounting*, Vol. 2, pp. 95–120.
- Tinker, A. M., Marino, B. D. & Neimark, M. D. (1982). 'The normative origins of positive theories: ideology and accounting thought', *Accounting, Organizations and Society*, Vol. 7, No. 2, pp. 167–200.

- Watts, R. L. & Zimmerman, J. L. (1986). *Positive Accounting Theory*, Englewood Cliffs, N.J., Prentice-Hall.
- Wilber, C. K. & Harrison, R. S. (1978). 'The methodology basis of institutional economics: pattern model, storytelling, and holism', *Journal of Economic Issues*, March, pp. 61–89.
- Wiles, P. (1983). 'Ideology, methodology and neoclassical economics'. In (Eichner, A. S., ed.), *Why Economics is not yet a Science*, London, Macmillan, pp. 61–89.
- Williamson, O. E. (1975). *Markets and Hierarchies: Analysis of Antitrust Implications: A Study in the Economics of Internal Organization*, New York, Free Press.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism: Firms, Markets, and Relational Contracting*, New York, Free Press.
- Yin, R. K. (1984). *Case Study Research, Design and Methods*, Beverly Hills, Sage Publications.

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