

## THEORETICAL BACKGROUND OF SOME RESEARCH METHODS APPLICABLE IN COST AND MANAGEMENT ACCOUNTING

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### SUMMARY

*The aim of this paper is to discuss some research method and methodologies that may be applicable to cost and management accounting studies. Case study and survey methods are emphasised in this paper because these methods are increasingly employed in cost/management accounting research studies performed in the UK and US. Particularly academics consider these methods very helpful in their work. Therefore, the paper discusses importance, weaknesses, and strengths of the above methods.*

### Introduction

In the social sciences a number of different kinds of research methods are used. They may be classified under several titles although the research methods may differ from one area to another in the social science disciplines. Survey, case study, field study, empirical research and archival research may be given as examples of the research methods that are selected by researchers to investigate answers to their research questions (Dane, 1990).

The aim of this paper is to discuss and explain research methods adopted in many cost and management accounting research studies performed in the UK and US. This paper comprises two sections. The first discusses the case study, and the second survey method. After the definitions of the methods are given, types, strengths, and weaknesses of them are discussed in each section.

### 1. Case Study Method

Case study is considered as one type of the field-based studies in cost and management accounting research. The term "field study" is sometimes used interchangeably with the term 'case study' in the recent management accounting literature (Spicer, 1992:10). However, Kaplan (1986:442) classifies field-based studies into three groups and distinguishes one from another: case studies, field studies, and field experiments. Case studies, in Kaplan's definition, are distinguished by the concentrated investigation of a single entity (Kaplan, 1986). Other researchers give similar definitions. For example according to Nisbet and

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Watt (1982:6), a case study is a systematic investigation of a specific instance. Similarly, Yin (1994:13) defines case study research as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident". Yin (1994:14) also states that case study research can include both single and multiple case studies. Therefore, there are two distinct features of the case study method. First, it focuses and investigates a real life phenomenon in one or more entities. Second, case study research describes an actual situation, in which qualitative and quantitative data are collected through personal observations, interviews, and any other sources. This collection may include information about the company and its products, customers and technology, financial and accounting data; number of products, equipment and employees; performance and capacity measures; and similar data which relate to both quantity and quality.

For example, in a cost/management accounting case study, a researcher may investigate existing cost accounting system in detail. He/she may study the system first, to collect more information observe the manufacturing process, and perform interviews with department managers. This inquiry helps the researcher to have a better understanding of the manufacturing process and the existing cost system. He can discover the relationships established between the cost system and the manufacturing process; find out whether certain cost drivers should represent activities; and determine the basic cost structures of products and customers. Findings may sometimes lead the researcher to reformulate the relationships that have been established previously between cost drivers and activities or products. In other words, the researcher may conclude to drop some products or customers. On the other hand, the information obtained from a company through a case study can be the first step to collecting more information for the same manufacturing sector using a survey. According to Kaplan (1986:442) case studies are usually appropriate for hypothesis generation rather than hypothesis-testing, and the findings can only be tested by a survey if it is desired to generalise.

Field studies are defined by Kaplan (1986) as cross sectional case studies in which the researcher measures dependent and independent variables across a number of companies. Such research would be based on extensive visits and data collection at companies, and the researcher would attempt to measure association by correlating variables across firms. Then, it is also possible for the researcher to produce a theory that explains observed phenomena. Since field studies involve many companies, completion of the study may take a long time, typically three to four years. According to Ferreira and Merchant (1992:4), field studies have several characteristics. For example, the researcher has direct and in-depth



contact with organisational participants. Interviews and direct observations of activities provide a primary source of data. Further, situations are not artificially created by the researcher; however, real processes are studied. Finally, the research design is not totally structured. The researcher improves it as field observations are performed.

Field experiments in Kaplan's (1986) definition are different from the above two field--based studies. In case and field studies the researcher does not manipulate the data whereas field experiments require data manipulation on one or more dependent variables. This type of study may be appropriate in government programmes as well as in some companies, in which improvement or change programmes are being implemented. Therefore, the researcher is able to conduct a series of case studies which may show previous situations and the impact of the change or improvement process.

### 1.1. Types of Case Studies

The main purpose of conducting a case study is to provide a rich description of current applications. For this reason, the case study, which is one of the three types of field-based research, may be divided into five groups. According to some researchers (Ryan *et al.*, 1992:114; Scapens, 1990:265), case studies can be classified relating to their purposes from a management accounting point of view. The following section defines these groups, which are namely; descriptive, illustrative, experimental, exploratory and explanatory case studies.

**Descriptive case studies:** These types of case studies are used by researchers to describe current accounting systems, procedures and techniques. The research objective of this type is to describe accounting practices. Hence, more than one company may also be selected to illustrate similarities and differences of their accounting practices. These types of case studies may be useful to illustrate the extent of the gap between accounting theories and practices.

**Illustrative case studies:** These case studies are performed to illustrate new and innovative practices implemented by specific companies. They also attempt to illustrate achievement of a company that has implemented new practices by considering them superior to previous ones.

**Experimental case studies:** New accounting procedures and techniques that are developed by researchers may be classified in this group. These new techniques or procedures are developed theoretically to indicate what should be done in practice. Nevertheless, these new techniques may sometimes be difficult



to implement. Therefore, experimental case studies are used to examine difficulties as well as benefits of the new techniques during the implementation process.

**Exploratory case studies:** These studies are employed to explore the reasons for particular practices. The objective of this type is to produce generalisations and hypotheses about practices, which may be tested at a later stage.

**Explanatory case studies:** These also attempt to explain the reasons for current practices. However, research relates to specific cases, in which theory is used to penetrate specific situations. Existing theories may be modified if they do not enable the researcher to provide convincing explanations.

Ryan *et al.*, (1992) state that there may be no exact or clear distinction between these different types of case studies. They also emphasise that it is the researcher's intention that determines the classification in each case. If the researcher provides clear insights into current practices by using a case study approach, it should be regarded that the case study research achieves its expected objectives.

## **1.2. Strengths and Weaknesses of Case Study Research**

Case studies are important opportunities for researchers to identify the cost and management accounting practices that have been adopted by companies. The researcher examines a single instance and aims to identify the unique features of interaction within that instance (Nisbet and Watt, 1982). Reports, records, techniques and procedures of formal accounting systems can be identified by using this research method. Moreover, the researcher is able to discover the ways in which formal accounting systems are used by managers to run their businesses (Scapens, 1988:28). Further, the researcher can associate accounting theory with changing technology. This may assist the researcher to develop new accounting techniques that are more suitable for current manufacturing process than the existing one.

Nevertheless, case studies also have some weaknesses. For example, results of case studies are difficult to generalise unless one case is similar to another (Nisbet and Watt, 1982). This is because a case study represents only one instance, which may have a possibility of being a unique case. Also, Scapens (1990:276-7) discusses three weaknesses of the case study research. First, it is difficult to draw boundaries around the subject matter of the case. How far should the case be expanded when studying interrelations with a larger system?



As a result, the researcher should limit the area of study. Second, a researcher may be biased. Finally, researchers are required to assure confidentiality to company management because they see existing cost information that may be critical from the management's perspective. Access for a case study is only given if confidentiality is assured. Therefore, researchers usually need to disguise the identity of the firm they studied and, moreover, data collected may sometimes be modified to provide further security. On the one hand, this limits the potential effect of that study; on the other, it may be essential to have confidential information. However, providing confidentiality is recognised by researchers and publishers who deal with case studies (Scapens and Bromwich, 1994:3).

Scapens (1990:270; 1992: 370), however, opposes the idea that case studies cannot be generalised. He thinks that (1992:370) this criticism should be reassessed by contrasting conventional research methodologies with those of modern social theory. Some case studies, in which conventional methodologies (which are informed by neo-classical economics) are employed, are used by the managers who use accounting information for planning and control purposes; and by researchers who want to produce hypotheses (Scapens, 1990:267). These type of case studies produce statistical generalisations which are concerned only with statements about occurrences in a particular population. However, individual observations may not necessarily be explained by these statements although these statements enable researcher to make predictions (Scapens, 1990:270).

On the other hand, case studies employing modern social theory explore day to day accounting practices of the real people in the context in which they work (Scapens, 1990:278). Scapens (1992:372) also states that they are less restrictive than the case studies that use conventional methodologies. Moreover, social theory methodologies give a much more central role that is important to the development of explanatory theories of management accounting (Scapens, 1990:279). Therefore, a researcher who develops theories from an individual case study assists managers of other organisations although those organisations may not be identical. The managers of other companies can use those theories to understand their problems and employee behaviour and they may be more aware of their own issues (Scapens, 1992:380). Briefly, modern social methodologies produce theoretical generalisations rather than the statistical generalisations that are used in conventional methodologies.

## 2. Survey

Survey is another important method in the cost and management accounting research. This type of research involves obtaining information directly from a group of individuals (Dane, 1990:120). It has been stated (Rea and



Parker, 1992:3) that the survey method is the most appropriate way of searching information if generalisation of findings to a larger population is desired and if that type of information is not obtainable from other sources. Thus, a survey can be defined as a data collection technique that asks questions of a sample of respondents generally at a point of time, either with a self administrative questionnaire or with an interviewer (Bailey, 1978:439). Researchers who conduct surveys may use various methods to collect information. For example, postal and telephone questionnaires, and face to face interviews are among the survey methods employed by researchers. The following sections describe these three types of survey methods and discuss their benefits and weaknesses.

### **2.1. Postal Questionnaire Survey**

This type of survey is conducted by mailing questionnaires to predetermined respondents. It can be defined as a survey in which respondents complete the questionnaire without intervention by the researcher; thus, it is known as a self administered survey (Dane, 1990:133). The researcher cannot participate when respondents are completing the questionnaire. These questionnaires are potentially open to misunderstandings. Thus, a questionnaire should be so well designed that the respondents can clearly understand each question. If correctly designed, a postal questionnaire may be the best way of surveying. According to Dillman (1983:376) mail (postal) questionnaires hold a great potential for social research. Dillman (1983) stated that unless researchers gave proper attention to the design and construction of questionnaire - for example, as they do for statistical analysis - the potential of this type of research would hardly be realised in the future. Postal questionnaire surveys have some benefits as well as weaknesses, which are discussed in the following paragraphs.

The benefits of postal questionnaires (Oppenheim, 1992:102) include: cost of data collecting and processing are low as they are often designed to be completed simply by ticking or putting a mark on the answer, which saves both time and effort. The high cost of interviewers can be avoided since the questionnaires are self administered. Further, interviewer bias can be avoided; and, finally, it is possible to reach respondents who live at widely dispersed addresses.

However, there are also some weaknesses of postal questionnaires (Oppenheim, 1992:102): low response rates are usually encountered by researchers [Dillman (1978:1) states that this may be the case even with short questionnaires]; if respondents have difficulties understanding questions, there will not be any opportunity for the researcher to correct their misunderstandings or to provide explanations and help; the researcher does not have any control over



either incomplete responses, or responses from unsuitable persons to whom questionnaires are passed for completion. Finally, the researcher cannot benefit from experiences of respondents; only questions that have been asked are answered. In other words, if certain topics are not covered within the questionnaire, the researcher may lose some opportunities to penetrate these areas.

## **2.2. Telephone Survey**

Conducting telephone surveys has also become popular in the social sciences (Dillman, 1978:11). It is an alternative method to face to face interviews, by which time and money can be saved significantly (Oppenheim, 1992:97; Weinberg, 1983:335). The telephone survey may also combine the benefits of mail and face-to-face interview surveys. For example, misunderstanding the questions by respondents can be overcome; and response rates may be increased by employing telephone surveys. Moreover, it was stated (Weinberg, 1983) that results of personal interviews performed by telephone were similar to the face to face interviews, and in some ways the former ones were better than the latter.

On the other hand, short telephone interviews can be used as a supplementary method to other research techniques. For example, a telephone survey is often employed to follow-up mail surveys. By doing so, the researcher is able to shed light into some points that are missing or unclear. Moreover, Dillman (1978) states that it is also an effective way of pushing respondents to return questionnaires. Finally, telephone interviews assist the researcher to complete the survey faster than any other methods.

## **2.3. Face-to-Face Interviews**

This type of research can be defined as an interview during which a structured conversation is used to complete a survey (Dane, 1990:128). The purpose of the conversation is to collect data that are required; and a questionnaire provides the structure for the conversation. The face-to-face interview was regarded as the most appropriate method for collecting attitudinal and factual data from a general population and from some special population groups (Weinberg, 1983:336). Nevertheless, this survey method has some disadvantages as well as benefits.

The cost of this type of research is regarded as the most crucial point. It was stated (Weinberg, 1983) that one hour of face-to-face interview might take four to five hours of an interviewer's time. Some of the time consuming activities



include: arriving at and leaving from the respondent's work place; finding the exact address and person; and spending some time before and after the interview, etc. Therefore, the total cost of each interview will consist of the total time spent by the interviewer. Second, interview bias is also important. The interviewer may make mistakes when completing the questionnaire; or mislead the respondent. Third, the interviewer sees the respondent and his/her position. This may cause the respondent to become less comfortable and to give incorrect answers to sensitive questions. Finally, the respondent may feel discomfort with the length of the interview. For example, respondents may complete a mail questionnaire over a number of days. However, they do not have such flexibility in a face-to-face interview. This may reduce the impact of that research method.

On the other hand, face-to-face interviews have some benefits as well (Bailey, 1978:157-158). Flexibility is the major advantage of the interview. A well-trained interviewer may receive more specific and important answers. Moreover, interviews increase response rates and prevent respondents from misunderstanding the questions. Finally, the interviewer can control conversation and, when necessary, ask the respondent to consult other more appropriate persons on specific questions that the respondent would otherwise have answered by himself.

A researcher in cost/management accounting area may use survey method effectively to collect accounting information from manufacturing companies. For example on a sectoral basis, existing product cost structures (i.e., the amount of direct material, labour and overhead in the total cost of a product) can be investigated to establish a product cost pattern for that particular manufacturing sector. Also, types, characteristics, and number of cost drivers, cost pools, and products related to them can be determined using a well-structured survey. Moreover, information such as types of existing cost systems and the reasons why they are in use; or whether a change has been considered or implemented can be obtained to derive generalisations for the whole population. Further, cost information concerning pricing, dropping or adding a customer or product can be obtained asking appropriate questions. Therefore, it would be possible for a researcher to produce meaningful results that may lead to the advancement of the cost and management accounting theories and practices.

### **2.3. The importance of these Methods in Cost and Management Accounting Research**

As described in the beginning of this paper, there are several methods of conducting research in social sciences. Researchers may select one or more of these methods for their studies since different purposes require the researchers to



follow different research methods. Every method has its advantages and disadvantages. Therefore, researchers may also decide to adopt more than one method so that one method can offset the disadvantages of another. For example, the case study is not usually an acceptable method to draw generalisations. If the purpose of research is to draw generalisations, case study findings should be supported by another method, such as a survey.

The case study method may be considered by a researcher in cost/management accounting area as one of the most suitable research methods to achieve his/her objectives. For example, the description of the existing cost systems and the examination to the extent that they are linked to manufacturing processes required an intensive observation of the production processes, financial and non-financial data collection and several interviews. The case study is a method that allows researchers to fulfil all these techniques within one study. Case study research also enables researchers to see and understand the specific instances. They will assist researchers to classify cost accounting practices (Kaplan, 1986:445). Moreover, case study research may enable researchers to perform an inductive work in which the researchers are able to make generalisations from their observations. As a result, the researchers can produce theoretical statements that attempt to explain the occurrence of the observed phenomena (Otley and Berry, 1994:46). Also, Kaplan (1986:442) states that case studies are used for hypothesis generation rather than hypothesis testing.

On the other hand, the case study approach has become increasingly popular since the 1980s. After Kaplan (1983) had encouraged researchers to perform case studies to discover insights of innovative companies, it was realised (Scapens, 1990) that more case studies were required in this area. As a result, there has been a growing interest among academics in this technique (Scapens, 1990; Otley and Berry, 1994) in the accounting literature.

The survey method may also be adopted (individually or together with other methods such as a case study) to generalise hypotheses and/or findings of previous studies. The survey findings in cost/management accounting research may describe the existing cost and management accounting practices; demonstrate product cost structure in sector basis; and explain production and non-production activities that may affect the cost structure of products. These can be fulfilled by performing case studies within individual factories. However, for generalisation purposes, these objectives can be achieved by conducting a survey that encompasses a large population in a sector. The postal questionnaire may be one of the most preferred method used for surveying because of the potential benefits that have been explained in the first section. As suggested by



Dillman (1978:183-191), up to four follow-ups should be used by a researcher to increase the response rate of the questionnaire survey.

#### ABSTRACT

This paper discusses theoretical background of some research methods applicable in cost and management accounting area. It describes two major research methods that are currently preferred by US and European researchers in their research studies. Each of the research methods described here has its own benefits and limitations. While case studies can be used to go into detail in specific entities and provide rich descriptions, survey method enables researchers to generalise their findings for a larger population. Depending on the requirements of the research area chosen, case study and/or survey methods may be selected. By doing so, researchers are able to produce meaningful results that both contribute to the advancement of the existing theories and discover original costing practices that may have been employed in the subject companies studied.

#### ÖZET

Bu çalışmanın amacı, maliyet ve yönetim muhasebesinde uygulanabilen bazı araştırma yöntemlerini tartışmaktır. Bu makalede 'olay çalışması' ve 'sörvey' yöntemleri özellikle vurgulanmıştır çünkü bunlar ABD ve İngiltere'de gerçekleştirilen maliyet ve yönetim muhasebesi araştırmalarında gittikçe artan bir oranda kullanılmaktadır. Özellikle akademisyenler bu yöntemleri oldukça faydalı bulmaktadırlar. Bu nedenle makale yukarıda belirtilen yöntemlerin önemini, zayıf ve güçlü yanlarını tartışmaktadır.

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