

GUIDELINES FOR ORGANIZATIONAL ACCOUNTING HISTORY AND MANAGEMENT ACCOUNTING FIELD STUDIES: METHODOLOGICAL PROCEDURES AND THEORETICAL JUSTIFICATIONS

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ABSTRACT

Case studies are particularly useful at the exploratory phase of research when little is known about the phenomena. These types of studies are a vehicle for the inductive development of new or evolving theory and historical phenomena. This paper outlines methodological guidelines for field-based research aimed at organizational accounting history and managerial accounting topics. Two main sections are presented: methodological processes and theoretical justifications of case study designs. The methodological process underlying field-based research is outlined in terms of five steps. The second part of this paper outlines the tests of research design quality and the criteria specific to organizational case or field studies. The embedded and holistic designs of case studies are outlined. Triangulation of the data collection techniques: interview, participant observation and archival data, is proposed as means of increasing confidence in the conclusions reached by field-based research. Archival-based historical methods are particularly relevant to organizational accounting history research. Pattern matching logic is then recommended as the method to be used in analyzing and summarizing the data obtained. Next, techniques which assure that the tests of quality of research designs are achieved by field-based research are discussed. These techniques include planned incorporation of multiple sources of evidence, establishment of a chain of evidence, development of a case study protocol, and review of the case study report by key informants.

INTRODUCTION

Two areas of accounting research often utilize qualitative research methods: Management accounting and accounting history. Management accounting systems exist only in complex organizations, thus, they are difficult to study except in actual settings and the field study method has been recommended (Bruns and Kaplan, 1987; Kaplan, 1986). Similarly, historical accounting documents exist only in original or archival settings. Because of the accounting field's focus on *a priori* reasoning, deductive analysis and controlled laboratory experiments, the literature on field-based research provides few methodological guidelines for conducting these types of studies. Further, much of the literature discusses qualitative and quantitative research designs in mutually exclusive terms. Management accounting field studies and accounting history studies often contain *both* qualitative and quantitative components. This paper examines the methodological process underlying field-based research directed at management accounting and accounting history topics. This paper is divided into two main sections: methodological processes and theoretical justifications, including the tests of research design quality, specific to case study designs.

THE CASE STUDY METHOD

Management accounting systems are intended to serve the decision making needs of managers and reflect organizational activities, thus it becomes imperative to fully understand the context of the organization in question and a field study is a primary means of fully understanding the organizational context. Similarly, accounting history studies concern the full understanding of the context of an accounting method or concern of an earlier time.

Case studies are particularly useful at the exploratory phase of research when little is known about the phenomena and are described as a vehicle for the inductive development of new or evolving theory (Merchant and Simons, 1986; Paulin, Coffey and Spaulding, 1982; Walton, 1972; McGrath 1964). Case studies allow the researcher to become closely familiar with the context of the research (Campbell, 1975).

The nature of the research problem determines a study's design. The choice of methodology in any study depends upon (a) the type of research question posed, (b) the extent of control the researcher has over events, and (c) the degree of focus on contemporary versus historical events (Yin, 1987). The case study methodology should be utilized when the research questions are categorical in nature (asking "how" or "why" questions which are best answered in interviews), the researcher has *no* control over events, and the focus is on contemporary issues. Case studies may be used for studies which are either exploratory *or* explanatory and either descriptive *or* analytical. The process underlying field-based research is outlined in terms of the following steps: (1) Choice of the case study design; (2) Familiarization with the organizational or historical setting; (3) Development of the research questions; (4) Collection of data; and, (5) Data analysis.

STEP 1: CHOICE OF THE CASE STUDY DESIGN

The first step in conducting a field study is choosing the case study design. Case studies may be either single case or multiple case designs, and either holistic or embedded designs (Yin, 1987). A single case design centers on one organization; a multiple case design centers on more than one organization. A holistic design focuses on a single unit of analysis; an embedded design focuses on multiple units of analysis. Embedded designs should be used when logical organizational subunits can be identified; holistic designs should be used when they cannot.

Yin (1987) outlines three reasons to justify the use of a single-case design. If any of these are present, then a single-case design is preferable to a multiple-case design. These conditions deal with whether the case in question represents a/an:

1. Critical case – circumstances confirm, challenge or extend well-formulated theory;
2. Extreme or unique case - situation is so rare as to be worth documenting individually; and,
3. Revelatory case - a phenomenon previously inaccessible to scientific investigation.

Accounting history studies and management accounting field studies usually represent both unique and revelatory situations because the researcher has open access to a previously unresearched situation, organization, accounting records, and/or strategic management information. As organizations' management accounting systems reflect their production processes, each company represents a unique study. Management accounting and historical studies are also revelatory because a researcher usually has access to a specific, previously unstudied organization or industry.

STEP 2: FAMILIARIZATION WITH THE ORGANIZATION OR SETTING

The second step in developing a management accounting field study is to gain an understanding of the study's site. Initial visits to the research site should be treated as exploratory opportunities to

assess what is feasible (Bogdan and Biklen, 1982). A preliminary understanding of the organization is also necessary to develop the specific research questions and plan the research design. This familiarity can be accomplished via interviews. Also, Company archival data and journal articles should be used, coupled with the preliminary interviews, to support and develop an understanding of the organizational background. Finally, design, production, testing, and similar processes could be observed via factory tours to develop an understanding of the product lines and their design and manufacture.

In an accounting history study, the researcher should determine the historical problem or the need for a certain type of historical research (Busha and Harter, 1980). In addition, as much relevant information about the topic should be gathered.

STEP 3: DEVELOPMENT OF THE RESEARCH QUESTIONS

Once the researcher has gained familiarity with the organization in question or the historical topic, the research questions can then be developed. These questions in a case study are naturally different from statistical hypotheses. According to Yin (1987), case study questions usually take the form of *how* or *why* questions. The purpose of management accounting field studies is *not* to statistically generalize to other populations. Rather, this type of research explores what developments in management accounting information (e.g. product costing methods, process controls, etc.) can take place given a company's unique situation and position in its industry. Though a company's circumstances may be unique, some of the findings may be generalizable to other organizations. Thus, another intent of this type of study is to provide insights to managers, both in the research site, and others, which may assist them in their strategic decision making activities. In accounting history research, the questions seek to explain relationships between historical factors (Busha and Harter, 1980). Also, this type of research is intended to generalize to existing theory and to help contribute to its development by adding to the growing body of knowledge through analysis of one company's practices or one historical problem or setting. The resultant conformance or divergence from extant theory highlights areas in which theoretical prescriptions are supported, or conversely concepts which need to be further developed.

STEP 4: DATA COLLECTION: TRIANGULATION

Three primary methods of data collection are utilized: archival data, observation and interviews. If applicable, questionnaires could also be used for this purpose. Using a combination of methodologies at one site to study the same phenomenon is termed Between Methods Triangulation (Bruns and Kaplan, 1987; Yin, 1987; Jick, 1979; Denzin, 1970). The overall strength of Triangulation is that confidence in the results of the study is increased (Jick, 1979). This is particularly important in accounting history studies where the verification of the authenticity of information and its sources is of concern (Busha and Harter, 1980). Between Methods Triangulation leads to convergent lines of inquiry validating the results and addressing the potential problems of internal and external validity (Yin, 1987; Jick, 1979; Denzin, 1970).

The use of observation and archival data (pre-recorded data) are two data collection techniques commonly used in accounting field studies (Yin, 1987; Paulin, Coffey and Spaulding, 1982). Archival data should be collected at two separate phases, both prior to and after the interviews are conducted. Documents are collected prior to the interview phase are used to develop an understanding of the company in question and its historical context, as well as to guide the interviews. Observation of the actual phenomena should be utilized to develop a reasonable familiarity with the company's product lines and its design and production processes. The collection of archival data prior to the interviews supports the interview process and the development of the study's questions. As suggested in the case study method literature, interviews are kept

unstructured (informal), but guided to keep to the subject matter (Yin, 1987; Whyte, 1984; Bogdan and Biklen, 1982).

The case study protocol, which includes the interview questions, should be used to guide the inquiry. A case study protocol is analogous to leaving an audit trail. It consists of a set of substantive questions which reflect the actual inquiry. The protocol contains questions asked to the researcher about the study and probable sources of evidence to answer these questions. The case study protocol should include: an overview of the case study field project; field procedures; case study questions; and, a guide for the case study report (Yin, 1987). The case study protocol's purpose is to keep the researcher focused on the study's purpose and questions. It forces the investigator to anticipate potential problems. The protocol contains not only the actual questions to be asked, but also the procedures and general rules to be followed in the process of questioning. The interview questions also should be pilot tested and modified. Company or industry terminology could cause confusion when similar terms or phrases are used in the interview questions. Finally, the interviews are transcribed and used for the data analysis procedures described in the following section and to determine additional documents to be collected in the study.

STEP 5: DATA ANALYSIS IN CASE STUDY RESEARCH

Data analysis consists of the examination, categorization, tabulation, or other recombination of evidence, to address the study's research questions (Yin, 1987). According to Yin, the goals of data analysis in the field or case study are: to treat the evidence fairly; to produce compelling analytic conclusions; and, to rule out alternative interpretations. Therefore, a general strategy for conducting case analysis is suggested.

Yin (1987) offers two alternative general strategies for conducting case study analysis:

1. Relying on theoretical propositions;
2. Developing a case description.

The first strategy, following the theoretical propositions that guided the original design of the study, shape the data collection plan and should give priorities to relevant analytic strategies (Yin, 1987). Because management accounting field studies are based on current management accounting theory and strategic management theory, relying on theoretical propositions should be employed as a guide to the case analysis when possible. The second general strategy, developing a case description, is particularly relevant for accounting history field studies because it is useful when theoretical propositions or current data are not present (Yin, 1987).

Once the guiding strategy is chosen, the mode of analysis is selected. Yin outlines these dominant modes of analysis:

1. Pattern matching;
2. Explanation building;
3. Time series analysis.

Explanation building and time series analysis are utilized solely for cases which are explanatory, answering questions regarding causality and contain a dependent/independent variable scenario these situations are not usually relevant for exploratory management accounting field studies or historical studies.

Pattern matching logic compares an empirically based pattern with a predicted one (Yin, 1987). This

logic is applicable to guide the analysis of exploratory studies, as well as explanatory studies, as long as a predicted pattern of specific variables is defined prior to data collection. In using pattern matching logic, patterns found in the results of the inquiry are matched to the prediction, either supporting or negating them. If predicted patterns coincide, internal validity is increased (Yin, 1987). Pattern matching logic is then used to analyze and summarize the data resulting from the data collection techniques.

In the historical method, or historiography, historians use archival sources and other corroborating evidence to research and write in the form of accounts of the past (Wikipedia, 2011). These writings may take the form of narrative, or they may be analytical. There always is an element of subjectivity in the accounting historian's craft, as there are never complete sets of source materials available and thus a certain amount of subjectivity and conjecture is present (Fleischman and Tyson, 1997).

TESTS OF THE QUALITY OF RESEARCH DESIGNS

Two categories of tests of research designs are discussed. First, the tests of the quality for all types of research designs are addressed. Second, the tests of the quality specific to field or case studies are covered.

The quality of all research designs, including the field or case study, can be judged by four logical tests (Yin, 1987; Kidder, 1981). These four tests are as follows:

1. Construct validity: establishing operational measures for the concepts being studied;
2. Internal validity: (for causal or explanatory studies only, and not for descriptive or exploratory studies); establishing a causal relationship whereby certain conditions are shown to lead to other conditions as distinguished from spurious relationships;
3. External validity: establishing the domain to which a study's findings can be generalized; and,
4. Reliability: demonstrating that the operations of a study - such as the data collection procedures - can be repeated with the same results (Kidder, 1981, pp. 7-8).

The case or field study design has frequently been criticized for not passing these tests. However, procedures are available to ensure that each of these four tests of research design is passed when conducting case studies.

Construct validity, the first test of the quality of research designs is quite problematic in case study research (Yin, 1987). In qualitative research, this typically means that there is substantial evidence that the observations correctly correspond to the theoretical paradigm and vice versa (Kirk and Miller, 1986). Commonly, qualitative designs have been criticized for using subjective judgments to collect the data. Yin (1984) discusses three tactics available to the case study researcher to increase construct validity:

1. Use multiple sources of evidence;
2. Establish a chain of evidence; and,
3. Have key informants review the case study reports (pp. 36-38).

The first two techniques are relevant during the data collection phase. Using multiple techniques to collect and interpret the data, i.e. triangulation, serves as a check for construct validity (Denzin, 1970).

The second tactic to assure construct validity is establishing a chain of evidence. This tactic allows another person to trace the research process backward, i.e., audit the process. Yin (1987) suggests following these procedures in maintaining a chain of evidence:

1. Case study report should make citation to the relevant portions of the case study data base (documents, interviews, observation);
2. The data base should include circumstances under which the evidence was collected (time, place);
3. Circumstances of data collection should be consistent with those outlined in the case study protocol; and,
4. The case study protocol should indicate the link between its contents and the initial study questions.

"If these objectives are achieved, a case study also will have addressed the methodological problem of determining construct validity, thereby increasing the overall quality of the case," (Yin, 1984, p. 96). Interviews should be transcribed and archival copies of organizational or historical documents should be filed and accessible. Thus, a chain of evidence would be maintained and the problem of construct validity addressed.

The third tactic is relevant during the analysis phase. In studies dealing with studies in which individuals have been interviewed, key officials should review the field study data as it is being collected and compiled for the final analysis and report. This review serves as a check and balance to ground the theory.

Case or field studies have also been criticized for not having internal validity (Bruns and Kaplan, 1987; Cook and Campbell, 1979; Campbell and Stanley, 1963). Yin (1987) holds that internal validity is of concern only for causal or explanatory studies. Many organizational and historical studies are exploratory in nature; hence causality is not a relevant issue as in explanatory studies. Methods typically used for explanatory studies, such as lab experiments and questionnaires, are usually very high on internal validity. Edgar and Billingsly (1974) suggest that both having the quality of reliability and using replication logic help to assure internal validity.

However, the case study method is higher on external validity, the relationship between phenomena being studied and that actually encountered, than explanatory studies. External validity pertains to the ability to generalize the findings of a study beyond the immediate case (Yin, 1987; Kidder, 1981; Cook and Campbell, 1979; Campbell and Stanley, 1963). Lack of generalizability is another common criticism and is an implicit comparison to survey research in which a sample is generalizable to a population. This type of generalizability represents statistical generalization. In the case study the intent is not *statistical* generalization, but *analytical* generalization, whereby the investigator is striving to generalize a particular set of results to some broader theory (Yin, 1984).

The final test of the quality of research design is reliability. A study is reliable if another researcher would independently arrive at the same findings and conclusions (Yin, 1987; Weber, 1985; Kidder, 1981). When reliability is present, errors and biases are minimized. To ensure reliability of the study, Yin (1987) suggests a detailed documentation of procedures followed through the use of a case study protocol. If used, a protocol would contain sufficient documentation to guide other researchers similarly through a case study to its conclusions.

SUMMARY

The rigid controls associated with laboratory experiments, which allow greater certainty for conclusions reached and the causal inferences which may be drawn from explanatory studies, are forfeited by field studies and historical studies. However, both field studies and historical allow understanding of a greater expanse of variable interrelationships through naturalistic observation or through description and analysis of historical documents. This paper has sought to identify methodological techniques and theoretical support for field study type research.

The methodological processes underlying field studies were outlined in terms of five steps. Step 1 focuses on the choices of a single case or a multiple case design and an embedded or a holistic design. Where possible, the single case, embedded design is suggested. The second step describes the process of gaining familiarization with the company's products and production processes via interviews and plant tours, as well as obtaining archival data. The development of the research questions from the familiarity gained in Step 2 is outlined in Step 3. Also, how case study research questions differ from those in an explanatory study is highlighted. Step 4 explains the data collection procedures in a case study. The data analysis methods available in case study research are discussed in Step 5. Finally, the tests of research designs quality and criteria specific to field studies were also discussed. Specific techniques to ensure that the tests of construct validity, internal validity, external validity and reliability are satisfied by the case study design are provided.

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