Systematic combining: an abductive approach to case research

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Abstract

Case studies are frequently used in industrial network research. In this article, we discuss the difficulties and opportunities characterizing the case study approach. In particular, we deal with single case research aiming at theory development. For this purpose, we suggest an approach based on 'systematic combining' grounded in an 'abductive' logic. © 2002 Elsevier Science Inc. All rights reserved.

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1. Prologue

Once upon a time, a researcher became interested in studying the outsourcing processes that was ongoing in industry. Contacts were established with a truck manufacturer that planned to make use of 'system suppliers' for subassembly operations. The objective of the study was to analyze the processes among the firms involved when changing from component purchasing to system sourcing. The company's intention was to outsource a number of the systems needed in a new truck model. Interviews were undertaken at the buying company, as well as with suppliers. Observations were also used as means of data collection. The researcher was allowed to follow and take part in discussions and negotiations between the firms.

After some time, the company decided to revise their strategy. For various reasons, the outsourcing processes were terminated. This faced the researcher with a dilemma. The main research problem could no longer be studied in this company — there was no longer an ongoing outsourcing process. From this moment, the study was reoriented towards a structural focus. In the first phase of the study, the internal assembly operations had been analyzed in detail. These operations had been compared with those of the suppliers. Therefore, it was possible to contrast the internal activity structures for assembly with the 'potential' activity structures in which the operations would have been undertaken if they had been subject to outsourcing. The redirection of the research problem called for additional theory and

new concepts. The process models needed to be supplemented with models emphasizing structures. The industrial network model (Håkansson, 1987) was used as a general theoretical foundation focusing on the interdependencies among activities. The network model illuminated the connections between the activities, the actors, and the resources not yet fully realized at this point.

The focus on static comparison of different activity structures brought efficiency into the picture. One problem was that the efficiency concepts found in the literature required the object scrutinized to be somehow delimited. Already at this stage, this was perceived as a problem because activities were interrelated in so many ways. Moreover, analyzing interdependencies appeared to be more interesting than only measuring efficiency per se. Data collection continued in a similar way, but with the new research focus. As a result of these efforts, the picture of the setting grew stronger. The new view of reality illuminated the connections between outsourcing and other problem areas. Particularly the understanding of the impact of technical matters on the interdependencies grew stronger during this period.

Parallel to the data collection, the search for complementary theories continued. It was guided by the findings in the empirical world. A particularly useful theory would be one that solved the problem of how to analyze efficiency issues without setting clear boundaries. The single most important reference found during this process was "The organisation of industry" (Richardson, 1972). Concepts and models from this article contributed to a rearticulation of the research problem. The theoretical framework now developed in a direction where division of labor among firms became the central issue. This, in turn, put coordination of activities among actors into focus. These insights from theory affected

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Table 1
The reorientations of the study

	Focus	Phenomenon	Main dimension
Phase 1	process	outsourcing	actor structure
Phase 2	structure	outsourcing	activity structure
Phase 3	structure	changes in division of labor	activity structure

the discussions with people in the companies and were the starting point for the second redirection.

During the process, several case descriptions were written. They were all 'children of the prevailing framework'. When Richardson's model was included in the framework, the case was rewritten in accordance with the focus that had gradually developed. In the final case, a selection was made among the systems that had been studied. The main criterion for this choice was that the systems presented should illustrate variety in terms of activity interdependencies and coordination mechanisms. At the end, three of the systems related to the new truck were chosen. They were complemented with a fourth illustration of a system that was part of another truck model. This system was interesting because it had been outsourced some years before, and now it had been taken back in-house. The experiences from this system, together with the evolving framework, made the researcher realize that a second reorientation had taken place. The focus of the study was no longer specifically on outsourcing. Rather, it had turned towards analysis of structural prerequisites for efficiency improvements, regardless of the direction of changes in the division of labor among firms.

Thus, this study changed. The basic phenomenon studied was reconsidered, as well as the main dimension of the network model. The changes can be related to the three phases of the study that can be identified in retrospect (Table 1).

2. Introduction

What we have described in the foregoing section is the process of a 5-year case study (Dubois, 1994). It is an illustration of a research approach identified throughout this article as 'systematic combining'. The main characteristic of this approach is a continuous movement between an empirical world and a model world. During this process, the research issues and the analytical framework are successively reoriented when they are confronted with the empirical world. This way of conducting case studies is further described with regard to the practical problems of research and writing in Dubois and Gadde (2001).

The aim of this article is to present some basic cornerstones of 'systematic combining'. Systematic combining is a process where theoretical framework, empirical fieldwork, and case analysis evolve simultaneously, and it is particularly useful for development of new theories. We discuss systematic combining in terms of two processes. The first is matching theory and reality, while the second deals with

direction and redirection (which evolved as a typical feature in our example). These processes affect, and are affected, by four factors: what is going on in reality, available theories, the case that gradually evolves, and the analytical framework. These aspects are discussed in separate sections. The article concludes with an epilogue, where we try to relate systematic combining to other approaches.

3. Case studies — appropriate and problematic

The case study approach has not always been recognized as a proper scientific method. The main arguments against it have been that case studies provide little basis for scientific generalization (Yin, 1994). For example, Weick (1969, p. 18) >expresses the opinion that case studies are too situation-specific and, therefore, not appropriate for generalization. In the second edition of the same book, however, he concludes, with reference to 'noted investigators', that case studies "are better tools than first imagined" (Weick, 1979, p. 37). The reason for the revised attitude to case studies was an evolving insight that "findings are unstable over time." Weick (1979, p. 37) recommends, in line with Cronbach (1975), that researchers should "try harder to make interpretations specific to situations." In other words, what was previously regarded as a problem was now recognized as an opportunity. Learning from a particular case (conditioned by the environmental context) should be considered a strength rather than a weakness. The interaction between a phenomenon and its context is best understood through in-depth case studies. To an increasing extent, the case study approach has become a common method in many scientific disciplines. According to Yin (1994), it is applied extensively in as widely ranging subject areas as psychology, sociology, political science, anthropology, history, economics, urban planning, public administration, public policy, management, social work, and education.

The fact that a certain method is considered appropriate is not enough to qualify it as a scientific approach. Yin (1994) is critical of some case study research, stating that "too many times the case study investigator has been sloppy and has allowed equivocal evidence on biased views to influence the direction of the findings and conclusions." Yin concludes that case study research is remarkably hard to conduct, in spite of the fact that it has been considered a 'soft' approach. He even argues that the softer the research strategy, the harder it is to conduct. Easton (1995, p. 379) identifies three types of weaknesses in case study research:

> Some case studies are simply rich descriptions of events from which the readers are expected to come to their own conclusions. Others are really examples of data that appear to provide, at best, partial support of particular theories or frameworks and are used in a quasi-deductive theory testing way. A third kind employs multiple "case studies" in a way that suggests that they are relying on some notion of statistical generalization.

Weick (1979, p. 38) delivers similar criticism regarding the first type of weakness. According to him, "many pseudo observers seem bent on describing everything, and as a result describe nothing." His suggestion for solving this problem is to "invest in theory to keep some intellectual control over the burgeoning set of case descriptions." A stronger reliance on theory would also help to reduce the negative effects of the second weakness identified by Easton. Investing in theory might improve the explanatory power of case studies. The systematic combining we propose is an argument for a stronger reliance on theory than is suggested by true induction. On the other hand, systematic combining is even more distant from deduction. Our attempt to propose systematic combining as a proper case study approach has been inspired by what is referred to as 'abduction' (Peirce, 1931; Kirkeby, 1994). According to these authors, abduction is about investigating the relationship between 'everyday language and concepts', which is obviously similar to induction. The logic of abduction follows another line that makes it useful for our purposes. In our concluding discussion, we position systematic combining in relation to induction and deduction.

4. Systematic combining

Case studies provide unique means of developing theory by utilizing in-depth insights of empirical phenomena and their contexts. Most textbooks on research methodology fail to take account of the opportunities offered by an intertwined research process enabled by case research. They tend to describe case studies as a linear process — similar to other research methods, which have been developed for other purposes and for studies in other contexts. An understanding of the characteristics and consequences of case studies based on abduction thus requires an integrated approach, because the main difficulty of case studies is handling the interrelatedness of the various elements in the research work. One major standpoint of this article is the intertwined nature of the different activities in the research process. A standardized conceptualization of the research process as consisting of a number of planned subsequent 'phases' does not reflect the potential uses and advantages of case research. Instead, we have found that the researcher, by constantly going 'back and forth' from one type of research activity to another and between empirical observations and theory, is able to expand his understanding of both theory and empirical phenomena. The preliminary analytical framework consists of articulated 'preconceptions'. Over time, it is developed according to what is discovered through the empirical fieldwork, as well as through analysis and interpretation. This stems from the fact that theory cannot be understood without empirical observation and vice versa. The evolving framework directs the search for empirical data. Empirical observations might result in identification of unanticipated yet related issues that may be further explored in interviews or by other means of data collection. This might bring about a further need to redirect the current theoretical framework through expansion or change of the theoretical model. This process is what we refer to as systematic combining, as illustrated in our introductory example. Fig. 1 illustrates the basic ingredients in systematic combining.

The main objective of any research is to confront theory with the empirical world. What we argue above is that in systematic combining this confrontation is more or less continuous throughout the research process. How this process develops is directed by another confrontation — between the evolving framework and the evolving case. We discuss the processes of systematic combining in the
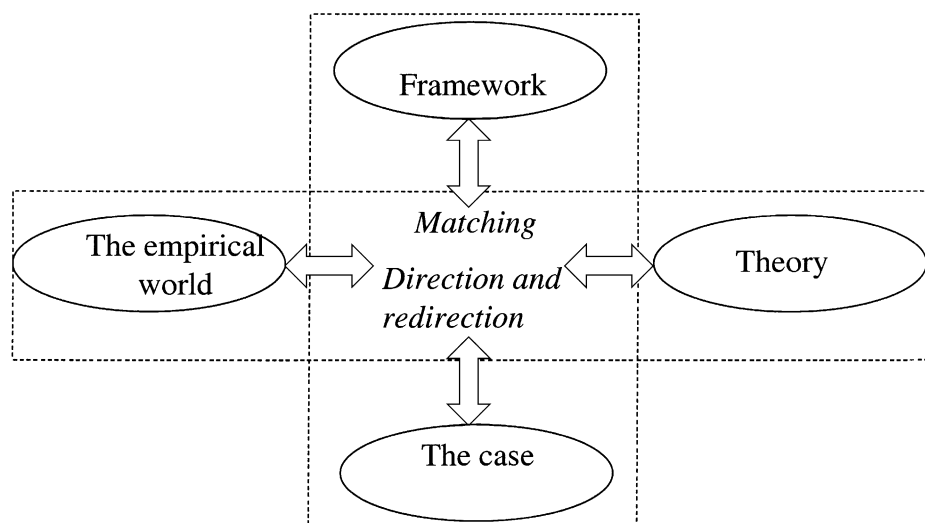

Fig. 1. Systematic combining.

two following sections. The first deals with 'matching' between theory and reality, the other with direction and redirection of the study. Then, we analyze the four boxes in Fig. 1. We start by discussing the important issue of the boundaries of the study, inquiring into what parts of the empirical world should be brought into the case. We go on to examine the role of the analytical framework. In systematic combining, this role is different from both induction and deduction. We also briefly discuss the role of theory and the evolving case.

5. Matching

Systematic combining can be described as a nonlinear, path-dependent process of combining efforts with the ultimate objective of matching theory and reality. One striking feature regarding how to build theory from case studies in general is that of "frequent overlap of data analysis with data collection" (Eisenhardt, 1989). Strauss and Corbin (1990) illustrate what we label the systematic combining efforts of the researcher as a constant move "between asking questions, generating hypotheses, and making comparisons." According to Eisenhardt (1989, p. 546), this is the hallmark of building theory from case studies:

> Creative insights often arise from the juxtaposition of contradictory or paradoxical evidence . . . . The process of reconciling these contradictions forces individuals to reframe perceptions into a new gestalt.

In the case study initially described, the researcher set out to analyze the activity dimension of industrial networks to explain the structural effects of outsourcing. The network model functioned as a rather general initial framework when the fieldwork was initiated. Parallel to the data collection the search for useful theories, complementary to the general framework, was ongoing, guided by the fact that the empirical observations and the current theoretical framework did not match. For this endeavor, a central conceptual model was found (Richardson, 1972) that could explain some of the interdependencies between activities that had been empirically identified. Thereby, the empirical fieldwork continued from a revised theoretical platform. This is an illustration of what we mean by the matching process.

Matching is, thus, about going back and forth between framework, data sources, and analysis. It constitutes one of the foundations of systematic combining. Glaser (1978, p. 4) points to the importance of fit between theory and reality, and argues that data should not be forced to fit preconceived or preexistent categories, asserting rather that the categories are to be developed from data. This is in line with our argument. We also stress the parallel development of the theoretical framework since categorizing without such a theoretical platform necessarily adds less to our understanding. That is, not only are the structural and processual elements, belonging to the empirical world we study, subject to interdependence and embeddedness, the theoretical concepts we use and develop are also parts of models, providing their contexts. Hence, we argue that abductive matching requires more, and has the potential to yield more, than inductive fit. This is owing to the possibilities of capturing and taking advantage not only of the systemic character of the empirical world, but also of the systemic character of theoretical models.

It must be kept in mind that the matching processes have no obvious patterns. Our efforts to match theory and reality can take us in various directions. There is never one single way of matching. On the other hand, it can be argued that some ways turn out to be better than others are. This is a result of the process and cannot be known in advance. We return to this when discussing the evolving framework and the role of theory.

6. Direction and redirection

Direction and redirection of the study is an important feature for achieving matching. The influences of theory on this process will be dealt with in the next section. Here, we bring up the impact of different sources of data and methods of data collection. According to Yin (1994), multiple sources allow the investigator to address a broader range of historical, attitudinal, and behavioral issues. Furthermore, Yin (p. 92) argues that any finding or conclusion in a case study is likely to be "much more convincing and accurate if it is based on several different sources of information following a corroborative mode." Consequently, deep probing case studies tend to use a multitude of data sources. One example is a study of technical development in the pulp and paper industry (Waluszewski, 1989). The reference list is very comprehensive and includes 59 interviews with 42 different respondents. There are 80 documents listed together with 52 annual reports from eight different companies.

Combining sources of evidence, while shifting between analysis and interpretation, usually denotes triangulation (Yin, 1994; Denzin, 1978). According to Yin, the main advantage of triangulation is the development of converging lines of inquiry. Huberman and Miles (1994) express this as "self-consciously setting out to collect and double check findings." It is easy to understand that triangulation has been strongly recommended in textbooks on case study research methods. In systematic combining, the emphasis on verification, i.e., checking the accuracy of data, is not the main issue. Rather, multiple sources may contribute to revealing aspects unknown to the researcher, i.e., to discover new dimensions of the research problem. Most data collecting activities are directed towards the search for specific data in line with the current framework. These activities need to be complemented by efforts aiming at discovery. This may result in redirection of the study.

In the case study described, interviews were combined with other sources of information:

- Interviews were carried out with staff members involved at the case company. Most of the interviews were with purchasers, but some production, design, and materials handling staff were also interviewed.
- Discussions and negotiations between the case company and the contemplated system suppliers were attended. These meetings were discussed afterwards with one or several individuals who had participated in them.
- For about 1 year, the researcher attended monthly cross-functional internal meetings dealing with the problems related to the ongoing development of the new truck model.
- Interviews were carried out with staff members at the potential system suppliers and other suppliers who could somehow be affected by an outsourcing decision.
- Printed sources of information, such as product calculations, cost estimates, quotations, records of meetings, drawings, and firm presentations, were also used.

Observations during meetings and other events beyond the control of the researcher contributed data that would not have appeared otherwise. These observations generated new questions on which further interviews could be based. In addition, the insights that resulted from unanticipated data contributed to further development of the framework and triggered the search for complementary theoretical concepts. The observations, thus, added new dimensions to the subject, which eventually resulted in a new view of the phenomenon itself.

It seems relevant to make a distinction between two types of data — 'active' and 'passive.' Passive data is what the researcher has set out to find, i.e., it appears through search. Active data on the other hand is associated with discovery. In our example, observations at the meetings provided data that could never have been found through search. It is interesting to note that a very active interviewer will come across passive data only. On the other hand, active data will require a more passive (less predetermined) researcher.

7. The boundaries in the empirical world

Open system studies are complicated by the fact that reality needs somehow to be delimited. The problem is that, in the empirical world to which our studies apply, there are no natural boundaries. Studies dealing with structures, like our example, are concerned with what actors, activities, and resources to include and which interdependencies to consider. Any expansion of these boundaries provides potential discoveries of new interdependencies within the structure. New insights may bring up new or additional interpretations

of those interdependencies already revealed. In the case study described, the initial focus on actors and processes changed into a focus on structural activity interdependence; the various ways in which activities may be directly or indirectly connected became a focal interest. This, in turn, guided the further expansion of the boundaries of the case. Had the initial focus remained, the expansion would have taken other directions.

Studies focused on processes have to come to an end, whereas the processes in the real world continue. This makes the conclusions a function of the time at which the study was conducted. The researcher has a deliberate choice on how far back in time he wants to trace the process in question. The importance of the time boundary is clearly illustrated by two Swedish studies on technical development. Lundgren (1995) reports on a follow-up study of an investigation undertaken by the author some years earlier. The main conclusion in his book is that some of the findings from the first period have to be modified. What happened in the second period changed his interpretation of the first. Waluszewski (1989) also illustrates the importance of the time boundary. Her study dealt with the emergence of a new technique in the pulp and paper industry. The outcome of the studied process was the establishment of a new mill based on this technology. This study clearly shows that conclusions regarding the characteristics of a development process are dependent on the time boundary. The longitudinal study revealed that the first steps in the development process were taken as early as in the 1950s. Over the years, the project ran into major problems and several times it was nearly terminated. Understanding the complexity of the development process was only possible through the extension of the time boundary. If the researcher had used a narrower time frame, other aspects would probably have been in focus. It is most likely that such a study would mainly have resulted in conclusions on factors that lead to the establishment of the new technique. The long-term perspective of the study also provided insights into the factors that hindered the development.

It is obvious that the way boundaries are expanded is of major importance because it determines what will be found. Therefore, the main issue is to choose among the multitude of dimensions available for expansion in order to make the most out of the case. In one way, the extension of the boundary can be seen as the 'sampling' problem in case studies.

In an earlier section, we presented some of the weaknesses of case studies identified by Easton (1995). One of them relates to this issue. Literature on case research typically differentiates between single and multiple case studies. It seems as if there is some general opinion that multiple cases and replication provides better explanations than single cases (see e.g., Yin, 1994; Eisenhardt, 1989; Miles and Huberman, 1994). We think that such attitudes are relics of the times when situation specificity was considered a weakness. We, thus, agree with Easton (1995) who argues that some researchers tend to employ multiple cases in a way that

suggests that they rely on some notion of statistical significance. The advantages gained by increasing the number of cases are countered by certain disadvantages. This trade-off might result in negative effects.

> They seek to do a number of case studies as if greater numbers, by and of themselves, increased the explanatory power of what they have been doing. Researching greater number of cases, with the same resources, means more breadth, but less depth (ibid, p. 382).

One interpretation of this statement is that the most significant choice is not between single and multiple cases. If the research problem is focused on comparison of a few specific variables, the natural choice would be to increase the number of observations compared. In these situations, the study should be designed to allow for statistical inference instead. On the other hand, when the problem is directed towards analysis of a number of interdependent variables in complex structures, the natural choice would be to go deeper into one case instead of increasing the number of cases. It is difficult to comprehend how a little depth and a little width could contribute to the analysis of any problem.

The study described initially was a single case study with four embedded subcases. This design let the case company, its situation and efforts to reorganize the activities, constitute a common frame around the subcases. The subcases, focused on the systems subject to activity reorganization, could thus be analyzed in their shared context. The purpose of this design was not to compare the subcases, but to analyze the variation among them. These variations could be better understood as they were studied in a single setting. The fact that the subcases were not independent increased their individual contribution to the total case.

8. The role of the framework

The analytical framework is of great importance in the systematic combining process. Miles and Huberman (1994) distinguish between two types of frameworks. One is classified as tight and prestructured — the other as loose and emergent. Each has its pros and cons, according to the authors. Too much prior structuring of the study might "blind the researcher to important features in the case or cause misreading of local informants' perceptions" (ibid., p. 16). On the other hand, they fear that a framework that is too loose might lead to "indiscriminate data collection and data overload" (ibid., p. 17). The two types of frameworks fit the distinction between deductive and inductive approaches very well. In systematic combining, the evolving framework is a cornerstone. Blumer (1954) suggests that concepts should be used in a sensible way to create a reference and to function as a guideline when entering the empirical world. Similarly, Bryman (1995) states that a theoretical concept provides the researcher with a set of general guidelines. In case studies aiming at theory development, the researcher needs be open

to the multitude of meanings that a certain concept can give rise to. The successive refinement of concepts implies that they constitute input, as well as output of an abductive study. The alternatives suggested by Miles and Huberman, as the framework being either tight and prestructured or loose and emergent, does not apply to systematic combining. Rather, we suggest a tight and evolving framework. The reason for suggesting a tight framework is that the tightness reflects the degree to which the researcher has articulated his 'preconceptions'. The reason the framework should evolve during the study is because empirical observations inspire changes of the view of theory and vice versa. Since there is more than one way in which empirical data and theory can be combined (Burke, 1992), there is always a need to clarify the choices made in the process.

9. The evolving case

One important consequence of systematic combining is that the case evolving during a study can be regarded as a 'tool', as well as a 'product'. The design of a case study, thus, becomes a matter of how to sharpen this 'tool' since this will be decisive of the final case, which is a 'product' that cannot be planned in advance. It is of great importance to the combining process to make the evolving case a platform for discussions with other researchers. As a 'tool' for this purpose, the empirical language should be maintained. The theoretical language should be reserved for the end product. Otherwise, the readers will be constrained in terms of their potential contributions to further systematic combining during the research process. In addition, reinterpretations will be harder for the researcher to make.

Considering the case as a 'tool', the pieces of data added to it may be looked upon as pieces in a jigsaw puzzle. In the beginning, very few pieces fit while patterns become clearer with every effort. One difficulty is that pieces from many jigsaw puzzles tend to show up, which calls for selection during the process. This is the main reason for the importance of choices, as emphasized above. Both empirical observations and interaction with other researchers may confuse the researcher in the process. The confusion concerns both what patterns can be found among the collected pieces and also which of the many puzzles the researcher should concentrate on. Whatever choices are made in the process, there will surely be pieces left, which fit other puzzles. A selection must be made because, when the case is finally turned into a 'product', there should be no confusing pieces left.

10. The role of theory

Strauss and Corbin (1990) discuss the use of theory extensively. They conclude that the roles of theory and literature in theory-generating studies are very different

from confirmatory studies. For investigations dealing with confirmation of theory, the literature enables the user to identify previous research in an area, as well as to discover black holes or white spots in it. Literature may also propose theoretical and conceptual frameworks. Furthermore, literature helps the researcher to delineate important variables, suggests relationships among them, and directs interpretation of findings.

For generation of theory, such as systematic combining, literature plays quite a different role. The researcher's objective is to discover new things — other variables and other relationships. Even during this process, the researcher must consider phenomena in the light of a theoretical framework. The researcher should not be unnecessarily constrained by having to adhere to previously developed theory. Theory is important, but it is developed over time. The question of whether one should start with 'received theory', which has been debated by inductionists and deductionists, is not an issue with which systematic combining is concerned. According to Strauss and Corbin (1990), it is important to enter into the research situations with some background in what they call 'technical literature'. They argue that there is no need to review all of the literature beforehand. In fact, to do that might pose obstacles to the desired process. In systematic combining, the researcher would not be able even to identify 'all the literature' since the empirical fieldwork parallels the theoretical conceptualization. Hence, the 'need' for theory is created in the process.

11. Epilogue

In this concluding section, two things are discussed. First, systematic combining is positioned in relation to induction and deduction. Second, issues in determining the appropriateness of case research are brought up.

Deductive approaches are concerned with developing propositions from current theory and make them testable in the real world. Inductive approaches, on the other hand, rely on 'grounded theory' (e.g., Glaser and Strauss, 1967) where theory is systematically generated from data. One of the authors has later questioned the idea of conducting research without 'preconditions' (Strauss and Corbin, 1990). Systematic combining as suggested in this article is indeed closer to an inductive than a deductive approach, the continuous interplay between theory and empirical observation is stressed more heavily than in the 'grounded theory' approach. The abductive approach is to be seen as different from a mixture of deductive and inductive approaches. An abductive approach is fruitful if the researcher's objective is to discover new things — other variables and other relationships. Similar to 'grounded theory', our main concern is related to the generation of new concepts and development of theoretical models, rather than confirmation of existing theory. We stress *theory development*, rather than *theory generation*. Systematic combining builds more on refinement of existing theories than on inventing new ones. One major difference, as compared with both deductive and inductive studies, is the role of the framework. In studies relying on abduction, the original framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process. This approach creates fruitful cross-fertilization where new combinations are developed through a mixture of established theoretical models and new concepts derived from the confrontation with reality.

When it comes to the credibility of case studies, we return to the three problems with this approach identified in the beginning of the article. One of the problems was case studies that "suggest they are relying on some notion of statistical generalization." Case studies cannot build on statistical inference. They have to rely on analytical inference. As was discussed in the section on boundaries, this puts very particular demands on the 'sampling' procedure. In systematic combining, it becomes similar to what is defined as 'theoretical sampling' in grounded theory (Glaser and Strauss, 1967). The main concern in this kind of sampling is to arrive at an appropriate matching between reality and theoretical constructs. Sampling, thus, becomes more of a continuous process than a separate stage in the study, resulting in a preset sample on which data collection is based. We agree with Brito (1997, p. 18) that "sampling and data analysis were overlapping and interwoven tasks with mutual impact."

A second problem concerned the 'quasi-deductive theory testing' applied in some case studies. It is evident that relationships and patterns in complex structures and processes cannot be tested. Researchers aiming at doing this are prisoners in the positivistic trap. In deep probing case studies, theory generation and confirmation are inseparable. The credibility of such studies has to be determined by other means. According to Pfeffer (1982), "good theory" should be characterized by logical coherence. In case studies, logical coherence has to do with the adequacy of the research process and the empirical grounding of theory (Strauss and Corbin, 1990). It is important to provide the reader with information that makes it possible to evaluate the adequacy of the research procedure and its outcomes (Eisenhardt, 1989). Logical coherence as a foundation for analytical generalization is an important criterion for quality in case research.

The third problem with case research relates to the fact that some researchers tend to describe everything and 'as a result describe nothing'. Such studies interfere with a second criterion of research quality. According to Pfeffer (1982), "good theory should be parsimonious." Parsimony is one way of avoiding ending up with weak theory that is overly complex and says very little about very much. Eisenhardt (1989) argues that parsimony is the hallmark of case research quality. Parsimony means being selective. In systematic combining, the research issue is redirected a

number of times. A number of case descriptions are written. Some parts of these do not fit into the final jigsaw puzzle. These pieces might have been very important for the learning of the researcher, but they can also obscure the reader's understanding. Singling out such pieces is a cumbersome task for the case researcher, but necessary to obtain parsimony.

Finally, learning is the essence of all research. *What* we learn is articulated in the theoretical framework combined with the matching case. This is generally considered by far the most important outcome of the research process. *How* we learn is only occasionally discussed in a research report. Learning takes place in the interplay between search and discovery. Where search is concerned, the current framework is used to guide the research process in a cumulative manner. Discoveries, which cannot be planned in advance, force us to reconsider the prevailing framework. The combined efforts of these successive steps in the learning process are seldom explicitly presented to the reader. We are convinced that learning in the research society as a whole would be improved if more of the processes of how we have learned were revealed to the reader.

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