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Re-using Qualitative Data in Management Science: A Second Choice?

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Re-using qualitative data (RQD) is a methodology rarely used in management science. This article examines the status, legitimacy, potential and limitations of RQD in this field of research. First we will study the importance attached to RQD within management science methodologies, and then we will define the scope of RQD and identify its various forms. Finally, we will clarify the epistemological issues raised and consider the conditions necessary for its use.

The re-use of qualitative data (henceforth RQD) is not a traditional research practice in management science. It "consists of re-examining one or more sets of qualitative data, with a view to examining research questions that are different from those contained in the original study" (Thorne, 2004, p.1006). It is important for every methodological innovation to be examined closely, in terms of scientific validity. Thus, it is necessary to consider the importance that is placed on RQD as a methodology in the management science field.

The issues can be contentious and RQD can seem unjustified. For some, re-using qualitative data that has been collected by another researcher, and using it for the purposes of a new research project, deprives the researcher of his fieldwork and in turn reduces his understanding of the research study. For others, RQD forms part of a range of traditional research methods. Thus, for Glaser (1962, p.74) RQD "is not limited to quantitative data. Observational notes, unstructured interviews and documents may be usefully re-analysed". Recently, Heaton (2004) offers the first systematic inventory of RQD and stresses how important it has become in several areas of research, such as nursing and criminology. However, does this apply to the field of management science? Knowledge produced as a result of management science research "comes from observation [but also from] the direct consequence of an action" and so knowledge "is about the design of a collective action" (David, 2002: 255-25). Therefore, establishing the scientific rigour of a researcher's contribution to knowledge is intrinsi-

cally linked to the stringency of the methodologies used in their field of research. The fact that RQD distances the researcher from his object of study, has led to doubts about its reliability as a research method within the field of management science. It is frequently suggested that the special nature of fieldwork itself, gives the research its legitimacy and significance. Nevertheless, some groundbreaking research has been conducted using RQD. An example of which, in the field of psycho-sociology of organisations, is Weick's (1993) analysis of the Mann Gulch fire, based on Maclean's (1992) book, which describes a fire in which 13 fire fighters lost their lives.

This article investigates issues concerning the status and legitimacy of RQD as a research methodology in the field of management science, as well as its potential and limitations. We will first examine the importance placed on RQD as a management science methodology, and then we will define the scope of RQD and look at the variety of its forms. Finally, we will clarify the epistemological issues raised and consider the conditions necessary for its use.

DEFINITIONS AND BOUNDARIES OF RQD

If RQD is a recognised quantitative methodology, this is not the case if we consider qualitative methodologies, and although RQD covers a variety of practices, both qualitative and quantitative, its demarcation is difficult to establish. Therefore, it is possible to examine a variety of current practices that, initially, could constitute concealed forms of RQD.

RE-USE OF DATA IN QUANTITATIVE RESEARCH

The reworking of data is common practice in quantitative research. It is a way of capitalising on "empirical" data. It can take the form of replication in order to verify results and, when using sophisticated tools, honing or even the inversion of results are possible. Figures, produced by American databases, measuring the level of diversification of certain firms and its impact on performance, have often been reused and reprocessed. Another common practice is the reuse of a set of data to test new hypotheses, which did not form part of the initial research. Also, using an inductive approach, the data can lead to new research questions and the formation of theories. The frequent use of reprocessed quantitative data can be explained by certain presupposed qualities of the said data. Such data is apparently more "flexible" in that it suffers less constraint in terms of contextualization. It is liberated from the conditions under which it was produced, as well as from the initial research project; in other words, it is less "soiled" by any interaction with the researcher. Thus, the neutrality of the data facilitates the free movement of the data. It would also appear that authors who make use of quantitative databases often provide easy access to their data (subject, at times, to compliance with data protection legislation). Rumelt,

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for example, has made data available on line that he used as a basis for his 1974 research on corporate diversification and performance[1].

RQD is frequently used in the field of organisation science for the meta-analysis (or survey) of case studies: it can be characterised as an intermediary method between qualitative and quantitative approaches. It seeks to establish a link between the "nomothetic" study (a systematic approach where hypotheses are tested) and the "idiographic" study (an in-depth understanding of the subject being observed), in order to combine their respective advantages (Larsson, 1993). Yin (2002) suggests that a set of case studies may be "interrogated" by using a codification tool and, moreover, if the number of cases is significant, the data categories can undergo sophisticated statistical analysis. The standard method, therefore, consists of analysing a set of cases quantitatively, in order to induce a theory or, more often, to test a reading grid. The standard procedure, therefore, is to: (1) select a group of case studies in line with the research questions raised, (2) choose a coding scheme for converting qualitative descriptions into quantified variables, (3) use multiple coders for coding the cases and measuring inter-coder reliability, (4) statistically analyse the coded data (Larsson, 1993).

Yin and Heald (1975) conducted a study on urban decentralisation, which involved the review of a number of case studies. They described, in some detail, the case study selection process. Their review consisted of the uniform application of a checklist of 118 questions to 269 decentralization case studies. The reliability of the list was first tested by cross-examining the list of answers of two or more analysts to just 14 of the case studies. Various questions were then inserted to serve as explicit criteria for rejecting case studies in later phases of the analysis (according to the principles of internal and external validity). Finally, the said criteria enabled the authors to classify the quality of the case studies, according to the explicit and robust characteristics of the method and the relevance of the research design.

In strategy, meta-analysis has been used for creating organizational transition archetypes (Miller and Friesen, 1980). In the exploratory phase, the authors tested their hypotheses on a database composed of 36 firms from which they extracted 135 transition periods. This data was derived from historic work and case manuals. The results were subsequently used in the analysis of a new sample of 9 companies, in order to test the validity, reliability and generality of the data.

Despite the obvious relevance of such quantitative analysis of case studies, the authors of this paper will focus on the qualitative re-use of qualitative data.

"…THE MAN GULCH DISASTER" (WEICK, 1993): A METHODOLOGICAL PECULIARITY?

Weick's paper is the most frequently recognised example of the re-use of qualitative data in organization science. It is based on a unique source: Norman Maclean's (1992) book describing a fire during which 13 fire fighters lost their lives in Montana in 1949. Weick's approach

1 Data is available at http://www.anderson.ucla.edu/faculty/dick.rumelt/rumelt_ssdata.htm

is similar to induction. His research is broken down into two questions: "Why do organizations unravel?" and "How can organizations be made more resilient?" (Weick, 1993: 628). Weick considers Maclean's work propitious and proposes a credible analysis of the examined events. Weick makes several recommendations for improving the resilience of organizations and he then suggests some analysis within the organization literature, in order to demonstrate the need for further studies to be undertaken.

Weick carefully retraces Maclean's methodology, firstly, because 28 years separate the disaster from Maclean's work and, secondly, because he deals with "output editing" and not with "empirical storing" (Keonig, 2005: 1). He also aims to tone down the elegant prose and tragic dimension of Maclean's original work, retaining the events only, in order to facilitate his analysis. Weick emphasizes the wealth and variety of the collected material and also the investigative methods selected by Maclean, who conducted interviews with the last two survivors of the disaster as well as with accident investigators: he was more cautious with respect to indirect witnesses (next-of-kin, in particular). Records of physical evidence, which had been well preserved, were examined as well as numerous archive materials (reports following the event, official records, although some were classified, litigation reports, photographs etc.). Maclean visited Mann Gulch three times; once with the two survivors, with a view to reconstructing the facts (triangulation was used in order to moderate any inconsistencies). One time, he reconstructed the course of events of the fire fighters under conditions as close as possible to those of the tragedy, constantly comparing photographs and maps of the actual event with the reconstruction. Maclean was also personally involved in the case: he had gone to Mann Gulch while the fire was still active, and he had lived through a similar experience as a young fire fighter. Finally, discrepancies in the comprehension of the events led Maclean, accompanied by two specialist appraisers, to produce a mathematical model of the fire's diffusion.

One can question the possibility of extending this methodological approach beyond Weick's project. His paper encapsulates a snapshot of the handling of a research project, which gradually matured (Baumard and Ibert, 2003) and this, to some extent compensates for the absence of first-hand data. Furthermore, Weick's approach is based on the development of a consistent style of language specific to the project. All this confers a certain legitimacy to his approach. In addition, the exceptional density of the material collected during the course of the initial work and the variety of the investigation methods used, enabled the author to work from a single primary source. However, in general, the quality and richness of a single data source is insufficient and the researcher is usually obliged to cross analyse a number of data sources. Moreover, the academic journal chosen by Weick – Administrative Science Quarterly – is recognised for welcoming a wide scope of methodological options. Finally, Weick's practice of working with reduced and edited data leads him to use a "narrative strategy" of analysis (Langley, 1997: 41).

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"DIVISION OF RESEARCH LABOUR": A DISGUISED FORM OF RQD?

According to Glaser (1963: 11), the use of secondary analysis challenges "the independent researcher's position in the division of research work" and a problem often encountered: "how to mobilize the resources to carry out a research project?" In research practice it is possible to compare RQD with the following three scenarios – internalisation, hybrid arrangement and outsourcing.

In principle, a research project carried out by an individual researcher has little in common with the practice of RQD: the researcher assumes all phases of the method. However, if we consider the rationalization that occurs at various stages of the research – conducting the first interviews, the emergence of different forms of information, the final touches put in place before the analysis – all this seems to transfer the researcher, little by little, into a secondary analyst of his own data. The principle of recursivity (Hlady-Risplal, 2002) refers to successive iterations inherent in the qualitative research process. In the researcher's very itinerary, there are breaks in the real time of conducting each piece of research, but, at times, the data serves as a connecting theme since it circulates from project to project. The data lends itself to various manipulations and this is where its similarity to RQD is noticeable: we will return to this point in the section on analysing the different types of RQD.

An important characteristic of RQD is the fact that the data used has been collected by someone else. Institutional research often involves delegating all or part of the fieldwork to other researchers. For example, the research of Baden-Fuller and Stopford (1996) on the rejuvenation of companies within industries perceived as mature, is organized around numerous case studies. It is the product of a research program in which the analysis and final editing was carried out by the two authors, whereas certain surveys were conducted by other researchers and, when the opportunity arose, contributions were even made by different partners. Should such hybrid work forms be placed among RQD methods? The question is even more acute when considering intensive outsourcing of fieldwork.

Mintzberg, Raisinghani and Théorêt (1976) studied the structure of "unstructured" decision-making processes and, although they do not mention the method, it closely resembles RQD. The empirical elements were collected over a five-year period by 50 teams of students. Each team studied one organization for three to six months. They had to isolate the decision-making processes, create a narrative description of them and represent them as phases within a kind of "program". The teams were given a question guide to help them better understand the processes. The students were then encouraged to compare the examined processes with the existing literature. They held structured interviews with decision-makers, and some of them analysed the documents. The teams finally reconstructed the decision-making processes and drew up conclusions with respect to the theory. The authors

then developed their theory on the basis of the reports (2,500 words minimum) drafted by their students. Initially, 28 processes enabled the authors to define the basic structure of the strategic processes. They then focused on 20 other processes analysed in more detail, in order to develop the structure further, and various hypotheses were tested. Finally, 25 processes from the first two studies underwent in-depth examination. Two researchers independently reduced each decision process down to routine and dynamic factors. This data then allowed the generation of a number of hypotheses.

The data collection method used in this case creates a break in the research mechanism, which is similar to RQD. The reprocessed elements can, in part, be likened to data already formalized. The existence of a shared paradigm, on the contrary, creates a continuity that structures the conduct of the research project. In the case of Mintzberg et al (1976), collecting and processing data falls directly within the scope of the research project carried out by the authors of the research paper – the aims are clearly defined and the control of the methodological approach is established.

Whether it takes the form of collaboration or of research outsourcing, in our view, the consistent alignment or insertion within a research design characterizes these various RQD procedures. Nevertheless, the practices reviewed above, along with RQD, take us back to research ethics. Normally, only the researcher who produces his own data has the right to manipulate it and any outside intervention in this process would break the natural chain of processing the said data. As we will see, RQD, when strictly conducted, can allow the re-analysis and validation of an original work. Subsequently, as is the case with other scientific knowledge, the data becomes part of the scientific debate.

Nevertheless, reflection on the re-use of qualitative data in human and social sciences (Heaton, 2004, Thorne, 2004 Special Edition of the Forum: Qualitative Social Research, 2005) seems to be in advance of current methodological practices and, despite Glaser's (1963) much earlier writings, is still in its infancy. Other than cases presented as an illustration in organizational science, RQD would seem to be struggling to find a place within normal research practices. In the French literature, works on qualitative research methods often do not even refer to RQD (Hlady-Rispal, 2002), or devote only limited space to it (Giroux, 2003), or occasionally raise specific questions regarding secondary data (Baumard and Ibert, 2003). This is doubtless due to the fact that RQD questions the link between the researcher and his raw material. However, we have emphasised the various situations in methodological practice that place the researcher directly or indirectly in a "secondary position" with respect to his data. It should also be noted that the debate on the secondary analysis of data, as a remedy to the isolation of the researcher, was initiated several decades ago by one of the co-founders of grounded theory (Glaser, 1963). The difficulties mentioned above bring us to the next section in which we clarify the forms that RQD can take.

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THE SCOPE OF RQD AND ITS VARIOUS FORMS

RQD covers a wide diversity of approaches, which we will try to set out in this section. We will then discuss the nature of the materials retained in the analysis. Indeed, secondary analysis requires a review of the question "what is data?"

CLASSIFICATION OF RQD PRACTICES

Heaton (2004, ch. 3) has identified different types of RQD. His classification highlights the diversity of RQD forms and their potential application (**Table 1**). Unfortunately, a number of Heaton's categories overlap because, as the author himself recognizes, "the types are not exclusive" (2004, p. 38). Moreover, a typology constructed from criteria connected to research situations would be more useful to the potential user.

Table 1 – Types of Re-use of Qualitative Data*

Supra Analysis	Transcends the focus of the primary study from which the data was derived, examining new empirical, theoretical or methodological questions.
Supplementary Analysis	A more in-depth investigation of an emergent issue or aspect of the data, which was not considered or fully addressed in the primary study.
Re-analysis	Data are re-analysed to verify and corroborate primary analyses of qualitative data sets.
Amplified Analysis	Combines data from two or more primary studies for purposes of comparison in order to enlarge a sample.
Assorted Analysis	Combines secondary analysis of research data with primary research and/or analysis of naturalistic qualitative data

** Heaton (2004 : 34), reproduced with permission from Sage Publications*

The limitations identified in **Table 1** lead us to suggest a reclassification of RQD (see **Table 2**) broken down into two dimensions: (1) the purpose of RQD with respect to the initial study and (2) the type of data set used.

The 'purpose' dimension distinguishes the idea of replication and an increase in the robustness of the initial study, from that of extension (that is drawing results from existing data within the framework of a new research problem). A dividing line is thus drawn between a system of exploitation, which consists of giving existing data "better" expression (the efficiency principle), and a system of exploration where the researcher wishes to give "more" expression to existing data by producing new questions (the effectiveness principle).

The "type of usage" dimension distinguishes between the use of a single set of qualitative data and the additional usage of several sets and/

or types of data. In other words, in the first case, the data has been collected during the same research project, that is in a context where the researcher(s) leading the project collects data according to a unique research protocol. In the second case, the researcher works with data collected from different research projects. The question here is whether it is possible to make useful comparisons between such sets of data. In **table 2** we have reclassified the 5 forms of RQD listed by Heaton (2004) according to our two dimensions of "purpose" and "type of usage".

Table 2 – RQD in Research Practice

		Diversity of Data	
		Single data set Data derived from the same research project	Multiple data sets Data derived from several research projects
Purpose or End Result	Identical Result Same research question or final result	Re-analysis E.g., Vaughan (1996)	Amplified Analysis E.g., Stinchcombe (1970), Larsson (1993)
	Different Result Additional or new research question	Additional Analysis E.g., Stinchcombe (1970), Weick (1993)	Assorted Analysis E.g., Staudenmayer, Tyre and Perlow (2002), Loilier and Tellier (2004)

Re-analysis of qualitative data is conducted on a single "set of data" or on a unique "data source". This appears to be a classical research method that has been borrowed from quantitative methodologies. Above and beyond epistemological considerations, it consists of replicating the initial research project. The aim is not make the re-used data "speak" differently, but to verify if it supports the original interpretations. The results can either be confirmed and validated or questioned and refuted (Heaton, 2004). We also consider that it is possible to show the reliability of the results of a former study by using new techniques of data analysis. Even if re-analysis of qualitative data seems to be the most frequent type of RQD, this research method is seldom used in the area of human and social science (according to Heaton, 2004). The re-examination of incident reports is, however, closer to this form of RQD. It involves giving a plausible meaning, after the fact, to incidents that have occurred, or of clarifying some aspect of an incident. Nevertheless, the end result is generally the same: why and when did the events occur? The study of the Challenger space shuttle disaster produced by Vaughan (1996) provides us with a particularly good example. This study is, in part, founded on the critical analysis of the Report of the Presidential Commission on the Space Shuttle "Challenger" Accident, and involves multiple re-examinations (Laroche, 1998 or Mayer, 2003 in France) and even robust questioning (by Perrow 1999).

It is also possible to conduct RQD on a set of data in order to consider a new research question. This could involve a supplementary research question (as Heaton, 2004, proposes), which enables greater precision or a deepening of the initial research question (extending the centre of gravity), or it could involve a new research question (changing the

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centre of gravity). In the first case, the additional analysis involves proceeding with a more in-depth analysis of a sub-set or a unique aspect of the data, or lies in the examination of an emerging question. One of the most frequent situations concerns research projects during which sizeable amounts of data are collected and where the project is extended beyond its original boundaries. Here, the research project changes its centre of gravity with respect to the initial project. Weik's study (1993) falls under this category, since the author induces precise questions regarding events, especially with regard to the question of organisational resilience. In the second case, the objective is to reintroduce data whose potential surpasses the context of the original analysis, either because the data can be tested against emerging theories, or because it may help to examine empirical questions that have come to light. According to Heaton (2004), this type of analysis is most often conducted by the researcher who led the initial research, since data processing is part of the dynamics of the original research. For example, Stinchcombe (1970) developed a model made up of seven conditions that determine the degree of dependency of subordinates in various types of organisations. The seven conditions were designed based on several research projects conducted in the 1950s and 1960s. Stinchcombe used these organisations in order to demonstrate the variability within the seven conditions and he arranged them by degree of dependency of the subordinates (Vaughan, 1992).

The last two forms of RQD consist of simultaneously mobilizing distinct sets of data, or data derived from different research projects. Amplified analysis introduces variety into RQD, since data from different analyses is crossed in order to observe common and distinct points at the data crossing points. An example of this is when two researchers, who separately led studies around a research project, decide to examine convergences and divergences between their analyses (Heaton, 2004). There is thus a certain unity in the formulated questions and in this case RQD takes on the form of a comparative analysis. The Stinchcombe (1970) example mentioned above borrows, in part, from this category, the difference being that the original researcher re-uses various studies that he himself has conducted. It is interesting to note that this method can be used within the framework of a new research project by an independent researcher who did not take part in the original research. The meta-analysis of a case study, even if it is based on a sophisticated statistical protocol, falls under this tradition (cf. Larsson's (1993) work on merger acquisitions).

Finally, when materials from various studies are diverted from the purposes for which they were originally collected and processed to become part of a new research project, we call this assorted analysis. A specific example is the crossing of RQD with fieldwork, which is the traditional mainstay of qualitative research. In this case, RQD completes an already well-established research project and the conditions for including re-used data are specific: the categories and mechanisms of the analysis must enable legitimate comparative analysis. It should be noted that, in some cases, secondary analysis may require data with less "finesse" than data which is first hand. Research conducted by

Loilier and Tellier (2004) involved cross-examining different sets of data within the framework of a new research project. The authors studied the conditions under which trust can constitute a means of coordination among the actors of an innovative project when no direct interaction exists in a given place. With this in view, they analysed the functioning of unrestrained software development teams linked to the Linux project. Initially, they carried out a literature review on the notion of trust and the specific aspects of remote innovation networks, and from this review they were able to derive firstly a number of conditions and then certain categories. Their case study of unrestrained software was then developed on the basis of four major sources: two research projects, one piece of research published in the Research Policy review, and one piece of empirical research published in a professional review. Site visits and press articles also formed part of this project. The authors applied a traditional qualitative method coding procedure for analysing the conditions of trust production and for discussing their results.

Another example is the work of Staudenmayer, Tyre and Perlow (2002). During the course of informal discussions, they noted that their three independent studies, each conducted in the area of organizational change, collectively reported situations where key events altered the daily work rate and, as a result, significantly affected the individual and collective experience of time. By concentrating on the notion of experiencing time, these events seemed to facilitate organizational change. Intrigued by this coincidence, the authors decided to return to the initial data to highlight the areas that documented the concept of time, along with its role in organizational change. The aim of this inductive approach was to develop a theory based on a research design that cross-examined the data from three independent studies. In the beginning, the project was structured around a wide research question: "what role does time play in change?" Each case was summarised, highlighting the unique relationship between time and change, thus enabling each author to become fully acquainted with all the cases. Having proven a relationship between time and change in each of the cases, various questions began to emerge. Stories about change served as an analytical instrument for facilitating inter-site comparisons. Each "change" was analysed according to a given sequence: a pre-existing situation, an event disturbing the work rate, an interpretation of the time and events of the situation by individuals, and the nature of the resulting outcomes over the short and long terms. The authors used the constant comparative method: the stories about change were firstly compared in pairs within one case and later between cases. By using this method, it was possible to identify the key components shared by the three sites and the manner in which they were similar or different for each site.

In addition to the diversity of the various forms of RQD, this typology highlights the possible implications in terms of conditions of use, reliability and pertinence of the method. In particular, it raises the question of the diversity of usable materials in RQD, notably the fact that it is possible to mobilize a single set of data or several data sets.

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THE QUESTION OF REWORKED MATERIAL: THE WRONG DEBATE?

The justification for and the practice of RQD depend largely on the methodology of the original research and the assumptions regarding the quality of the reprocessed materials. Some authors who support the use of RQD (Thorne, 2004, Heaton, 2004) adopt a narrow point of view, since they only take into account the reworking of collected data. In management science, this would totally exclude the reworking of case studies. It is argued that this material is, in principle, much too altered by the subjectivity of the original researchers. In other words, it is better to use pure, unadulterated data. This type of work is more easily undertaken in the context of laboratories carrying out collective and collaborative projects.

Such a naturalistic conception of the data is debatable because, for one thing, it confuses ontology with the data. But the data is not independent of the conditions under which it was collected (Baumard and Ibert, 2003); it is a representation "which allows a bi-directional correspondence between empirical reality and a symbolic system" (Stablein, 1993, p. 514). Indeed, whatever the epistemological bias underlying the research, the researcher is never neutral with respect to his "field", due to the fact that qualitative methods require a high level of involvement by the researcher (Hlady-Rispal, 2002), even if only in terms of the amount of time invested in the project. Also, it does not follow that re-using "pure" data necessarily increases the rigour of the data, and it does not exonerate the data gathering conditions from examination.

Nevertheless, whenever RQD is carried out, the question of not having been present at the time of data collection always presents itself. "The loss of the essential contextual experience of 'being there' and not being able to engage in a reflexive interpretation [with respect to the data] can be considered as an obstacle to re-usage" (Corti and Thompson, 2004, p. 335). However, Mautthner, Parry and Backett-Milburn (1998) stress that the capacity of being able to interpret one's own data can also decline over time since the memory weakens and new knowledge produced in the interval can influence the re-interpretation of the said data. Baumard and Ibert (2003) also note that dealing with first-hand data could entail certain biases and that excessive trust in the truth of such data could be misleading. The belief that original data has an automatic validity can also lead to discarding contradictory explanations or to downplaying the importance of certain variables.

From a broader perspective, is it possible to say that the reworking of case studies is legitimate? Silverman (2000) frequently states that analysing data is considerably more important than the collection of the data and, in order to shorten or facilitate this phase, he encourages working on data that has been gathered and processed by other researchers (secondary analysis) or on data found in the public domain (documents). One can consider that, since secondary analysis consists of systematically replicating the initial study, it is possible to construct the analysis based on data that has already been formalized.

According to Vaughan (1992), "there is no doubt that many case study analyses exist, using the same theories, models or concepts, without ever having been the subject of a systematic comparison" (p. 185) and that "the analysis of the work of other researchers forces us to confront certain facts, which do not easily adapt to our preconceptions" (p.199). Baumard and Ibert (2003) continue along these lines and consider that a case study carried out by another researcher can broaden the stock of models and representations that can be used to compare other models.

At the very least, we can say that a reprocessed study has been validated by the scientific community, which constitutes a form of control over the re-used materials. The successive reprocessing of the data enables the results, which are presented according to shared codes and philosophies, to circulate throughout the scientific community. However, excess formalizing may also lead to granting excessive credence to the data. In practical terms, this once again assumes a precise knowledge of the data collection mechanism and the data transformation process (Baumard and Ibert, 2003). The latter authors reported on a study by Podsakoff and Dalton (1997), demonstrating that few authors offer proof of the validity of their approach in published academic articles. Finally, case studies, as a research practice, have become part of the normal process of accumulation of scientific knowledge. Research conducted according to an inductive approach is of interest because the knowledge generated here is of an empirical nature. Mintzerg and Waters (1985) follow this approach and distinguish both the emergent areas and the determined areas within the strategic process, and today this is no longer subject to debate.

The debate surrounding the use of raw materials or edited materials is inherently linked to the relationship between the method and the epistemological bias of the research. The response with respect to the relevance of RQD also depends on the principles that frame the research process.

RQD AND EPISTEMOLOGICAL TRENDS

Generally, RQD raises an epistemological problem in that the "secondary researcher" has to position himself in relation to the original data and, at the same time, develop a strict mechanism with regard to structuring his own research project. As we have already stressed, the research question, in terms of epistemology, crosses all phases of qualitative methodology. Current thinking is that the research method does not necessarily induce a constructivist stance. Depending on the epistemological stance, a researcher positions himself with respect to "reality" before and during the production of qualitative data, but also during the transformation stages, which most often take the form of a case study. Guba and Lincoln (2005) have suggested a classification of five paradigms developed from the responses to three fundamental, interconnected questions:

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- the hypotheses that the researcher formulates on the nature of reality (the ontological question)
- the hypotheses that the researcher formulates on their relationship, upon observation of the subject under study (the epistemological question)
- the means that the researcher selects for analysing reality (the methodological question)

Although Guba and Lincoln (2005) highlight five paradigms, for the purposes of considering the re-use of qualitative data, we suggest concentrating on the three most frequently encountered paradigms in management research practice: positivism, interpretativism and constructivism (see **Table 3**).

Table 3 – RQD and Major Research Paradigms

	Positivism	Interpretativism	Constructivism
Ontology	Realist Hypothesis Reality is "objective" data independent of the observer, which can only be understood imperfectly or through probability (post-positivism)	Relativist Hypothesis Reality is perceived or interpreted by knowledgeable subjects.	Relativist Hypothesis Reality is intentional, constructed upon interaction with the object, local and specific.
Epistemology	Objectivism Principle of the neutrality and imperfection of knowledge. The results are probably true.	Interpretation The researcher interprets the experience and statements made by actors who themselves produce interpretations on the topic.	Interdependence between researcher and his object Projects and interpretations co-constructed with the actors in an interactive framework.
Knowledge Project	Describing, explaining, confirming Discovering the reliability of data	Understanding Empathic comprehension of actors' representations	Constructing Designing a project phenomenon
Methodology: consequences for RQD	RQD possible in principle The researcher can assume an empirical discovery to be "true" or close to the truth. Any validated data becomes part of the re-usable stock of knowledge. RQD is possible once the original research protocol is verified and its quality confirmed.	RQD possible in principle The researcher works on plausible interpretations. Regarding original data, he can compare his interpretations to those of initial researcher. The researcher borrows interpretations regarding a reality that is itself interpreted by the actors.	RQD debatable The researcher works on constructions based on singular interaction. The original researcher can, in principle, rework the said constructions (he knows the neglected aspects of the fieldwork) according to an identical project. Circulating both the data and the editing among projects and among researchers is extremely debatable due to the unique construction that is based on the interaction between the researcher and the actor(s).

Freely adapted from the categories of Giordano (2003, p. 25), Perret and Séville (2003) and M'Bengue, Vandangeon-Derumez and Grimand (2000)

Certainly, the taking of shortcuts is not recommended, particularly in the relationships between ontology and methodology and between methodology and epistemology (M'bengue, 2001), but it is interesting to note that, in principle, two major paradigms can favour the use of RQD, whereas constructivist epistemology seems to be less well

adapted to the approach. In the case of positivist epistemology, the use of data produced by other researchers is authorized if the entire methodological mechanism used by the original researcher remains transparent (as we will see in the next section on practical questions). The secondary researcher can then accurately verify the reliability of the data being reprocessed and normally nothing prevents the re-use of formalized data – that is to say, the use of case studies. Scientific knowledge progresses by sedimentation and is produced collectively. Empirical results and the explanation produced by the original researcher may be added to this melting pot of scientific knowledge and submitted for discussion, given that the control procedures have worked correctly (mainly through peer-reviewed publication). According to Hakim (1982, p. 16), "one of the advantages of secondary analysis is that it forces the researcher to think closely about the theoretical and substantial questions of the study, rather than about the methodological and practical problems of data collection. The time and effort devoted to obtaining funds and organizing new fieldwork can be directed instead to analysis and interpretation of the results".

In the case of interpretativistic epistemology, if the secondary researcher accesses raw data, it is possible to consider that he has the right to re-interpret the data collected by others, once the collection protocol has been validated. This could lead to disagreement over the interpretation of the data. Moreover, if the researcher re-uses formalized case studies, he then produces his own understanding of the experiences expressed by other researchers, based on the actors' statements. The secondary researcher thus works on interpretations of interpretations. The researcher re-using this data is not in direct contact with the actors and so the empathy, which characterizes the researcher-actor relationship in interpretativism, is somehow transferred to the entire process being reworked.

RQD becomes more problematic in the case of constructivist epistemology. The data collected and transformed by the initial researcher results in the production of "constructs". These constructs are the result of a co-construction between the researcher and the actors through the shared development of a common project. The likelihood of circulating the "data" amongst researchers, for the purposes of generating ideas, is thus limited by the specific nature of the project itself. This is also the case with projects involving a single researcher, where the researcher produces new results within the framework of a research project that utilizes re-used data (supplementary analysis). In theory, it is necessary for the data to become part of the system of interactions with the actors of the initial research.

If we adopt the Weickian viewpoint, where everything is reduced to ex-post reconstruction, the researcher himself is the producer of a legitimate discourse. The researcher is an individual conducting ex-post reconstruction, which means that everything is reduced to reconstructed discourse. As such, why should the researcher deprive himself of the RQD method on the pretext of biasing the data or materials, since he is going to bias the data anyway in his reconstruction of it? When producing his discussion, the researcher should comply, above all, with

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the rules of presentation (allowing access to the sources used or even using common sources), thus enabling the reader to spot any discussion biases. The principal question then becomes that of the capacity of the researcher to guard against the possible biases of RQD. In fact, the researcher should be able to produce his reasoning in a convincing manner and in this way remove any barriers to the legitimate use of RQD.

RQD: ITS USE IN PRACTICE

If the idea of re-using qualitative data is indeed accepted, the implementation of the approach and the conditions for validating its use still need to be specified (Heaton, 2004; Stewart and Kamine, 1993). It is essential (1) to use a set of data (whether it be raw or edited data) over which you have control of both the source and the quality, and (2) to verify that the set of data is appropriate to the research question. Nevertheless, the premise for using RQD depends on the researcher's ability to access the set of data. Here, we will deal with two questions linked to the accessibility of data and the conditions necessary for conducting RQD. It should be noted that access to original data influences, in part, the quality of the research method.

ACCESSIBILITY - A PREREQUISITE FOR RQD

RQD requires having a set of data at one's disposal. As we have already mentioned, data can be accessed in a number of ways, for example, by using published case studies, or non-processed data collected by a third party, or even by the researcher re-using his own data sets. This latter practice could involve the doctoral student, the young PhD graduate, as well as the experienced researcher who works on one or more sets of data over a long period of time. The issues concerning accessibility of data are two-fold, since both RQD and the quality of the approach used depend on access to such data or the formulation of an original study. The initial question, therefore, is that of the possibility of accessing data. Several access methods seem to be currently in use. Firstly, from an opportunity point of view, the researcher frequently conducts several research projects, generating his own empirical data, to which he has easy access and which he can rework when investigating new research questions (cf. the aforementioned work of Stinchcombe, 1970). This specific situation simplifies the research design and reduces the control procedures necessary, since the researcher knows his own operating methods and the conditions of data collection. However, the risk here is that the data may become distorted due to the researcher's proximity to it.

The researcher's environment can also influence the possibility of carrying out RQD. For example, a laboratory environment allows relatively easy access to a certain number of empirical results[2]. The very nature of a laboratory project leads to the clear definition of the

2 It should be noted that a laboratory environment may also encounter corporate interest. Indeed, some large corporations have been the subject of numerous qualitative studies over time, which raised the issue as to whether or not they could put in place a mechanism for safeguarding these studies and the data that has been produced as a result. EDF (the French national electricity company) has set up such a mechanism enabling the practice of RQD depending on the needs and questions encountered by the company (Le Roux & Vidal, 2000; Dargentas & Le Roux, 2005).

stages of the research and the data collection protocols, and even to the successive re-use of data by different laboratory researchers. Although this practice is less common in management science than it is in scientific domains (Heaton, 2004), there are nevertheless a number of examples of collective laboratory projects, such as at the research centre of the Ecole Polytechnique (France). Here, the re-using of data is due to the existence of collective projects and to the proximity of the researchers, both of which foster a system of pooling. Thus, the researcher has access to the empirical knowledge produced within his scientific community, as well as to articles and published cases studies. As we have already seen, this approach is not without its difficulties since the problem arises of verifying the robustness of the results: their re-use depends on the form that the results take and the transparency of the original method.

Secondly, RQD can arise out of social interaction among researchers and this is doubtless the case in the majority of situations. RQD is thus inherent to the researcher's working life. In fact, the Staudenmayer, Tyre and Perlow (2002, p. 587) study started as a result of "a series of corridor discussions among the authors", during which they realised the relevance of sharing and re-using each other's data. The re-utilisation of data is indeed strongly influenced by the possibility of collective initiatives or discussions between individual researchers. Although, in the case quoted above, the researchers cooperated by each contributing a set of original data, it is also useful to consider the division of labour approach discussed in the first section.

In addition to situations where the secondary researcher acts as a type of "bricoleur" [3] (Heaton, 2004), formal or institutional approaches aim at facilitating access to data and enabling RQD on a broad scale. Thus, in Great Britain, the Qualidata experiment aims to provide researchers with direct access to qualitative databases (in return for compliance with identification constraints by the researcher seeking data). Data from over one hundred studies is available. Some examples include the longitudinal study by Pettigrew on "Management of Strategic and Operational Change" providing data on eight companies from four different sectors (one high-performance and one low-performance company per sector) over the period 1958-1988 (Qualidata, 5203); also the studies of the Aston group conducted under the auspices of John Child (Qualidata, 922). In France, a report was drawn up on the issue of storage of qualitative data in the area of social science (Cribier, 2003), which examined both the French and the international situation. The situation in France is somewhat disappointing: "the majority of qualitative data gathered over the past forty years has disappeared, very little is properly stored (that is, complete and documented), and only small amounts of this data have been used for the purposes of new research projects" (Cribier, 2003, p. 2). Consequently, the aim is to set up a project of data storage (cf. Cribier, 2003 and 2005, for a description of the situation).

Finally, it is useful to note the extent to which the level of data accessibility influences the very quality of RQD. Indeed, the ease and extent of

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access to the data itself, as well as the possible access to the researchers who collected the original data (or to their procedure manuals), is important for evaluating the quality of the original research process. It means that quality protocols can be more easily verified and that any obscure areas or interpretation problems, which occasionally emerge in RQD practice, can be clarified. The Hinds, Vogel and Clarke-Steffen (1997) paper identifies key questions regarding accessibility: these are presented in **Table 4**.

Table 4 - Dimensions of Data Accessibility

A1. Where, when and how to access data?
A2. Is all data accessible, or only partially (e.g. transcription of interviews and not the recordings)?
A3. Have the answering parties given their consent to the use of the data in the study?
A4. Are there any conditions of use for the set of data?
A5. Can the authors of the investigation be consulted when needed?

Sources: adapted from Hinds, Vogel and Clarke-Steffen. (1997) and from Heaton (2004, p. 93).

The questions contained in **Table 4** emphasize the importance of the ethical issues surrounding the use of RQD (does one have the right to freely dispose of qualitative data?). They also emphasise the fact that RQD work is directly influenced by conditions of access: having direct contact with the authors of the initial study and accessing all or part of the data directly influences the possibility of re-using "good quality" data. However, even when access to the data is allowed, according to acceptable conditions of quality, it is still necessary to ensure that the data set meets the requirements of an RQD approach.

RQD – USAGE PROTOCOL

Hence, a protocol has to be agreed, which enables efficient data evaluation. Several authors have suggested a data evaluation grid or lines of conduct aimed at evaluating the possibility of adopting the RQD approach (Stewart and Kamine, 1993; Hinds, Vogel and Clarke-Steffen, 1997; Heaton, 2004). Rather than concentrate on any differences between the work of these authors, it is important to emphasize the extent to which they agree with regard to the areas that must be examined when putting in place a system of RQD (see **Table 5**). Their objective is to verify that the original data complies with the formal conditions of re-use. In addition to the need for contextual information on the original data collection ("description of data"), it is necessary to ensure that the data from the initial study was collected according to a transparent process and that it complies with at least minimum quality levels (the idea that the information from the initial source was well corroborated by the collector).

Table 5 – Lines of Conduct for Evaluating Possible Re-use of Data

Description of data
D1. Author(s) of original collection
D2. Objectives of the original collection?
D3. Description of gathered data
D4. Collection development: time frame and organization of collection process
Data adequate for RQD
S1. Is the set of data adapted to research objectives?
S2. Is the set of data adapted to research content?
S3. Does the amount of data enable handling of the research question?
S4. Are the type and format of the data compatible with the RQD in progress?
S5. Is the data not too contextualized, or has it expired?
Data Quality
Q1. Is the set of data complete for meeting the needs of the research end results (i.e.little or no missing data)?
Q2. Has the data been recorded in an entirely well-adapted manner?
Q3. Has the data been modified (e.g. to preserve anonymity)? If so, how?
Q4. Was the data prepared in such a way as to be compatible with RQD?
Q5. Is there sufficient documentation on the data (methodological note, coding manual, etc.) for RQD final objectives?
Q6. Was the original study well designed and implemented?
Q7. Are all sets of data compatible with each other? Is all the data uniform?
Q8. Can the data be compared with other sets of data if needed? (external validation)

Sources: freely adapted from Stewart and Kamine (1993), Hinds, Vogel and Clarke-Steffen (1997) and Heaton (2004).

According to the above lines of conduct, the first phase involves examining the potential adequacy of the initial data for the research project. The question regarding the adequacy of the data will be more or less quickly resolved depending on the type of RQD (§ 2.1). In the case of re-analysis or amplified analysis (i.e. the research question is the same as that of the initial study), using the same set of data is acceptable, if the objective is to replicate the initial study or to carry out a comparative study. But the question of the adequacy of the data is another matter completely when the final objectives of the research project compared with those of the initial research are very different. In this case, it is necessary to query the capacity of the original data to deal with the research question and to meet the objectives and content requirements of the research. Should the data be in part obsolete, ambiguous or insufficient in quantity, or if the contextualization is excessive, then the researcher will seek to complete the set of data being reprocessed with data derived from other research projects, or even by collecting original, current data. Assorted analysis is part of this perspective since the secondary researcher can compensate for the incomplete data by cross-analyzing this data (Heaton, 2004). It involves the verification of the uniformity and compatibility of data derived from different research projects (Q7 and Q8 of **Table 5**).

Among these questions, we note the crucial issue of bringing reprocessed data in line with the research question – in particular, when the objectives of the re-used data have been modified and are different from those of the initial research for which the original data was collected and processed. Principally, this raises problems of de-contextualization. Experts recommend the crossing of reprocessed data with other data, whether original or secondary; a variety of data reproces-

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sing mechanisms; and finally, where possible, close interaction with the initial project leader in order to limit the risk of poor interpretation of data. The data reworked by Staudenmayer, Tyre and Perlow (2002) was re-used within the framework of a project which differed from the three initial studies. Once the relevance of the cross-examination of the three studies was confirmed and the research question formulated, the authors returned to the environmental and organizational context of each study. This particular case was facilitated by the fact that the re-analysis was carried out by the authors of the initial research.

The second phase, the more operational dimension of RQD, involves questioning the quality of the set of data. Is it complete? Do we really have all the information in a format adapted to our processing needs? It should be noted that the secondary researcher may encounter practical difficulties in judging data quality. Due to the nature of qualitative data, it could be problematic to assess the completeness of information, for example when the researcher uses materials derived from semi-structured interviews (Q1 of **Table 5**). The question of complete and appropriate recording of interviews (i.e. the method of recording and transcribing the interviews) also seems, in practice, difficult to verify (Q2 of **Table 5**). If access to the interview transcriptions is limited, certain elements of contextualization could be lost (intonations, silences, hesitations). In this situation, the judgment of the secondary researcher is important since, given the elements in his possession, he should be able to assess the validity of the data (although it can be considered that any interview is biased simply due to the fact that its recording can influence the content – cf. Baumard and Ibert, 2003). The nature of the materials used can also play a role in the quality of data: confidence may be placed in data obtained from published studies, which have already been finely screened by rigorous scientific criteria.

Thus, the qualitative audit of data, which could possibly undergo reprocessing, varies depending on whether the approach is based on using data from the same research project or data derived from several projects. In particular, verifying the uniformity of the data (Q7 of **Table 5**) assembled from different research projects will be essential to the execution of RQD. The interdependence between these issues should be noted. Verifying the uniformity between data requires the setting up of a data collection manual (Q5 of **Table 5**), as well as interaction with the authors of the initial study, if possible, (A5 of **Table 4**). This enables a better understanding of the role the different contexts play on the data. Carrying out amplified analysis or assorted analysis will thus require an audit of both the quality and the compatibility of the data being considered for RQD.

Finally, analyzing data quality varies depending on whether the materials used have the same final objectives as the original research. If the secondary researcher is the leader of the same project(s), examining data quality takes on a specific importance and meaning. In the re-analyzing process, the researcher will stress the robustness and veracity of the results of the initial study. Spotting a defect in the quality of initial data could lead to questioning the scope and pertinence of the initial study. In other words, RQD in this case resembles a process of reviewing the work of an earlier research project.

CONCLUSION

In this article we have attempted to explore a qualitative methodology which still receives limited attention in management science – re-using qualitative data (RQD). Apart from the emblematic examples, it was deemed important to clarify the different forms of RQD and to examine its potential as well as its difficulties in terms of a research method.
Having considered the similarities and differences between RQD and a variety of other practices involved in the division of research work, RQD emerged in a broad variety of forms. Despite the strong epistemological affinities of RQD, the analysis enabled us to emphasize the legitimacy of the method in the area of management science. In order to establish the scientific validity of a study in the area of management science, it is necessary to demonstrate the rigor of the methodologies being deployed in this field. We showed that RQD can be conducted in a pertinent manner, provided the work is based on a robust examination of the materials being re-used. In particular, it involves solving the problems of data access, of evaluating the adequacy of the data with regard to the envisaged study and of analyzing the quality of the data.
When well conducted, RQD thus allows researchers to draw on a pool of existing qualitative data, to utilize qualitative studies in order to identify new research questions, and to place empirical materials at the heart of the management science debate. Nonetheless, we should reiterate the fundamental difficulties involved in accessing qualitative data gathered by other researchers, which could considerably limit the research method used. However, data sharing amongst individual researchers, as well as collective and institutional approaches, would stimulate both scientific controversy and collaboration and this could even indicate the way to a new process of accumulating collective knowledge. This, however, is no longer a question of methodology, but one of scientific policy.

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