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The use of qualitative case studies in top business and management journals: A quantitative analysis of recent patterns

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ABSTRACT

The use of case studies as qualitative research strategy in social sciences seems to have increased recently, but there are no studies that empirically verify such claim. By explicitly focusing on the field of business and management studies, we aim to investigate the extent of publication and the main features of qualitative case studies published in the 20 highest impact factor business and management journals. The paper discusses the correlation between a journal's ranking and the extent of case studies it published, and between selected features of case studies (e.g. research purpose, design and data sources). Moreover, we shed light on how the identified features of a case study impact its probability of being published.

Methodologically, we analyse by means of correlation and regression statistics, as well as clustering techniques a total of 19 features in the 352 qualitative case studies published between 2002 and 2011 in our sample of top business and management journals.

1. Introduction

Qualitative case studies are an established research method that has been used since the dawn of the social sciences (George & Bennett, 2005: 5). Case studies are applied extensively in several subject areas, including psychology, sociology, history, economics and management (Yin, 1994).

A qualitative case study can be defined in many ways; two well-known definitions are a "detailed examination of an aspect of a historical episode to develop or test historical explanations that may be generalizable to other events" (George & Bennett, 2005: 5) and "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (Yin, 1994: 13).

Many well-known and established theories in the field of management stem from qualitative research grounded in case studies: for example Penrose's theory of the growth of the firm (1959), Chandler's theory of the firm (1977), Johanson and Vahlne's theory of incremental internationalization (1977) or, more recently, von Hippel's theory on user-related innovation (1988). Case studies have in fact the merit of enabling theory building and development more than quantitative research approaches (Tsang, 2014); or, in the words of Gephart referring to qualitative research, to which case studies belong, it "often advances the field by providing unique, memorable, … and theoretically meaningful contributions to scholarly discourse …" (2004: 461). Another important merit of qualitative case studies lies in their capability of explaining complex connections between phenomena and their contexts (Dubois & Gadde, 2002). In addition, case studies offer the opportunity of adopting and matching different forms of data, enabling a more in-depth understanding of a phenomenon (McCutcheon & Meredith, 1993), which is particularly important in the field of management, where some specific managerial processes are otherwise very difficult to investigate (Guercini, 2004; Voss, Tsikriktsis, & Frohlich, 2002).

Despite these merits, in the 1960s and 1970s, qualitative case studies experienced a decline in favour of statistical and formal methods (George & Bennett, 2005). Even if produced by the same

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academic institutions, quantitative research is viewed as more "scientific" (Gummesson, 2006: 171) and qualitative research as lacking rigor (Pratt, 2008). As a result, some authors (Hannah & Lautsch, 2011) argue that the management field is being dominated by quantitative methods.

Stressing the aforementioned merits, other authors claim instead that the use of case studies, which represents one of the most established qualitative research methods to build and even test theories (Tsang, 2014) in the social sciences, has increased in recent years (Dubois & Gibbert, 2010; Eisenhardt & Graebner, 2007; George & Bennett, 2005; Hunt, 1994).

This paper empirically verifies this claim that the use of qualitative case studies has increased recently, but since it would be too demanding to investigate all the social sciences, we chose to restrict our focus to management and business studies. However, since this field includes hundreds of journals, we chose to further restrict our focus to the scientifically most influential management and business journals, because they represent the main forums for advancement and consolidation of the discipline of management. Thus, the purpose of this paper is *to investigate the extent of publication and the main features of case studies published in top management and business journals in recent years*.

This research purpose is further specified into four research questions, which will be developed in our theoretical section and which concerns: (1) *the correlation between journal ranking and the extent of case studies published*, (2) *the main features of these case studies (such as their research purpose, design and data sources)*, (3) *the relationships between these features*, and (4) *the impact of these features of a case and the probability of its being published*. To accomplish our purpose and address our four research questions, we conducted a large-scale quantitative statistical analysis over all case studies published in the 10 years between 2002 and 2011 in 20 scientifically leading European and U.S. journals (ranked based on their ISI impact factor).

Previous reviews on the use of case studies in management and business studies do not analyse the whole field, but focus on specific subdisciplines, such as operations research (Stuart, McCutcheon, Handfield, Mclachlin, & Samson, 2002), information systems (Dubè & Parè, 2003), industrial marketing (Beverland & Lindgreen, 2010), management accounting (Otley & Berry, 1994) or international business (Piekkari, Welch, & Paavilainen, 2009). Many of these reviews have the merit of digging deep into the requirements for successful case research and the connections between the various dimensions of case studies (e.g. purpose, research strategy, unit of analysis, timespan), but these reviews restrict themselves to analyzing only a few dozens of case studies each. To complement those studies and fill this research gap, our study embraces the top journals in management and business studies as a whole and conducts a statistical analysis of 352 articles that employ case studies as a research method. Such a large-scale and quantitative approach enables one to identify broader patterns in the use of case studies. However, since our method's breadth does not allow in-depth content analysis, we do not discuss such issues as the nature or quality of the findings of the examined articles. For the same reason, we do not discuss whether case study is a methodology that is difficult to adopt or is useful in carrying out a particular research endeavour (Dubois & Gadde, 2002), nor the conditions for performing high-quality case research (Cepeda & Martin, 2005). Instead, we focus our investigation on the *extent* to which qualitative case studies appear in mainstream management journals as well as on the *main features* of the published case studies. The dominant features – such as theory-building purpose or longitudinal case approaches – can be viewed as an indirect indicator of current "standards" required for publishing case studies in top management journals. The remainder of this paper is organized as follows: Section 2 reviews the literature on case study methodology in order to identify relevant dimensions of case studies and formulates four specific research questions, Section 3 presents our methodology and Section 4 describes our results and provides our analysis. Section 5 concludes the paper with a summary of our findings, and a discussion of our study's limitations as well as further research avenues.

2. Literature review: identifying relevant dimensions to define trends in case study research

The case study represents a widely employed qualitative method to carry out research in management disciplines. This method can be defined from its unit of analysis as a "research method that involves investigating one or a small number of social entities or situations about which data are collected using multiple sources of data and developing a holistic description through an iterative research process" (Easton, 2010: 119). One of the main reasons behind the substantial use of the case study method in qualitative research lies in its enabling the researcher to study a phenomenon in a real-life setting where often it would be otherwise difficult to grasp its dimensions (Stake, 1995; Yin, 1994). According to Eisenhardt (1989), case studies are particularly useful to investigate phenomena characterized by little empirical substantiation, namely situations where little is known about a phenomenon, current perspectives seem inadequate and there is a gap in existing theory (Barratt, Choi, & Li, 2011). Thus, case studies have the ability to allow develop and build theories (Gephart, 2004; Tsang, 2014).

However, Dubois and Gibbert (2010) point out that, despite these recognized merits of case studies and their increased adoption by management researchers since 1990, there are still concerns widespread in the research community about their methodological rigor in terms of reliability and validity. Although there is a lack of specific studies that systematically investigate this assumption, there seems to be a general preference by top management and business journals to publish quantitative research at the expense of qualitative case studies: as reported by Pratt (2008), research based on qualitative approaches has to overcome more 'barriers' for being published in leading management and organizational American journals compared to quantitative studies. Similarly, Gioia, Corley, and Hamilton (2012) point out how the lack of rigor which characterizes many qualitative articles can affect their chance to be published in leading journals. Further, the calls by top journals such as 'Academy of Management Journal' to encourage qualitative research submissions (Bansal & Corley, 2011) clearly indicate that qualitative papers are under-represented. Otley and Berry (1994) and Stuart et al. (2002) report similar calls to increase the share of qualitative case studies published within the specific domains of management control and operations management respectively. If there appears to be a "need" for more qualitative case studies, a first important issue addressed by the descriptive statistics of this paper is to verify the extent to which top management journals actually fulfill this need by measuring the share of case studies they have published over time.

A further issue relates with which particular journals, among the scientifically leading ones, do indeed "walk the talk" more than others. In this regard, one can assume that the journals with the highest impact factor represent the mainstream approaches and would entail the highest barriers for case studies, so that the higher the impact of a journal and the fewer case studies it will publish. Following this reasoning, our first research question is as follows:

RQ1. *Is there any correlation between journal ranking and the extent of case studies published in top management and business journals in*

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the 10 years between 2002 and 2011?

The use of case studies in management disciplines has been approached in various ways. The issue of validity and reliability in using the case study method usually takes a central place (e.g. Dubois & Araujo, 2004), as well as the benefits and disadvantages of adopting the case study method, as discussed by Otley and Berry (1994). Other contributions analyse the use of case studies as a research method in specific sub disciplines in the management field. Barratt et al. (2011), for instance, describe the trends in the use of case studies in operations management. Concerning the use of the case studies in management broadly speaking, Gibbert and Ruigrok (2010) address the rigor of case research, while Pihlanto (1994) pays attention to the nature of the case study method in management.

However, despite these contributions that penetrate a specific subdiscipline or quality issue of case studies, there is a need for more large-scale evidence of *how much* and *in which way* case studies are applied across the whole field of management. In particular, understanding these broad patterns in using case studies requires identifying and analysing the key features of case studies (e.g. their research purpose, design and data sources) in a broad number of articles, across several journals, and for many years. Our second research question is therefore:

RQ2. *What are the features of case studies that recur in top management and business journals in the 10 years between 2002 and 2011?*

These case study use patterns can be operationalised by analysing selected key features that characterise a case study and how it is conducted. The extant methodology literature on case studies focuses on the following three features that can be useful in defining such patterns, and hence indirectly the "standards" required by mainstream journals: the case's *research purpose*, *research design* and *data sources*.

2.1. Research purpose

Besides being simple illustrations or *examples*, case studies can be used for two main purposes, namely *exploration* and *theory-building* (Eisenhardt, 1989). In the latter purpose, research aims to develop new hypotheses from the data collected, which can in turn be tested to refine and expand theories. Eisenhardt (1989) claims that theory-building by means of case study methodology is among the most cited purposes of conducting case-based research. Building theory from case studies is a research strategy that involves using one or more cases to create theoretical constructs, propositions and/or midrange theory from case-based, empirical evidence (Eisenhardt, 1989). Several authors (e.g. Pettigrew, 1973) also claim that case studies have provided important and innovative insights into the management field.

Concerning the exploration purpose, the case method allows the researcher to make investigation where the variables are still unknown and the phenomenon is poorly understood; this is an important advantage in using a case study design (Meredith, 1998).

2.2. Research design

Here, the choice concerns the number of cases included in a study and their time boundaries in relation to the time of the investigation. Usually single and in-depth case studies are used in longitudinal research (Voss et al., 2002). A second choice is between retrospective and current or even real-time (or follow-up) cases (Halinen & Törnroos, 2005: 1291). For theory-building purposes, the use of multiple cases is suggested as a more fruitful approach to create testable theory than the use of single cases (Eisenhardt, 1989; Yin, 2003).

2.3. Data sources

The data collection typically implies multiple sources of information when a case study approach is adopted. The primary source of data used in case studies is structured or semi-structured *interviews*, even if researchers usually also adopt quantitative tools such as questionnaires. Interviews are a highly efficient way to gather rich empirical data, especially when the phenomenon of interest is highly episodic and infrequent. However, interviews involve biases that derive from the researcher, the respondent or their interaction (such as single-source bias, social desirability bias and recall bias) that may affect the reliability of the data collected (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Maxwell, 2009). Besides interviews, case studies can accommodate a rich variety of data sources, including *observations*, *written reports*, *published sources*, *artefacts* and *visual methods*.

Observations, divided into direct and participant (Yin, 1994), allow a researcher to get even closer to the topic being studied. While during direct observations, the researcher is more of a bystander and passive observer, during participant observations, the researcher is an active actor participating in the events studied. The category of first-hand written reports embraces various document types, such as letters, meeting minutes, or any kind of internal documents that are not externally published. On the contrary, published sources include newspapers, magazine articles or formal, published studies. Artefacts are a source of evidence consisting of devices, tools or instruments that intervene in the phenomenon under study (Yin, 1994). Visual methods are a complementary data collection instrument – including pictures or videos to portray a specific aspect of the phenomenon under investigation (Pink, 2007).

The *purpose* (exploratory, explanatory or illustrative), *time dimension* (snapshot, longitudinal, real-time or retrospective) as well as the *number of cases* (single vs. multiple) and *type of data source* of a qualitative case-based article are all important features to be investigated in order to answer RQ2. Still, the case methodology literature advises researchers to *combine in specific ways* the above features, especially the time dimension of an investigation and the data sources (Benbasat, Goldstein, & Mead, 1987): the choice of data collection instruments relates to the choice of a real-time or of a retrospective design. While real-time cases ideally employ longitudinal data collection via interviews and often observations, retrospective cases rely on interviews and archival data that efficiently build the number and depth of cases and so enable a researcher to cover more informants and include more cases (Leonard-Barton, 1990): increasing the number of both informants and cases helps to mitigate retrospective sense-making and post-rationalisation. While such combinations of a case study's features are suggested in the case methodology literature, it remains to be seen how the published case studies are constructed by combining those features. Therefore, it is useful to probe empirically not only how the various case study features are applied in isolation from each other (see RQ2), but also how all the aforementioned features of case studies are correlated with each other in the articles published in top management and business journals. Therefore, our third question is:

RQ3. *How are the key features of case studies related to each other in the articles published in top management and business journals in the 10 years between 2002 and 2011?*

These features of a case study, taken alone or in group, may make a case study more or less likely to be published in a top

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journal. A case study's acceptance for publication depends on *editorial policies* and the reviewers' *evaluation criteria*, which might consider these features, but it is not possible to trace these by looking at the published outcomes – that is, our database of 352 articles. However, it is possible to analyse the frequency of certain features (RQ2) of published case studies and to investigate whether a particular feature (for instance, exploratory, explanatory or illustrative *purpose*; snapshot, longitudinal, real-time or retrospective *time dimension*; single vs. multiple *number of cases*; and *data source type*) yield higher or lower probability of being published in top journals. Our final research question is therefore as follows:

RQ4. *Which features of a case study influence its publication in top management and business journals in the 10 years between 2002 and 2011?*

3. Methodology

Our methodology section explains how we selected the 352 articles included in our database (Section 3.1) and how we coded each single article in order to build this database (Section 3.2). The details concerning our statistical analysis are provided in Section 4 in the review and discussion of our results.

3.1. Article selection

The qualitative case studies papers published in the first 20 journals in management research according to Thompson's ISI Web of Knowledge academic citation ranking form our data. We selected the 20 journals listed in the ISI's *Management* and *Business* categories, which covers journals addressing general management issues, such as organization studies, strategic planning, decision-making, leadership studies and marketing issues such as branding and retailing.

Specifically, we selected articles published over a 10-year period (2002–2011), which we considered a suitable period to point out recent trends and emerging patterns in the use of case studies. We decided to include in the list only journals that do not explicitly state a strict preference for quantitative based studies and exclude a priori submissions of qualitative-based studies. In turn, the following journals were selected on the basis of their ranking in terms of their 5-years Impact Factor (2010 ranking available in 2011): *Journal of Supply Chain Management, Academy of Management Journal, MIS Quarterly, Administrative Science Quarterly, Journal of Marketing, Strategic Management Journal, Personnel Psychology, Journal of Management, Journal of Operations Management, Organization Science, Journal of International Business Studies, Information Systems Research, Research in Organizational Behavior, Leadership Quarterly, Journal of Management Studies, Journal of Organizational Behavior, Project Management Journal, International Journal of Management Reviews, Research Policy, Journal of Management Information Systems.*

Despite their high impact factor, we discarded three journals: *Academy of Management Annals* (because the first issue was only published in 2007) and *Academy of Management Review* and *Organizational Research Methods* (which explicitly state in their mission that they exclude empirical based studies). To the remaining 17 journals, we then added the next three journals in the ISI ranking: *International Journal of Management Reviews* (ranked 21st), *Research Policy* (ranked 22nd) and *Journal of Management and Information System* (ranked 23rd). Since ISI Web of Knowledge can be considered the most recognized source of citation appraisal (Dant & Brown, 2009) and is generally the most comprehensive database for scholarly work (Dahlander & Gann, 2010), we chose it as a reliable source for identifying papers for our research aim. The 5-years Impact Factor is also an index that defines a clear ranking among journals and helped us shortlist 'top' ranked journals in management and business studies. Specifically, it measures the average number of times articles from a journal published in the past five years are cited in the *Journal of Citation Reports* (JCR) in a year. This indicator is calculated by dividing the number of citations in the JCR year by the total number of articles published in the five previous years. These 20 journals constitute what could be termed *mainstream research*, which is both exposed to the widest academic audience, receives most citations and is – accordingly – most influential in management studies.

To identify case study-based articles in these journals, we carried out a keyword search on the database EBSCOhost Electronic Journals Service: we used the search term "case study" in the title, abstract and keywords sections of each article, initially finding 582 articles for the 10 years and the 20 journals under investigation. Out of these articles, only 367 fitted our criteria and 215 were discarded for various reasons, such as they had "case" rather than "case study" in the three sections we considered in our search terms. Furthermore, only 352 articles were finally selected for analysis because, at a closer look, 15 articles only included the term *case study* but were instead either quantitative in character, used the term *case study* as an opposing concept to their reasoning, or were editorials or case study reviews (such as Piekkari, Paavilainen, & Welch, 2010), or were articles that examined aspects of the research process rather than reporting empirical facts or using case study as a research method.

In other words, our database only includes articles that were explicitly labelled as case studies and apply this research method to explore or explain empirical materials or to illustrate theories. Considering the huge variety of topics covered in the top 20 management journals, it was not possible to distinguish among sub-disciplines in the management field (e.g. operations research, strategy, management accounting, international business, etc.). While we seriously considered using these sub-disciplines as a way of coding cases and constructing our databases, we faced two major problems: many articles simultaneously covered more than one topic, and the absence of a formal categorization of sub-disciplines in the search databases we employed. We therefore decided not to code this dimension.

3.2. Article coding

Table 1 shows the dimensions we adopted to code all the 352 articles and build our database. Reflecting the key features of case studies reviewed in our theoretical section, we examined each article looking at several dimensions that were relevant to identify patterns in the use of case studies according to our research purpose. Our coding process took inspiration from similar approaches applied in analogous studies (Dubè & Parè, 2003; Gibbert & Ruigrok, 2010; Piekkari et al., 2009). The four authors jointly carried out the coding process along the dimensions in the four groups of Table 1: all the issues that were considered as ambiguous were resolved by reaching a consensus among the authors. The four researchers jointly reviewed the outcome of this coding as reported in a large 19×352 spreadsheet, which constitutes our database. We now describe our coding criteria, including how some selected dimensions in Table 1, namely those yielding interesting results, were operationalised, stressing the interpretations made by the authors to handle the ambiguities that emerged in the dataset.

3.2.1. Research design

Number of cases (point 6 in Table 1): indicates first whether a single-case or multiple-case study design is applied and, second,

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Table 1
Dimensions of the database.

Group	Dimensions
Article profile	
	1- Journal name
	2- Publication date
	3- Author's affiliation
	4- Number of authors
	5- Impact factor of the journal (2010)
Research design	
	6- Number of cases (single Vs multiple)
	7- Study length (snapshot Vs longitudinal)
	8- Data collection time (retrospective Vs real time)
Research approach	
	9- Nature/purpose of the study (example, exploratory or theory building)
	10- Comparative case studies
	11- Historical case study
Data sources	
	12- Interviews
	13- Number of interviews
	14- Observations
	15- Visual data
	16- First-hand written reports
	17- Published sources
	18- Artefacts
	19- Mix of qualitative and quantitative data (mixed articles)

the exact number of cases employed. If the authors do not explicitly state this number, we counted them in the article. However, surprisingly, there are several articles where it is not possible to count the number of cases, and for which we input a missing value in our spreadsheet.

Study length (point 7 in Table 1): This dimension refers to the timespan of the investigation of the phenomenon studied in the article. If the study was *longitudinal* (as claimed by the authors), we operationalised this dimension in terms of months of observation of a phenomenon, as opposed to 0 for a *snapshot* case. If the phenomenon was observed over the years in a discontinuous way, we measured the study length by adding together the number of months of the separate periods.

Data collection time (point 8 in Table 1): This dimension is operationalised with three possible values, distinguishing if the researchers collected data during the course of the events (real-time case) or a posteriori (retrospective case), referring to an indirect way of capturing data (Dubè & Parè, 2003), or both. For those articles where the authors did not explicitly report the data collection period in relation to the time the events took place, we applied the following classification criterion: (1) *retrospective* if the article relies on secondary data sources, such as archival data or published documents, (2) *real-time* if the data collection relies on observations and interviews (primary data source), and (3) *retrospective and real-time* if the authors used both primary and secondary data sources.

3.2.2. Research approach

Nature/Purpose of the study (point 9 in Table 1): The two most established purposes in conducting case studies are *exploratory* and *theory-building* (Eisenhardt, 1989; Meredith, 1998). However, few articles explicitly state one of these two major purposes. Therefore, a great deal of interpretation was necessary to assign articles to these two categories, and a third emerging one – that of illustrative case studies. We considered as exploratory those cases where the authors do not initially point out what they might find, as indicated by, for instance, *how* and *why* questions (Barrat, Choi & Li, 2011). We considered as theory-building (i.e., explanatory) those cases where the authors clearly aim to extend previous theories. However, we encountered some articles whose purpose in using a case study was neither exploration nor theory-building, but rather simply an illustration of a theoretical concept or model or purely a description of a phenomenon without any theoretical connection. We therefore labelled this third category *example*, stressing the case's lack of links to theory (Dubois & Araujo, 2004). For all articles where the purpose dimension was not clearly stated by the authors, we based our classification on a thorough analysis of the abstract, introduction and conclusion as well as the methodological section of every article in search of elements proving the study nature or purpose. For instance, when authors mentioned expressions such as “we have extended theories by means of a case study”, or “we generated theories by adopting case studies”, we coded the article as *theory-building*. Following our interpretation, the adoption of multiple case studies or a comparative case study implies a theory-building purpose. Furthermore, a case study using a grounded theory approach (Glaser & Strauss, 1967) requires that the theory emerges from the data; it was therefore classified as *theory-building*. On the other hand, if the article was presented as a *pilot study* (Yin, 1994), it was coded as having an exploratory purpose.

Comparative case study (point 10 in Table 1): We apply the label *comparative* case studies to the articles where authors seek to discover and explain differences between cases (Yin, 1994).

Historical case study (point 11 in Table 1): This dimension indicates a specific typology of case studies that take a historical approach to a phenomenon. The label was attributed to studies concerning, for instance, organisations that no longer exist, or that focus on a remote period of an organization's history, or that refer to historical events (e.g. the 1970s oil crisis).

3.2.3. Data sources

Number of interviews (point 13 in Table 1): We coded this dimension as the number of interviews indicated by the authors. Since the distinction between the interview types (e.g. phone or personal interviews) is specified in very few articles, we decided to omit this feature of case studies.

Observations (point 14 in Table 1): This dimension indicates whether or not an article includes (both direct and participant) observations (Yin, 1994). The mention by the authors of an ethnographic approach led us to code the article as *including observations*.

Mixed articles (point 19 in table 1): This category refers to cases where a combination of case studies and quantitative methods are applied. If the authors draw on qualitative and quantitative sources

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of evidence – for instance in-depth interviews and a questionnaire survey – we labelled the article a *mixed article* (see also Piekkari et al., 2010).

4. Results and analysis

This section presents the main features and patterns in the 352 case studies published by the 20 journals sampled between 2002 and 2011. Our results rely on four types of analysis: first, we present general trends and patterns by means of *descriptive statistics*, second, we conduct a *correlation analysis* between the key features (i.e., the dimensions in Table 1) of these articles. The correlation analysis of the continuous variables in our dataset relied on Pearson's r (r), while to measure correlation between continuous and dichotomous variables we used the point bi-serial correlation coefficient (r_{pb}), a special case of Pearson's r. Third, considering aggregated data for each journal, we analyse and explain the percentage of the case studies published in each journal by means of a *regression analysis*. Finally, we report the results of a *cluster analysis* of the 20 journals.

The two latter analysis were conducted on a database created from the original database containing the 352 articles: this new dataset includes journal characteristics such as the *impact factor*, the *total number of all articles published per year*, the *number of case study articles published per year*, *the percentages or averages of the case studies features* included in each journal, the *"aim and scope"* of the journal, *article's page limits*, the *age* of the journal, and the *average number of articles* per year. Almost all these journal-specific variables were derived from either our original database and from data gathered from each journal's website. The only characteristic that needed to be coded was the "aim and scope" of the journal. We labelled as "generalist" those journals that accept contributions about any topic provided that they relate to managerial issues (e.g., *Journal of Management Studies*), while we labelled as "specialist" those journals with a specific focus on some subset of topics within the discipline of management studies (such as operations management or supply chain management for *Journal of Supply Chain Management*).

Thereafter, we calculated how these journal characteristics were related to each other. For instance, for each journal and in the 10 years between 2002 and 2011, we associated the number of case studies published with the total number of articles published, with the percentage of case studies using interviews as data source, etc. This journal database has been used for conducting both the linear regression analysis and the cluster analysis, the results of which are presented in Section 4.3. All statistical analyses were carried out with SPSS software version 19.

4.1. General features and patterns

First, we look at the total number of case studies published in relation to the total number of articles published per year in period 2002 to 2011 and per journal. We then concentrate on selected key features of the case study articles, namely the number of cases per article, the number of interviews, the investigation period length, the study purpose and data sources.

4.1.1. Qualitative case studies per year and per journal

Between 2002 and 2011 (see Fig. 1), qualitative case studies amount to a very small proportion of total articles published in the top 20 management and business journals: on average only 3.67% (i.e., 352 over a total of 9596). Furthermore, while the total number of articles shows an increasing trend from 2002 to 2011, the number of case studies decreases first, reaches a peak then in 2006 (44 articles), and ends the period with a decreasing trend (in 2008–2011). Measured in terms of annual share of case studies over total articles, this yields a decreasing trend – from 5.3% in 2002 to 2.8% in 2011, even though, in between, this share oscillates with a relative maximum of 4.7% in 2006 (see Table 2 below).

Table 3 shows in detail that qualitative case studies generally amount to a very small portion of the total articles published in the top 20 management and business journals. However, this amount varies considerably between the various journals, except for *Personnel Psychology*, which published no qualitative case studies between 2002 and 2011, the other top journals do publish qualitative cases studies, even if there is a wide variation: between 0.2% in *Journal of Management* and 11% in *Journal of Operations Management*.

Research Policy is the journal that publishes the most qualitative case studies in absolute terms (see Table 4), with 63 articles out of the total of 352 (17.9%), but it is also one of the journals with the lowest ISI impact factor ranking (see Table 3). Among higher-ranked journals, the *Journal of Supply Chain Management* (the journal with the highest impact factor) accounts for 19 articles –5.4% of the total. But if we look at the percentage of qualitative case studies over the total number of articles per journal, the first ISI ranked *Journal of Supply Chain Management* ranks second (at 8.4% on average over the period 2002 to 2011), while the 9th ISI ranked *Journal of Operations Management* ranks first (at 11.0% of case studies on average over the period 2002 to 2011). More precisely, our statistical analysis yielded *no significant correlation* between a journal's ISI impact factor and the percentage of qualitative case studies over total articles ($r = 0.192$, $p = 0.418$) nor the absolute number of cases published per journal ($r = -0.142$, $p = 0.549$).

4.1.2. Number of cases, investigation period and number of interviews

We found that 25.0% of the articles are in line with the ideal number of cases suggested by Eisenhardt (1989), namely between four and ten. However, a very large number of articles used less than four cases; with a great majority, roughly 46% of the articles using only one case. To compare articles with single and multiple cases, we normalised the number of interviews and interview length by calculating the average number of interviews per case and the average time per case. However, 150 articles (roughly 43% of the total amount of articles) did not state the number of interviews done; and as many as 175 (50%) did not mention the period in which data was collected. Among the articles that did contain this information, we found that a large number of articles (41.3%) had less than 10 and that roughly 70% had less than 20 interviews per case. We also found that more than 60% of the cases study a phenomenon over a period of more than 18 months, with as many as 30% of the articles having a per-case investigation period longer than two years.

4.1.3. Purpose, data sources and comparative nature of case studies

Concerning the research purpose, many articles aim at *both* exploring and explaining a phenomenon, with a majority having at least one of these two purposes. Specifically, 55.7% of all articles have an exploratory purpose, while 57.7% explicitly seek to build theories (see Table 5, also for a breakdown by journal). Only 13.1% of case studies state that their aim is to provide an example. Strangely, only 24 case studies out of 352 (6.8%) claim to be comparative in nature (i.e. explicitly seek for similarities and differences among several cases). This is not in line with Eisenhardt (1989) suggestion that theory-building articles should be comparative in nature. There is also a strong predominance of real-time cases (76.1%) at the expense of retrospective case studies (40.6%) and historical case studies (only 7.4%). Interestingly, only 17% of cases are explicitly

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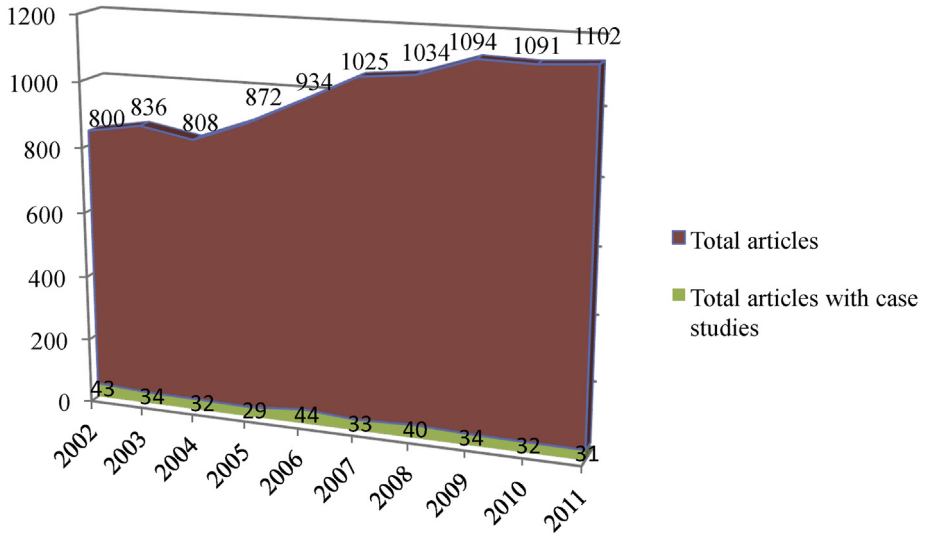

Fig. 1. Number of qualitative case studies in relation to the total number of articles.

Table 2
Share of case studies across total articles in 20 top management and business journals.

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Case share	5.3%	4.0%	3.9%	3.3%	4.7%	3.2%	3.8%	3.1%	2.9%	2.8%

Table 3
Percentage of qualitative case studies over the total number of articles per journal and per year.

Journal	5 year impact factor	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
1- Journal of Supply Chain Management	11.706	3.2	15.0	5.0	15.0	23.5	0.0	0.0	8.7	12.0	7.7	8.4
2- Academy of Management Journal	10.779	1.3	0.0	1.7	1.2	1.4	0.0	1.6	4.8	5.7	0.0	1.8
3- MIS Quarterly	9.821	25.0	4.5	12.5	3.1	6.5	5.7	12.5	0.0	2.4	7.3	6.7
4- Administrative Science Quarterly	7.539	9.1	0.0	12.5	0.0	3.8	0.0	4.5	0.0	0.0	16.7	3.1
5- Journal of Marketing	7.240	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	3.2	0.6
6- Strategic Management Journal	6.818	4.2	2.7	0.0	1.4	1.6	2.7	1.3	1.4	1.3	1.1	1.8
7- Personnel Psychology	6.395	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8- Journal of Management	6.210	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
9- Journal of Operations Management	6.029	32.6	13.3	8.1	7.3	10.9	8.2	9.6	6.3	7.7	8.8	11.0
10- Organization Science	5.838	6.5	2.1	10.0	4.4	9.8	8.2	0.0	3.1	0.0	1.6	4.3
11- Journal of International Business Studies	5.539	4.4	2.2	5.0	2.4	1.6	4.0	2.3	1.1	3.1	1.9	2.7
12- Information Systems Research	5.458	0.0	4.5	4.5	0.0	0.0	0.0	3.4	9.4	0.0	0.0	2.0
13- Research in Organizational Behavior	5.167	0.0	0.0	0.0	*	0.0	*	0.0	0.0	11.1	0.0	1.3
14- Leadership Quarterly	4.919	0.0	0.0	2.3	2.0	2.3	0.0	0.0	0.0	1.3	0.0	0.7
15- Journal of Management Studies	4.684	6.3	12.8	6.2	6.2	8.1	4.2	5.1	8.6	5.8	1.1	6.4
16- Journal of Organizational Behavior	4.411	2.2	0.0	2.1	1.9	1.7	3.1	3.0	0.0	0.0	0.0	1.3
17- Project Management Journal	4.362	2.0	2.4	2.2	8.7	5.1	7.1	6.5	15.1	7.1	15.0	7.1
18- International Journal of Management Reviews	4.304	0.0	*	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.6
19- Research Policy	4.242	7.2	4.2	6.2	4.2	8.0	2.7	9.9	4.3	5.0	4.1	5.5
20- Journal of Management Information Systems	4.054	6.3	7.7	2.6	4.1	4.3	4.3	2.2	2.3	4.3	2.2	3.9

*Blank cells mean that the journal was not published in that year.

defined by their authors as *longitudinal*, which probably underestimates the de facto number of longitudinal cases, since many real-time and retrospective cases are likely to follow a phenomenon's unfolding over time. Finally, 30.4% of all case studies adopt a mixture of qualitative and quantitative data sources.

Concerning the data sources, the articles in our sample reflect common expectations as to which are the most diffused sources (interviews) as opposed to the least applied sources (visual data or artefacts), as shown in Table 6 (including a breakdown by journal). The large majority of the articles use interviews (77.6%), 42.9% use first-hand written reports, 42.3% use published sources, 28.4% use ethnography/observations, 6.5% use visual data, while only 3.4% use artefacts.

4.2. Correlations among key features of case study articles

Unsurprisingly, we found a *negative correlation* among *number of cases* studied in an article and the two dimensions of *number of interviews per case* and *period of analysis per case*. For both dimensions, the higher the number of cases is, the lower the number of interviews per case ($r = -0.322$, $p < 0.01$) and the shorter the analysis period ($r = -0.203$, $p < 0.01$). However, the negative correlation between number of cases and number of interviews per case is stronger. We found *no significant correlation among ISI impact factor and number of interviews per case or period of analysis per case*. This means that there seems to be no preference by higher-ranked journals for more interviews or longer periods of analysis of a

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Table 4
Absolute numbers of qualitative case studies per journal and year.

Journal	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Research Policy	6	5	6	4	8	3	13	6	6	6	63
Journal of Operations Management	14	4	3	3	6	7	5	2	3	6	53
Journal of Management Studies	3	11	4	4	6	3	3	5	4	1	44
Project Management Journal	1	1	1	4	3	4	4	8	3	6	35
Organization Science	3	1	5	2	5	5	0	2	0	1	24
MIS Quarterly	4	1	3	1	3	2	5	0	1	3	23
Journal of Supply Chain Management	1	3	1	3	4	0	0	2	3	2	19
Journal of International Business Studies	2	1	2	1	1	3	2	1	3	1	17
Journal of Management Information Systems	2	3	1	2	2	2	1	1	2	1	17
Strategic Management Journal	3	2	0	1	1	2	1	1	1	1	13
Academy of Management Journal	1	0	1	1	1	0	1	3	4	0	12
Administrative Science Quarterly	2	0	2	0	1	0	2	0	0	1	8
Journal of Organizational Behavior	1	0	1	1	1	2	2	0	0	0	8
Information Systems Research	0	1	1	0	0	0	1	3	0	0	6
Leadership Quarterly	0	0	1	1	1	0	0	0	1	0	4
Journal of Marketing	0	0	0	1	0	0	0	0	0	2	3
Journal of Management	0	1	0	0	0	0	0	0	0	0	1
Research in Organizational Behavior	0	0	0	0	0	0	0	0	1	0	1
International Journal of Management Reviews	0	0	0	0	1	0	0	0	0	0	1
Personnel Psychology	0	0	0	0	0	0	0	0	0	0	0

Table 5
Research purpose and design, in total and by journals.

Journal	Example %	Exploratory %	Theory building %	Retrospective %	Historical %	Realtime %	Comparative %	Longitudinal %	Mixed %
Total 352 articles	13.1	55.7	57.7	40.6	7.4	76.1	6.8	17	30.4
Research Policy	15.9	58.7	46.0	73.0	11.1	57.1	7.9	12.7	23.8
Journal of Operations Management	11.3	54.7	58.5	9.4	3.8	84.9	3.8	5.7	45.3
Journal of Management Studies	15.9	50.0	63.6	34.1	15.9	81.8	6.8	36.4	11.4
Project Management Journal	22.9	68.6	40.0	37.1	5.7	74.3	2.9	11.4	40.0
Organization Science	16.7	58.3	75.0	62.5	0.0	79.2	8.3	33.3	29.2
MIS Quarterly	0.0	69.6	56.5	17.4	4.3	82.6	0.0	17.4	26.1
Journal of Supply Chain Management	5.3	42.1	68.4	10.5	0.0	89.5	5.3	5.3	47.4
Journal of International Business Studies	17.6	41.2	52.9	23.5	5.9	76.5	23.5	17.6	41.2
Journal of Management Information Systems	11.8	41.2	70.6	41.2	5.9	76.5	5.9	11.8	35.3
Strategic Management Journal	7.7	38.5	61.5	69.2	7.7	92.3	15.4	30.8	30.8
Academy of Management Journal	8.3	50.0	58.3	58.3	0.0	83.3	8.3	16.7	25.0
Administrative Science Quarterly	0.0	25.0	100.0	75.0	25.0	62.5	12.5	12.5	25.0
Journal of Organizational Behavior	12.5	87.5	50.0	62.5	12.5	62.5	0.0	25.0	12.5
Information System Research	0.0	83.3	66.7	0.0	0.0	100.0	0.0	16.7	16.7
Leadership Quarterly	0.0	75.0	50.0	50.0	25.0	75.0	0.0	0.0	50.0
Journal of Marketing	33.3	100.0	33.3	33.3	0.0	66.7	33.3	33.3	33.3
International Journal of Management Reviews	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Journal of Management	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0
Research in Organizational Behavior	0.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0

phenomenon. Moreover, we did not find a significant correlation between *theory-building* purpose and journal ranking (i.e. impact factor): this is a surprising finding, since one would expect that top-ranked journals would more clearly require case studies to contribute to theory. No *correlations were found between journal ranking and the other (comparative and explorative) research approaches*.

Coming to the significant correlations, we found *weak negative correlations* between journal ranking and *retrospective* case studies ($r_{pb} = -0.180$, $p < 0.01$) and, although at the 5% significance level, between journal ranking and *example* case studies ($r_{pb} = -0.134$, $p < 0.05$) and between journal ranking and *historical* case studies ($r_{pb} = -0.105$, $p < 0.05$). We found a *weak positive correlation* between journal ranking and *real-time cases* ($r_{pb} = 0.137$, $p < 0.05$). We found a *weak positive correlation,* although at the 5% significance level, between ISI impact factor and *number of cases* ($r = 0.109$, $p < 0.05$). Finally, we found a *positive correlation* between journal ranking and the data source type *first-hand written reports* ($r_{pb} = 0.110$, $p < 0.05$). The significant correlations between the 5-years Impact Factor and article features are shown in Table 7.

4.3. Regression and cluster analysis

To identify the potential variables that influence the percentage of case studies published in each journal, we conducted a linear regression analysis. As noted, the regression analysis was made on our journal database, which was created by aggregating the original dataset over the 352 case study articles at journal level.

Our dependent variable is the *percentage of case studies published in each journal*, while selected features of the case studies published in the journal (among the dimensions in Table 1) are the independent variables. We applied the procedure of backward elimination which, in the absence of a theoretical model to be tested and a definite indication of the explanatory variables ex ante, was considered the procedure with greater reliability (Hair, Black, Babin, Anderson, & Tatham, 2006).

Granted that the percentage of articles with qualitative case studies may also depend on exogenous variables excluded from our

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Table 6
Data sources, in total and by journals.

Journal	Interviews (%)	Observations (%)	Visual data (%)	First hand written (%)	Published source (%)	Artefacts (%)
Total 352 articles	77.6	28.4	6.5	42.9	42.3	3.4
Research Policy	61.9	12.7	7.9	28.6	63.5	3.0
Journal of Operations Management	84.9	32.1	1.9	43.4	32.1	0.0
Journal of Management Studies	79.5	36.4	11.4	47.7	47.7	2.3
Project Management Journal	71.4	22.9	2.9	37.1	22.9	2.9
Organization Science	91.7	50.0	12.5	70.8	41.7	12.5
MIS Quarterly	73.9	39.1	4.3	39.1	34.8	8.7
Journal of Supply Chain Management	84.2	15.8	5.3	47.4	10.5	0.0
Journal of International Business Studies	82.4	23.5	5.9	47.1	70.6	0.0
Journal of Management Information Systems	82.4	29.4	11.8	29.4	11.8	5.9
Strategic Management Journal	92.3	38.5	7.7	69.2	61.5	0.0
Academy of Management Journal	83.3	25.0	8.3	66.7	58.3	0.0
Administrative Science Quarterly	62.5	25.0	0.0	62.5	75.0	12.5
Journal of Organizational Behavior	87.5	25.0	12.5	25.0	12.5	0.0
Information System Research	100.0	33.3	0.0	16.7	0.0	16.7
Leadership Quarterly	75.0	50.0	0.0	25.0	75.0	0.0
Journal of Marketing	66.7	33.3	0.0	33.3	33.3	0.0
International Journal of Management Reviews	0.0	0.0	0.0	0.0	100.0	0.0
Journal of Management	0.0	0.0	0.0	0.0	100.0	0.0
Research in Organizational Behavior	100.0	100.0	0.0	100.0	100.0	0.0

Table 7
Correlation between 5-years IF and some relevant article features.

	Retrospective	Example	Historical	Real time	Number of cases	First-hand reports
5-years impact factor	−0.180	−0.134	−0.105	0.137	0.109	0.110
Significance level	$p < 0.01$	$p < 0.05$	$p < 0.05$	$p < 0.05$	$p < 0.05$	$p < 0.05$

analysis, such as the editorial policy of the journal, we selected the following potential explanatory variables for our linear regression model: (a) percentage of cases (over all cases published in each journal) aimed at theory-building, (b) percentage of cases aiming to present examples, (c) percentage of cases with explorative purposes, (d) percentage of historical cases, (e) percentage of retrospective cases, (f) percentage of real-time cases, (g) percentage of comparative cases, (h) percentage of longitudinal cases, (i) percentage of cases with interviews as data sources, and (l) average number of interviews per case. We eventually excluded from the regression model two variables, namely the percentage of cases aiming to present examples and the percentage of case studies with interviews as data sources, because both variables had correlation values with other variables as high as 0.8 or above (Bagozzi, 1994). In order to confirm the hypothesis of normality we used the logarithm function of the dependent variable. This hypothesis was confirmed by analysing the p-plot graph as well as by drawing the normality histogram.

The results are shown in Table 8, which presents our linear regression model. To estimate the linear relationship between the independent variables included in our regression model, we calculated indices of tolerance (Ti) and the variance inflation factor (VIF) for each variable. Both Ti and VIF show values that exclude strong collinearity among the variables.

The regression analysis provides strong results (R2 adjusted = 0.789; F = 23.463) and points out three case features as explanatory variables of the percentage of case studies published in each journal:

- the percentage of theory-building cases, with a positive relationship;
- the average number of interviews per case, with a positive relationship;
- the percentage of retrospective cases, with a negative relationship.

Therefore, our analysis emphasises that an increase in the percentage of case studies in a journal, and hence the probability of having a new qualitative case study published, is positively affected by the fact that an article has a theory-building purpose and by its average number of interviews, whereas it is negatively affected if a case is retrospective. Following these findings, the journals with the highest percentages of case studies seem to emphasise these case features (theory-building purpose, higher number of interviews, and non retrospective design), which are less important for journals that published lower percentages of case studies.

Table 8
Regression model explaining the percentage of qualitative studies published in each journal.

Dependent variable	Independent variables	Beta	Tolerance	VIF
Percentage of qualitative case studies published in each journal (ln)				
	Percentage of theory building cases	0.621***	0.973	1.028
	Average number of interviews per case	0.769***	0.636	1.572
	Percentage of retrospective cases	−0.444**	0.631	1.584
	R2	0.824		
	R2 adjusted	0.789		
	F	23.463		

**$p < 0.01$. ***$p < 0.001$.

4.3.1. Clustering the journals

To identify clusters of journals we conducted an exploratory hierarchical cluster using the Squared Euclidean distance and Ward's algorithm. To cluster the 20 journal we used the following variables: *aim and scope* of the journal, *article's page limits*, *age* of the journal, *average number of articles* per year, *total number of articles* published, *percentage of case studies* published.

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The analysis let us to identify two prevailing clusters (see Table 9). Cluster 1 presents a higher average percentage of qualitative case studies published (3.645%), and is characterized by a significantly higher number of article published per year (61 articles Vs 21 of Cluster 2). Cluster 1 includes also journals with no clear preference in terms of case study purpose (both exploratory and theory-building cases are equally represented in this cluster), but with higher demands in terms of data collection, namely publishing case studies with a higher average number of interview per case (6.4) as opposed to those published in Cluster 2 (2.75) and more extended in length. Finally, Cluster 1 includes journals with a lower average impact factor (5.77) than Cluster 2 (7.1). Cluster 2 journals have a lower percentage of case studies published (3.154%), but a higher presence of theory-building case studies (82% over the total of qualitative case studies published in each journal).

Therefore, even if both clusters are characterized by small percentages of case studies over the total number of articles, a group of journals stands out as substantially oriented to publish only theory-building cases, namely those in Cluster 2. Finally, no particular difference among the two clusters emerges in terms of "aim & scope": generalist and specialist journals are evenly spread in the two clusters.

5. Conclusions, limitations and further research suggestions

This paper analysed 352 articles containing qualitative case studies published in the years between 2002 and 2011 in the 20 top management and business journals. We now explicitly address our research purpose and the research questions we posed earlier.

Concerning the paper's main purpose, that is, to investigate to what *extent* case studies are published in top journals, our findings show that *there is no clear trend in the examined top journals towards more extensive use of case studies between 2002 and 2011.* On the contrary, the results show that the share of case studies over the total number of articles in mainstream journals tends to decrease between 2002 (5.3%) and 2011 (2.8%) or, at least, oscillates. With an average percentage of only 3.7% over the total articles published, cases studies are certainly not a preferred research method for publishing in these journals. Looking journal by journal, the share of case studies varies between 0.2% and 11%. Therefore, for most of these mainstream journals, case studies are more an exception than the rule: one journal even publishes no case studies (*Personnel Psychology*). Interestingly, the *Journal of Operations Management*, the journal with the highest share of case studies over its total articles, only has 11%. These results suggest that qualitative cases are far from becoming a dominant research method in mainstream management studies. In this sense, the claim by George and Bennett (2005) about a revival of case study methodology after the dip in the 1960s and 1970s cannot be confirmed by looking at the 20 top management and business journals.

Concerning RQ1 (*Is there any correlation between journal ranking and the extent of case studies published?*), we find *no significant correlation between journal ranking and the extent of case studies published* (neither in absolute nor in percentage terms). Clearly, our investigation is limited by the fact that it focuses on only 20 journals, while there are dozens of second-tier and hundreds of third-tier journals that publish large amounts of case studies, which might cover a larger share of the case studies published than the correspondent share in the top 20 journals. One of the journals with lowest impact factor in our sample, *Research Policy*, was the one with the largest share of case studies over the total of cases published in the 20 top journals. However, our analysis did not show any correlation between impact factor and percentage of published case studies over the total articles published by each journal. Therefore, further research should analyse the extent of use of cases in a larger number of management journals, because the top 20 journals might not be representative of the management field as a whole. However, their function as role models and their mainstream position is likely to influence the rest of the field.

Concerning RQ2 (*What are the recurrent key features of case studies?*), a majority of cases have exploratory or theory-building purposes (even if only approximately 6% of cases are comparative, which might be considered a requirement for theory-building), while only approximately 13% of cases are used for illustrative purposes. Real-time case studies dominate over retrospective and historical ones. The most widely used data source is interviews. Finally, our study reveals —unexpectedly — that roughly half of all qualitative case studies did not mention how many interviews per case were carried out or the length of the investigation period.

Concerning RQ3 (*How are these features related to each other?*), we identified a *negative correlation* between *journal ranking by impact factor* and *the retrospective, historical or exemplifying nature of a case study* as well as a *positive correlation* between *journal ranking* and *the real-time nature of a case study*. We also found a *very weak positive correlation* between *journal ranking* and *number of cases per article*, and the use of *first-hand written reports* as data source.

Another interesting pattern is the *absence of any significant correlation* between *journal ranking* and *number of interviews per case, length of investigation period,* or *theory-building purpose.* In short, higher-ranked journals do not seem to require more interviews, a longer investigation period per article or theory-building compared to lower-ranked journals. This finding suggests two possible explanations: (1) there are common standard requirements in terms of theory-building, number of interviews

Table 9
The cluster analysis of the journals.

Cluster 1	Cluster 2
Academy of Management Journal	Administrative Science Quarterly
Journal of International Business Studies	Information Systems Research
Journal of Management	International Journal of Management Reviews
Journal of Management Information Systems	Journal of SDupply Chain Management
Journal of Management Studies	MIS Quarterly
Journal of Marketing	Personnel Psychology
Journal of Operations Management	Research in organizational behavior
Journal of Organizational Behavior	
Leadership Quarterly	
Organization Science	
Project Management Journal	
Research Policy	
Strategic Management Journal	

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and investigation period length that are evenly spread among all top journals, or (2) these three methodological dimensions of cases are not relevant for being selected for publication in these journals. The latter alternative would be disappointing for all authors that, in crafting their case study research and addressing them to the top-ranking journals, pay particular attention to these three dimensions – *theory-building* purpose, *number of interviews per case* and *investigation period length* – which can be viewed as quality indicators of case study research. This finding therefore deserves to be further researched, for instance by interviewing the editors and the reviewers at these journals about the quality standards they apply for case studies in relation to theory-building, number of interviews and investigation period length.

Concerning RQ4 (*Which case features influence publication?*), we found that a *theory-building purpose* and *the average number of interviews per case* does favour publication, even though these two effects are irrespective of a journal's impact factor, as implied by the lack of correlation between impact factor and theory-building purpose or number of interviews (see above). This means that case studies with more interviews and a theory-building purpose have more chances of being published in the 20 top ranking journals, but not necessarily in those with the highest rank. On the contrary, *retrospective case studies* seem to negatively affect the probability of publication.

We can conclude that, between 2002 and 2011, case studies have not increased their publication share in top management and business journals – it remains well under 5% of the total number of published articles. Our results quantitatively confirm the widely perceived difficulty in publishing case studies in top-ranked journals (Gioia et al., 2012; Pratt, 2008), even if this difficulty does not seem to increase with increasingly higher journal ranking. But if qualitative case studies account for only 5% of the publications of top journals, what covers the remaining 95% of the scientific output of these journals? Data on a subset of the investigated journals indicate that it is still *quantitative* articles taking the lion's share, about 80%, of empirically based publications in the period 2007–12 (Mukhopadhyay & Gupta, 2014). Thus, despite the calls for increasing the share of qualitative case studies by for instance Otley and Berry (1994) and Stuart et al. (2002) and despite even the explicit invitation to submit more qualitative research to a top journal such as the *Academy of Management Journal* by Bansal and Corley (2011), it appears that the 20 investigated top journals are still reluctant to embrace more widely qualitative case studies. Case studies' relative share of 1–16 (i.e., 5%–80%, indeed any share over 1 to 10) requires a reflection on the *role of* or, taking a more pessimistic tone, *the place left for* qualitative case studies in the journals leading the scientific field of management and business studies. We provide here both a positive and a negative interpretation of the share of qualitative case studies.

The *positive* interpretation of the under-representation of case studies relates with their highly innovative role of creating new theories, concepts or connections between concepts (Tsang, 2014), leaving to quantitative methodologies the more "trivial" task of operationalizing the new concepts and massively test, verify and refine the new theories (Bluhm, Harman, Lee, & Mitchell, 2011). Following this positive interpretation, case studies cannot be too many in numbers (at least not in top journals) because quantitative papers need to be more in numbers in order to conduct the more routine-like job of verifying the claims made by the new theories introduced by qualitative case studies, which can be viewed as more adequate tools to make discoveries and as the "top of the pyramid" in the development of management science.

The *negative* interpretation of the under-representation of case studies is that they are simply regarded as less scientifically rigorous (cf. Pratt, 2008), despite their potential for enabling intellectual discoveries (which quantitative methods more seldom allow to make), or that they are a less appealing research strategy for academicians because they are too demanding in terms of fieldwork, especially if compared to the amount of publishable manuscripts they allow to generate compared to quantitative research (see Gephart, 2004: 461).

However, a better understanding of the role of qualitative case studies in the field of management and business studies would require broadening our investigation, which is limited by its focus on only the 20 highest-impact journals. The case studies use pattern in lower-ranking journals may well be very different, both in terms of occurrence of cases and of the variables we investigated (e.g. number of interviews per case or research purpose). Further research should therefore expand this type of investigation to include a larger number of journals, ideally the 100 top-ranking ones, since case studies may appear much more frequently in lower-ranking journals simply *because* it is so difficult to get them published in top-ranking journals. Furthermore, with a larger statistical base, a clear correlation may appear between impact factor and tendency to publish case studies.

While the above line of inquiry implies further broadening the scope of our investigation of case studies, another relevant further research avenue is digging deeper into the texts of the 352 case studies and conducting a content analysis in search of key emerging theories, concepts, models and findings, perhaps attempting to evaluate the scientific contribution of each single case study.

However, any investigation that restricts itself to the features of published case studies – either their superficial features or deep contents – would not deepen our understanding of the *reasons why* there are so few case studies published in top-ranking journals. Therefore, further research would need to move beyond the mere scientific output – the article – and should capture the reasons behind the emerging publication patterns that derive from the scientific context. Our findings on, for instance, the limited appearance of case studies in top management and business journals, and their apparent preference for large number of interviews or theory-building cases, can only be explained by means of *interviews with journal editors and reviewers*.

Such an investigation can reveal editorial policies as they are applied in practice, and hence the underlying mechanisms and criteria by which qualitative case studies are selected or refused publication, especially compared to (and in competition with) other article types, namely conceptual and quantitative articles. It would be very interesting to collect from editors and reviewers data on the number of submitted qualitative cases, or their acceptance rate, compared to the number of other article types submitted, or their acceptance rate; such information would eventually reveal whether top journals prefer other article types than case studies, and the reasons why, or whether case studies are simply under-represented because of low number of submissions by authors. In the latter case, there might be hope for case studies after all. But in any case, authors of case studies are invited not to wait too long, because one can wonder if so few case studies as 5% are enough to allow discoveries, renewal and radically innovative ideas in the most influential scientific forums of the management field, where apparently 80% of the space and research energy is dedicated to the marginal developments allowed by quantitative methodologies.

References

Bagozzi, R. P. (1994). Structural equation model in marketing research: basic principles. In R. P. Bagozzi (Ed.), *Principles of marketing research* (pp. 317–385). Oxford: Blackwell Publishers.

Bansal, P. T., & Corley, K. (2011). From the editors. The coming of age for qualitative research: embracing the diversity of qualitative methods. *Academy of Management Journal, 54*(2), 233–237.

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Barratt, M., Choi, T. Y., & Li, M. (2011). Qualitative case studies in operations management: trends, research outcomes, and future research implications. *Journal of Operations Management, 29*(4), 329–342.

Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly, 11*(3), 369–385.

Beverland, M., & Lindgreen, A. (2010). What makes a good case study? A positivist review of qualitative case research published in industrial marketing management, 1971–2006. *Industrial Marketing Management, 39*(1), 56–63.

Bluhm, D. J., Harman, W., Lee, T. W., & Mitchell, T. R. (2011). Qualitative research in management: a decade of progress. *Journal of Management Studies, 48*(8), 1866–1891.

Cepeda, M., & Martin, D. (2005). A review of case studies publishing in management decision: guides and criteria for achieving quality in qualitative research. *Management Decision, 43*(6), 851–876.

Chandler, A. D. (1977). *The visible hand. The managerial revolution in American business*. Oxford, MA: Belknap Press.

Dahlander, L., & Gann, D. M. (2010). How open is innovation? *Research Policy, 39*, 699–709.

Dant, P. R., & Brown, J. R. (2009). A journal of retailing retrospective based on ISI web of knowledge. *Journal of Retailing, 85*(4), 527–531.

Dubè, L., & Parè, G. (2003). Rigor in information systems positivist case research: current practices, trends, and recommendations. *MIS Quarterly, 27*(4), 597–635.

Dubois, A., & Araujo, L. (2004). Research methods in industrial marketing studies. In H. Håkansson, D. Harrison, & A. Waluszewski (Eds.), *Rethinking marketing. Developing a new understanding of markets* (pp. 207–227). Chichester: John Wiley & Sons.

Dubois, A., & Gadde, L. E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research, 55*(7), 553–560.

Dubois, A., & Gibbert, M. (2010). From complexity to transparency: managing the interplay between theory, method and empirical phenomena in IMM case studies. *Industrial Marketing Management, 39*(1), 129–136.

Easton, G. (2010). Critical realism in case study research. *Industrial Marketing Management, 39*(1), 118–128.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532–550.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of Management Journal, 50*(1), 25–32.

George, A. L., & Bennett, A. (2005). *Case studies and theory development in the social sciences*. Cambridge: MIT Press.

Gephart, R. P. (2004). From the editors. Qualitative research and the academy of management journal. *Academy of Management Journal, 47*(4), 454–462.

Gibbert, M., & Ruigrok, W. (2010). The "what" and "how" of case study rigor: three strategies based on published work. *Organizational Research Methods, 13*(4), 710–737.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking qualitative rigor in inductive research: notes on the Gioia methodology. *Organizational Research Methods, 16*(1), 15–31.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine Publishing.

Guercini, S. (2004). Developing the researcher-manager interface in the case analysis process. *Management Decision, 42*(3/4), 464–472.

Gummesson, E. (2006). Qualitative research in management: addressing complexity, context and person. *Management Decision, 44*(2), 167–179.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River: Pearson International Edition.

Halinen, A., & Törnroos, J.-Å. (2005). Using case methods in the study of contemporary business networks. *Journal of Business Research, 58*(9), 1285–1297.

Hannah, D. R., & Lautsch, B. A. (2011). Counting in qualitative research: why to conduct it, when to avoid it, and when to closet it. *Journal of Management Inquiry, 20*(1), 14–21.

von Hippel, E. (1988). *The sources of innovation*. New York: Oxford University Press.

Hunt, S. D. (1994). On the rhetoric of quantitative methods: towards historically informed argumentation in management inquiry. *Journal of Management Inquiry, 13*(3), 221–234.

Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm-a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies, 8*(1), 23–32.

Leonard-Barton, D. (1990). A dual methodology for case studies: synergistic use of a longitudinal single site with replicated multiple sites. *Organization Science, 1*(3), 1–19.

Maxwell, J. A. (2009). Designing a qualitative study. In L. Bickman, & D. J. Rog (Eds.), *The SAGE handbook of applied social research methods* (pp. 214–252). Sage Publications.

McCutcheon, D., & Meredith, J. (1993). Conducting case study research in operations management. *Journal of Operations Management, 11*(3), 239–256.

Meredith, J. (1998). Building operations management theory through case and field research. *Journal of Operations Management, 16*(4), 441–454.

Mukhopadhyay, S., & Gupta, R. K. (2014). Survey of qualitative research methodology in strategy research and implication for indian researchers. *Vision, 18*(2), 109–123.

Otley, D. T., & Berry, A. J. (1994). Case study research in management accounting and control. *Management Accounting Research, 5*(1), 45–65.

Penrose, E. (1959). *The theory of the growth of the firm, reprint 1995*. New York: Oxford University Press.

Pettigrew, A. (1973). *The politics of organizational decision making*. London: Tavistock.

Piekkari, R., Paavilainen, E., & Welch, C. (2010). "Good" case research in industrial marketing: insights from research practice. *Industrial Marketing Management, 39*(1), 109–117.

Piekkari, R., Welch, C., & Paavilainen, E. (2009). The case study as disciplinary convention. Evidence from international business journals. *Organizational Research Methods, 12*(3), 567–589.

Pihlanto, P. (1994). The action-oriented approach and case study method in management studies. *Scandinavian Journal of Management, 10*(4), 369–382.

Pink, S. (2007). *Doing visual ethnography*. London: Sage.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.

Pratt, M. (2008). Fitting oval pegs into round holes: tensions in evaluating and publishing qualitative research in top-tier American journals. *Organizational Research Methods, 11*(3), 481–509.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks: Sage.

Stuart, I., McCutcheon, D., Handfield, R., Mclachlin, R., & Samson, D. (2002). Effective case research in operations management: a process perspective. *Journal of Operations Management, 20*(5), 419–433.

Tsang, E. W. K. (2014). Generalizing from research findings: the merits of case studies. *International Journal of Management Reviews, 16*(4), 369–383.

Voss, C., Tsikriktsis, N., & Frohlich, M. (2002). Case research. Case research in operations management. *International Journal of Operations & Production Management, 22*(2), 195–219.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks: Sage Publications.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks: Sage Publications.

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