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(Re)thinking transcription strategies: Current challenges and future research directions

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ABSTRACT

Data transcription is often depicted as an essential and critical stage in qualitative research. As most researchers have experienced, it requires significant time and human resource investment. We focus on transcription strategies, a topic typically missing from the methodology discourse. We explore the biases and challenges of each of the transcription strategies. By analysing 434 academic refereed papers from top journals, we underline the lack of scrutiny over the transcription process, its impact, and strategies taken to conduct it. We also interviewed some of the authors to better understand the challenges associated with transcription. This paper aims at contributing to more reflexivity on the existing strategies regarding transcription and how to increase transparency in qualitative research.

1. Introduction

Over the years, transcription has become a norm in qualitative research (Cassell & Bishop, 2019; Francis & Holloway, 2007). Transcription results from the traditional protocol and convention in qualitative research to record and transcribe interviews (Flick, 2014) and more widely qualitative data. Transcription has many different definitions considering the particular theoretical perspectives that qualitative researchers wish to be embedded with research (Brandenburg & Davidson, 2011). These definitions typically stem from the perspective of conversation analysts to researchers in linguistic anthropology and sociolinguistics (Davidson, 2009). For example, in conversation analysts, transcripts describe many subtle speaker interactions. In management, transcription can be defined in a wider perspective as "the written record of what a participant (or respondent) said in response to a question, or what participants (or respondents) said to one another in conversation, in their own words" (Saunders, Lewis & Thornhill, 2019: 602). It is considered as an integral component of the quality process of interview-based qualitative research (Bell, Bryman & Harley., 2018; Saunders et al., 2019) and is also widely accepted and endorsed as a crucial stage in the process of data analysis (MacLean, Meyer & Estable, 2004). Moreover, the transcript itself comprises data (Ochs, 1979).

If the literature highlights that transcription is an activity leading to a robust and accurate qualitative method (Creswell & Poth, 2017; McLellan et al., 2003), the quality of the transcription itself is often viewed as an aspect of rigour in qualitative research (King & Horrocks, 2010; di Gregorio, 2021). The transcription process is "much more than the mechanical task of writing down from a recording" (Brandenburg & Davidson, 2011: 704) and reflect a theoretical position, rather than a mechanical selection and sometimes an application of notation symbols (Davidson, 2009; Ochs, 1979). For instance, few authors have focused on the challenging aspects of transcription (Bird, 2005; Davidson, 2009; Hammersley, 2010; Kvale, 1988; Lapadat, 2000; MacLean et al., 2004; Oliver, Serovich & Mason, 2005; Poland, 1995). Yet, transcription has long been considered as a theoretically neutral process in the interpretation of verbal data (Flick, von Kardoff & Steinke, 2004; Teerikangas & Colman, 2020). Moreover, the transcribing requires researchers to make critical decisions throughout the process that will affect how the transcripts look like (Davidson, 2009). We highlight that transcription is theoretical, selective, interpretive and representational process that is not immune from several biases (Davidson, 2009; Reissner, 2018) depending on the theoretical perspectives used to transcribe the data.

Transcription can result in errors relating to manageability, readability, learnability and interpretability of the data (O'Connell & Kowal, 1995). As the transcription process requires the researcher to make many decisions (Hammersley, 2010), it also questions the type of strategy the researcher will conduct regarding transcription: self-transcribing, outsourcing transcription or skipping transcription

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altogether. By strategy, we consider the alternatives solutions or approaches about how the researcher may handle his/her data. As it is central to the process of analysis and to the quality of transcript, these strategies play a key role in the final-outcome conclusions, and researchers seem not always aware of the downside or pitfalls of this crucial choice regarding transcription (Mero-Jaffe, 2011).

We aim to explore the pros and cons of each of the above optional strategies for transcribing data, given that transcription is a process that is anything but neutral, strongly linked to the coding analysis phase in qualitative research. We manifest the various challenges that transcriptions pose to knowledge creation, such as biases and misinterpretations as well as the related costs for each of these strategic options.

Our contributions are, first, to add clarity to the role of transcription as part of the methodology in qualitative research. Second, to challenge current frame of mind about the apparent absolute need for conducting transcriptions, and third, to increase the level of disclosures in the use of transcription. Lastly, on the practical side, we suggest ways for authors to be 'cost-effective' in the transcription process.

We focus on transcription strategies of qualitative data in business and management studies rather than discussing qualitative research more generally. Yet, our analysis and findings may be applied for a wider context, such as the whole field of social and psychology studies.

This contribution has theoretical and practical implications for future knowledge creation, where that transcription reflects a theoretical position; it also recalls all biases and ambiguity in transcribing and can lead academics to optimise their resources to reach a more effective way to analyse qualitative data. Whereas until not long ago the idea of using alternative strategies to traditional transcription was merely on the academics' wish list (Neal, Neal, VanDyke & Kornbluh, 2015), we explain why it is now feasible and can contribute to a reliable and valid investigation, in particular in light of innovative technological developments such as Artificial Intelligence (AI).

2. Exploring the choice in transcription strategies

In the following sections we offer a more critical view of transcription strategies. Therefore, we highlight the pros and cons, limitations, and advantages of each one of the strategies in the challenge of transcribing data.

2.1. The transcription as a constructive norm in qualitative research

Many research method scholars advocate the use of transcription (Davidson, 2009; Saunders et al., 2019; Bell et al., 2018). Transcription is a strong enabler for the scholar to gain a better grasp of their data and the meaning of those data. Transcription is often seen only as a mechanical process of turning spoken data into written data. However, the seminal work of Ochs (1979):44 tends to consider transcription as "a selective process reflecting theoretical goals and definitions". In other words, theoretical goals and definitions remain a way to put into perspective the conditions of data production. Therefore, one of the main decisions will be to consider and highlight – or not – dimensions such as silences, performativity and linguistic competence in the transcript (Vanover, 2021). For example, MacLean, Meyer, and Estable (2004) provide a good practical list of notations to report emotional content or inaudible sections.

The transcription process provides occasions for researchers to immerse themselves in their data and develop insight (Vanover, 2021). However, transcription is a constructive activity where selectivity and interpretation are influential (Poland, 1995). The main aspect of transcription is that it should be accurate, exact, and truthful to the origin (Creswell & Poth, 2017; King & Horrocks, 2010; Poland, 1995). However, "what you 'see' in a transcription is inescapably selective" (Miles & Huberman, 1994: 56). Based on phenomenological hermeneutics, Van Maanen (1979) argues that researchers' interpretations of field data are always biased and incomplete and should never be treated as 'facts'. Therefore, transcription is not a simple task as it involves judgement (Rossman & Rallis, 2011). Some of these judgements involve interpretations, and bias might emerge due to earlier knowledge and other inferences (Hammersley, 2010).

The level of details reported in the transcription process depends on the theoretical perspectives chose by the researcher. According to Oliver et al. (2005), transcription practices vary along a continuum between two dominant modes: *Naturalism* and *Denaturalism*. In other words, "some transcripts can be 'thick', but many can, and probably must be 'thin'" (Miles & Huberman, 1994:56). Bucholtz (2007) opposed transcripts that are based on an analytic focus on content from the ones that are based on the form. Within denaturalism – or thin description – idiosyncratic elements of speech (e.g., stutters, pauses, nonverbals, gestures, accents or tones of voice) are voluntarily removed (or at least not taken into consideration) (Oliver et al., 2005). Ignoring these different speech acts implies favouring an atheoretical transcription perspective (see Vanover, 2021). This approach is of particular relevance in ethnography, where transcription is often "seen as tedious, technical, and unproblematic for the most part" (Lapadat, 2000:207). This might reflect a positivistic view given that transcripts tend to be a neutral representation of 'the interpreted reality' and correspond with the original conversational event. Conversely, within naturalism or thick description, every utterance is transcribed in as much detail as possible (Oliver et al., 2005). The researcher chooses to have a close attention to the rich, multimodal features of interactions, including for example volume, voice quality, intonation, emotions (laughter) which carry strong interactive meaning (Hepburn & Bolden, 2012). This is most often seen in conversation analysis studies. Conversation analysis requires a relatively elaborate syntax to track many interactions (see Clavarino, Najman, & Silverman, 1995 or Poland, 1995). Attention is paid to describing the conversation and focusing not only on *what* is said but also *how* it is said. This is the reason why a specific transcription system has been developed and used in conversation analysis (see Psathas & Anderson, 1990); transcribers using conversation analytic transcription use a standardised format called the Jeffersonian notation (Evers, 2011). Lapadat, (2000) considers conversation analysis to lie halfway between a positivistic view and an interpretativist view. An interpretativist approach views transcripts as constructs, meaning that transcribing deals with interpretation; "transcription facilitates the close attention and the interpretive thinking that is needed to make sense of the data" (Lapadat & Lindsay, 1999: 82).

There are a considerable number of textbooks on research methods, many of which are dedicated to qualitative methods; for instance, the Sage Publication website highlights more than 200 textbooks about qualitative methods in business and management. Some of these dedicate a specific section to transcription. A few qualitative research textbooks dedicate considerable space for presenting and discussing transcription qualities and characteristics. Table 1 reports such 13 widely cited textbooks on research method, how they refer to transcription, and the key themes in this association. A consistent message from these textbooks is that transcription requires investing resources – time and energy. The views expressed about the necessity of transcription vary: Flick (2014) and Silverman (2013) really insist on the transcription conventions, whereas King and Horrocks (2010), Rossman and Rallis (2011), and Barbour (2013) pay more attention to the quality of transcription as the major factor. Overall, the literature alert researchers to be cautious about transcription and underlines the limits rather than the strengths of the process. However, discussion in terms of transcription strategies tends to lack in details.

2.2. The transcription as a strategy in qualitative research

Most textbooks argue that transcription is a necessary step in the research process because it helps the researchers to 'know' their data and enables the crucial role of notation in conveying meaning during

Table 1
Transcription detailed in qualitative research textbooks.

Textbooks	Edition	Citations	Pages	Transcription…	Key questions /themes
Barbour, R. (2013). *Introducing Qualitative Research: A Student's Guide*. Sage, 2nd ed.	2nd	1641	5 (cf. chapter 11, pp. 255–259)	• Is a more subtle art than at first it might appear (p. 257); • does not need to seek, or claim perfections (p. 259).	Is transcription always necessary? Must a computer package be employed? Whether to transcribe and how much?
Bell, E., Bryman, A. & Harley, B. (2018). *Business Research Methods*, Oxford, 5th ed.	5th	26,519	6 (pp. 481–486)	• Also very quickly results in a daunting pile of paper (p. 481); • Is a cost (p. 482); • Is full of advantages (corrects the natural limitations, more examination of what people say, permits repeated examination, opens up the data to public scrutiny, help to counter accusations of bias, allows data to be reused) (p. 481); • Is very time-consuming (p. 485).	Doing transcription oneself or use secretarial assistance? Transcribe or not fully transcribe interviews?
Cassell, C., & Symon, G. (Eds.). (2004). *Essential guide to qualitative methods in organisational research*. Sage.	1st	2224	1 (p. 218)	• [encompasses] various systems in use which encompass features such as laughter, coughs, tempo, intonation and so on.	
Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. Sage, 4th ed.	4th 5th in 2018	282,225	Paragraphs (see chapters 32 & 34)	• [is done] using a detailed notation system in conversation analysis (p. 882)	
Flick, U. (2014). *An Introduction to Qualitative Research*. Sage, 5th ed.	5th 6th in 2018	25,770	7 (cf. 22.3–22.5)	• Is a necessary step (p. 299); • Is a system (p. 300); • Is a transformation of recorded materials into text to analyse it (p. 475).	
Given, L. M. (Ed.). (2008). *The Sage encyclopaedia of qualitative research methods*. Sage.	1st	6883	3 (pp. 883–885)	• Is so ubiquitous and taken for granted (p. 884).	
King, N., Horrocks, C. & Brooks, J. (2018). *Interviews in qualitative research*. Sage.	3rd	4606	6 ½ (pp. 143–149)	• Is always a time-consuming and demanding task (p. 119); • Is a process of converting recorded material into text and is a necessary precursor to commencing the analysis of the data (p. 143).	Full or partial transcription? Threats to the quality?
Miles, M. B., & Huberman, A. M., (1994). *Qualitative data analysis: An expanded sourcebook*. Sage, 2nd ed.	2nd	138,544	A paragraph (p. 56)	• Is a matter that can be thick, and probably must be thin (p. 56); • Often erases the context along with some crucial non-verbal data (p. 56); • Is inescapably selective (p. 56).	
Patton, M. Q. (2002). *Qualitative evaluation and research methods*. Sage, 3rd ed.	3rd	78,864	1 (p. 382)	• The transcription process can take several weeks (p. 441). • Doing all or some of your own interview transcriptions (instead of having them done by a transcriber), for example, provides an opportunity to get immersed in the data, an experience that usually generates emergent insights (p. 441)	How to keep transcribers sane? Doing transcription yourself or have it done?
Potter, J. & Wetherell, M. (1987). *Discourse and social psychology: Beyond attitudes and behaviour*. Sage.	1st	12,750	A paragraph (p. 165) + appendix of transcription notation	• Is extremely time consuming (p. 165); • Is a skill that requires practice to perfect (p.165); • Is a constructive and conventional activity (p.165).	
Saunders et al. (2019) *Research Methods for Business Students*. Pearson, 8th ed.	5th	43,603	2 (p. 485–486)	• Is time-consuming; • Needs data cleaning; • Must be linked to contextual information.	What are the alternative solutions to reduce the time needed for transcription?
Silverman, D. (2013). *Doing Qualitative Research: A Practical Handbook*. Sage, 4th ed.	4th	24,339	2 (cf. 13.6)	• Offers more than just "something to begin with".	What are the transcription conventions?
Taylor, S. J., Bogdan, R. & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource*. John Wiley & Sons, 4th ed.	4th	7501	Paragraphs (pp. 170; 272)	• Often produces many insights along the way (p. 170); • Is underestimated; people sometimes underestimate the amount of time for taped interviews to be transcribed (p. 170).	

analysis (see MacLean et al., 2004). The first step is to figure out how much of the data the researcher would like to transcribe (Vanover, 2021) and this step requires critical decisions to be made (Davidson, 2009). Once decided, it appears that most qualitative researchers have their own notation systems for transcribing data (Brandenburg & Davidson, 2011). Based on the extant literature, we can point out four distinct strategies. As Vanover (2021) pointed out, "an easy response is to transcribe atheoretically (…) and simply pay someone to do the work and then code directly from that material". From our point of view, this leads to three different strategies, among which we add the impact of technology. Even though transcription presents an opportunity to get immersed in the data (strategy #1), most researchers have always been searching for strategies to make their recordings accessible so they can skip this laborious and time-consuming process so as to spend more time on the analysis (Vanover, 2021). An alternative is to have it done by an external transcriber such as professional transcribers or research assistants (strategy #2). A recent strategy is also to omit this stage to encourage direct coding, i.e. analysing directly the raw material instead of transcribing entirely the data (strategy #3). Lastly, with the emergence of AI, the automatic transcription of verbal audio documents has

offered a way to have the transcription rapidly done (strategy #4).

2.2.1. Strategy #1: Transcribing data

When the researchers undertake the transcription themselves, it offers better familiarity with and immersion in the data, providing an opportunity to gain insights from the raw data (Bird, 2005). It could lead to clear and in-depth understanding of the data. Further, a systematic transcription can be used verbatim to illustrate research findings. By listening and re-listening to the interview, the researcher may be better positioned to capture details, even those that would otherwise be ignored. In terms of timing, an advantage of the traditional use of transcription is that the researcher does not have to wait for the entire transcription of their material before starting the coding and analysis process. The existence of transcription can be useful to facilitate the development of an audit trail of data analysis, for example by supervisors, or co-authors, or examiners (Halcomb & Davidson, 2006).

There is no doubt that the process itself has some advantages; for example, it forces the scholar to re-read the material a number of times and this is when the data analysis begins. In other words, the process of transcribing, particularly if conducted by the researcher, improves acquaintance with and immersion in the data. Some authors argue that transcribing is the first step of data analysis (Kowal & O'Connell, 2014; Lapadat, 2000). However, one must keep in mind that transcription often refers to a multiplicity of conventions (see Lapadat & Lindsay, 1999) that must be respected to increase the robustness of the process.

Furthermore, the process is often perceived as monotonous and mundane, as suggested by many research textbooks. Therefore, there is a strong propensity for mistakes and simple errors to occur due to a limited capacity or interest to focus on such an arduous task. Thus, particular choices are needed, such as including non-word utterances, repetitions, emotions, and others (Peticca–Harris et al., 2016). Even more importantly, the time-consuming and monotonous nature often lead researchers to outsource this task. This might result in, for example, increased levels of errors in the later parts of the task (Thackray, Jones & Touchstone, 1974). "Transcribing many interviews can also be psychologically draining after hours of such a monotonous activity. Quality of transcripts suffers when both the physical and mental strains become too much" (Matheson, 2007:557). As Tessier (2012) emphasises, the presence of subjectivity in the process leads different authors with different theoretical lenses not to agree on the content of the transcript. Given the interpretative nature of this activity (Poland, 1995), transcription typically results in a bias: "Each approach to transcription brings with it a set of assumptions, and results in a unique representation of the data" (Paulus, Lester, & Dempster, 2014:111). Most of these challenges are caused by mistakes in listening and all these errors may affect the quality of the transcript. Leavy (2014:608) emphasises the 'partial' nature of transcripts, as they neglect significant non-verbal inputs and are prone to subjectivity. In the same vein, Poland (1995) emphasises that omissions occur when transcribers go forward and backward in the audio recording in order to listen to a passage more than once. Yet, the quality of the transcript itself might lead to four deficiencies that highlight the taken-for-granted and atheoretical nature of transcription considered in management and reported in Table 2.

2.2.2. Strategy #2: Outsourcing transcription

Transcription work is a time-consuming process that is regularly outsourced to external transcribers (Bokhove & Downey, 2018) (usually paid transcribers). Thus, it is often seen as a stand-alone one-off task which can be easily outsourced to professional transcribers or to research assistants (di Gregorio, 2021). Saunders et al. (2019) asserts that even a well-trained transcriber may need some 6–10 h to transcribe each hour of interview. Furthermore, in a conversional analysis where a high number of notations are reported in transcripts, one minute of conversation take an hour for experienced conversational analyst transcribers (Wagner, 2018). That is the reason why the costs associated with transcribing – in terms of time, physical capacity, and even in terms of human resources – remain significant (Halcomb & Davidson, 2006). "Interview transcriptions are often boring to read; ennui ensues in face of all the repetitions, the incomplete sentences, the many digressions, and so on" (Kvale, 1988:98). On many occasions the transcription is done by third-party individuals like Research Assistants or specialist firms. Some researchers have involved research participants in developing transcripts, for example in participatory research approaches. When the transcriber is not involved in the research, this might lead to different kind of errors and biases. Poland (1995) emphasises that 60% of the passages transcribed by professional transcribers in his focus group investigation contained some transcriber errors. Jargon and technical words are indeed noteworthy sources of error for the transcriber (King & Horrocks, 2010). Many challenges are associated with interpretation and transcribers, more than researchers, might face difficulties when trying to distinguish 'facts from fiction' (Van Maanen, 1979). In conversation analysis, this is even more challenging as

Table 2
The taken-for-granted and atheoretical nature of transcription in management.

Types of	Definition	Challenges	References
Transcriptionist effect	Misinterpretation of content, unfamiliar terminology, response to emotion-laden tape content, class and cultural differences and language-specific errors.	Lead to a loss or distortion of the data.	MacLean et al. (2004);Poland (1995)
Data loss effect (intentionally or not)	Loss of speed, pause, intonation, song, pace of the talk, hesitation and garbling.	Neglect significant non-verbal inputs and prone subjectivity. Emphasis on the content rather than the form.	Davidson (2009);Kvale (1988);Leavy (2014);Poland (1995);Vanover (2021).
Cost and time consuming effects	Costs associated with transcribing in terms of time, physical capacity, and even in terms of human resources.	Many hours invested in listening, re-listening and typing the words and specific annotations.	Halcomb & Davidson (2006);Hammer & Champy (1993); Saunders et al. (2019);Silverman (2013)
Non-challenging effect	A mundane, repetitive and non-challenging activity.	Due to the time demanded by this activity, most researchers tend to delegate or outsource the transcription process.	Kvale (1988)

transcripts are not the data (Psathas & Anderson, 1990). Therefore, the transcriber necessarily makes inferences as part of the process. It means that during the process of inference, "…if it tells us something about the world beyond what is semantically implicit in the data itself – then the conclusion reached is always open to error" (Hammersley, 2010: 554). When transcription is outsourced and that the researcher code directly from that material, the danger is to "transcribe atheoretically", i.-e., without an informed strategy (Vanover, 2021).

2.2.3. Strategy #3: Omitting transcription

To Davidson (2009), it is obvious that all transcripts are selective in one way or another and this selectivity appears to be necessary (Brandenburg & Davidson, 2011). Given the constructional nature of transcription (Hammersley, 2010), "the need for verbatim transcription in every research project that generates verbal interview data must be questioned" (Halcomb & Davidson, 2006:40). To date, the literature has rarely questioned the necessity of the transcription process itself (with the exception of Oliver et al., 2005).

Direct coding means coding directly from the data (i.e. videos or audio files) and is carried out from the raw material data (Evers, 2011). Direct coding might partly eliminate the process of immersion with the data, thus proving counterproductive to the quality of the analysis. It is, however, still not widely used by the community of qualitative researchers (Evers, 2011; Wainwright & Russell, 2010). Consequently, direct coding means coding directly the data, without any data transcription. A few words only might be transcribed to illustrate quotations but transcription is limited to what is exclusively necessary. Today's technology allows researchers to code directly from data, whatever the kind of data is, e.g. texts, sounds, speeches, images or videos. QDA software has developed from its initial phase (Myers, 1997) and can now effectively help researchers to analyse audio and/or video files (Chowdhury, 2015). QDA software allows researchers to work systematically through a large dataset, thereby benefitting from strong validity (Siccama & Penna, 2008) with the progress in digitalisation information technology (IT) the rise of qualitative computing tools (Davidson, di Gregorio, 2011). Therefore, some authors claim that transcription may no longer be a necessary stage in qualitative analysis (Evers, 2011). Silverman (2013) suggests caution when using audio and video data, due to their complex nature. Silverman does not provide a substantial explanation for this, but their complexity might arise from the lack of specific methods available for video analysis. Paulus et al. (2014: 153) argue that "direct coding can also avoid some of the problems associated with the feeling distanced from the original data through transcription". Therefore, transcription is never 100% omitted. Specific examples from the data always have to be reported somehow in the final report.

2.2.4. Strategy #4: Applying AI to generate transcription

It is over a decade now, that qualitative researchers tend to increasingly use automatic speech recognition systems or voice recognition software to automatically transcribe digital voice recordings without typing the data (Matheson, 2007). di Gregorio (2021) provides an historical view of transcription tools that started with dictation and transcription software in the late 90s and currently consider automatic transcription. Three decades ago, researchers had to revoice their audio files to produce transcriptions through a dictation package or voice recognition software. A more recent technology creates automated transcripts that reduce the transcriptionist's time in capturing words (Bokhove & Downey, 2018). This emerging strategy so far mostly available in English only, is still developing. While basic packages, such as those offered by Team tend to suffer from problematic accuracy, in particular when the speaker have a-typical accent, there are better systems, such as those used by major TV networks to produce fairly accurate sub-titles. Even the better ones are based on probabilities and may entail errors (Karlsson, 2020). Nevertheless, the impact of these technologies is still a matter of debate in the literature for conversation analysts (see Bolden, 2015; Bokhove & Downey, 2018). Whatever forms of AI technology used (speech recognition or automated transcription), researchers need to understand the affordances it offers and align it with their approach to the data collection and data analysis (di Gregorio, 2021).

3. Methodology

We explored management journals to check whether authors are more likely to underline their transcription strategy, whether it is done by themselves, outsourced, skipped to code directly the data, or used AI. To investigate the way transcription is displayed in academic journals, we searched for disclosures in all the papers published over the last 15 years (between 2004 and 2019) in four top management journals (e.g. impact factor >5.8) – *Academy of Management Journal* (AMJ), *Administrative Science Quarterly* (ASQ), *Journal of Applied Psychology* (JAP) and *Journal of Management Studies* (JMS). This method follows the approach adopted by other scholars in similar studies when selecting journals. Such studies used a sample they considered relevant and representative of top journals – based on various quality indicators, like the ISI impact factor or the ABS list. Past examples are Baruch and Holtom, (2008), Hu and Wu (2014), and Saunders and Townsend (2016).

We used the following key words: "transcribe", "transcribed", "transcribing", "transcription", and "transcripts". We ended up with 490 papers, as following: ASQ (n = 76), AMJ (n = 185), JMS (n = 164) and JAP (n = 65). We exported all the papers in the qualitative research software NVivo 12. We then browsed all documents to investigate how the papers deal with transcription. In total, we browsed 1057 occurrences dealing with one of the following key words: "transcribe", "transcribed", "transcribing", "transcription", and "transcripts". When we read through those occurrences, we realised that some papers do not really consider interview transcripts but instead identify some references about transcription, future avenues of research involving transcripts, or refer to existing transcripts such as reports, blogs, and any other kind of public transcript. 56 papers did not really publish any information about the transcription process itself, albeit mentioning it under one of those key-words, which is simply inappropriate, as the readers should be able to judge whether or not transcription should have been conducted. Therefore, we deleted these papers from our sample and ended with a final sample of 434 papers, as following: ASQ (n = 66), AMJ (n = 172), JMS (n = 150) and JAP (n = 46). The full list is available from the first author' – interesting scholars may email the corresponding author.

We added a second phase to the study: we contacted the authors of the papers from our sample directly. The idea was to investigate whether transcription was perceived as an issue when they did their analysis. We hypothesised that the lack of information about the transcription process is influenced by the size of publications. We considered four series of feedback, contacting 59 authors, and collecting a total of 25 responses by email:

1) *From the authors who only mentioned that interviews were transcribed, with no further explanation*. We wanted to investigate why these authors did not elaborate or explain and discuss possible biases in their transcription process. We contacted 23 authors by email and 35% responded.
2) *From the authors who referred to reliability or possible inaccuracy or possible errors associated with the transition process*. We wanted to investigate what they meant by a possible bias caused by the transcription process. We contacted 10 authors by email and 80% responded.
3) *From the authors who outsourced the transcription process*. We wanted to investigate whether they were aware of any bias associated with outsourcing the transcription process. We contacted 12 authors by mail and 50% responded.
4) *Last, from the authors who used specific CAQDA (Computer Aided Qualitative Data Analysis)* software. We wanted to investigate why

they used this kind of software to code their textual data given that such software can also help with some direct coding from the audio/video. We contacted 14 authors by mail and 21% responded.

In our sample, no author applied automatic transcription (Strategy #4), which should be expected bearing in mind the novelty of the process, and the fact that published papers were conducted few years ago. Moreover, researchers might use dictation software or voice recognition software but do not report it in their manuscript and have not specified this issue during our interviews.

4. Results

In the literature part, we suggested three kinds of possible strategies for any transcription purpose. Out of the 434 papers, 15 % do not reveal any information about the transcription process. This does not mean that the transcription was skipped in those studies, yet no information at all was given about the crucial strategy in those qualitative studies. A total of 369 papers (i.e. 85% of our sample) had only provided the minimum information about the transcription phase, displaying only the words "transcript" and "transcribed" in the manuscript. Only a few papers went beyond this basic information.

Among these 369 papers, 275 (i.e., 63 % of our sample) mentioned that interviews have been transcribed. An example for a typical sentence found in most papers is: "Interviews were taped and then transcribed for analysis purposes" or, more briefly, "All interviews were recorded and transcribed." It appears that transcribing becomes such taken for granted in qualitative research that the transcription strategy is often omitted in academic papers. Moreover, none of these papers revealed any possible bias, error, or challenge during the transcription phase. Ninety-six papers (22 % of our sample) provided even less details about the transcription process. These papers only mention the transcript that is ready for the coding process. In other words, a typical sentence is "We began coding by reading interview transcripts and marking potential codes in the margins" (ASQ, 2017); or "Transcripts were coded and analysed thematically" (JAP, 2015); or "After multiple readings of the transcripts of the interview recordings, the first and second authors sorted the responses into the four categories described above." (JMS, 2005). A minimal of information is given by displaying the number of pages or any assistance with transcribing the data. More precisely, 69 papers (16 % of our sample) indicated the number of pages that the transcription process ended with. This indicated the volume of data that the researchers had to deal with (up to 3300 pages of data). Thirty-two papers (7 % of our sample) revealed that the researchers had help with the transcription. These papers clearly mention that "all interviews were voice recorded with permission and professionally transcribed" without mentioning any bias and limitations originating from this outsourced activity.

Therefore, from our data (with a total of 434 papers), we can learn that indication regarding the transcription strategy is often omitted in academic papers. No less important, 15% did not describe anything about transcription. Only 22% just wrote "transcript", "transcribed" or "transcription" in their manuscript. 63% provide a bit more of information, among which 7% emphasising that transcription was outsourced. We also have a lack of information to state whether researchers transcribe their data themselves or not; maybe researchers don't do their transcription on their own and thus do not wish to acknowledge that the process was outsourced to professional transcribers.

Some papers (2 % - i.e., 8 papers) emphasise a no-transcription strategy. As we already mention, direct coding does not mean a total absence of transcription, but transcripts are limited to the text illustrating examples. This might be explained by technical constraints that lead to the use of extended notes, or the absence of transcription.

"The interviews were recorded and transcribed, except in a few cases where the participant did not consent to be recorded" – AMJ, 2018.

"For the two cases for which recording was not possible (at the informants' request), we took notes and wrote detailed reports immediately afterward" – AMJ, 2016.

"Transcripts of tape recordings could not be produced because the noise level was too high at most business sites" – JAP, 2007.

"[interviews] were mostly tape-recorded and transcribed. Where this was not possible, due to respondents' unease with being tape recorded or technical difficulties such as background noise, extensive notes were taken during and immediately after the interview and written up within three days" – JMS, 2008.

In our sample, only one paper use a conversational analysis methodology. However, this paper only highlights in the introduction section that "*interactions among technicians were videotaped, transcribed, and analyzed in detail*" (JMS, 2015). In the methodology section, the author does not provide any specific method of notation nor details about the transcription process.

The absence of transcription can also occur when researchers are dealing with material other than textual data; therefore, we also investigated the number of papers using Computer-Aided Qualitative Data Analysis Software (CAQDAS), assuming that the use of software could encourage direct coding. Of our sample, 98 papers (22 %) use CAQDAS software to analyse data (61 papers use NVivo or NUD*IST, 36 papers use ATLAS.ti (2019) version) and one paper uses The Ethnograph). However, in a wide majority of cases, the use of CAQDAS software is to deal with text – not videos or audio files for a direct coding approach (e.g., a "no transcription" strategy). Two papers explicitly explain that no transcription was used for the survey. The researchers coded the data straight from videos. For that purpose, they used two specific video programs that allowed them to annotate the files.

"Two coders were extensively trained and used Interact software to code the data. Interact is a professional annotation software for audio or video files and allows the coders to work directly from the real-time recordings, rather than transcribing the entire verbal content first." – JAP, 2017.

"For the dance data, we worked from transcripts and video to code, whereas, for the design data, we primarily worked from the raw video data of OutDesign to code. For OutDesign, we would watch the video, starting and stopping, to summarise interactions (including the gist of the conversations, the interactions among the speakers, and any notable physical expressions, such as the handling of particular items)." – AMJ, 2015.

Given the Reasons and logic to explain the paucity in discussing transcription and the lack of precision regarding transcription strategy, 29 authors are were contacted under the different themes we identified. The interviewees acknowledge that they do not report much in academic papers about transcription. The main reason given was that reviewers do not expect much as well; therefore, there is no reason to disclose more about transcription:

"I did not write much about transcriptions in the papers because the reviewers never seemed to want to know anything about this." (RW).

"Perhaps we simply didn't consider that transcription as a process was an issue – and neither did the reviewers!" (SG).

"In my published papers, I have never said more than simply reporting the fact that audio recordings were transcribed." (TR).

"The transcription process didn't seem central to the explanation of methods and we didn't do anything unusual in the process, hence why we omitted a fuller description." (EHF).

The following example illustrates that the transcription process is often viewed as challenge-free and confirms the widespread taken-for-granted nature of the transcription process:

"I would say that there was nothing particular to report about the transcription." (MM).

Another reason is because of the lack of space in the paper; therefore, when sparing some space in long manuscripts, the transcription process is not considered.

"There is so much to explain in a qualitative study, so one consideration was available space". (EHF).

"Part of the reason for not providing even more details - here and elsewhere in the paper - has to do with space constraints more than anything else." (EC).

"Indeed, in the manuscript we did not include too much information on this step to avoid further increasing the length of the article." (JH).

Else, it is believed that the process is considered unproblematic; therefore, there is nothing much to say about the process:

"I don't remember any particular challenges getting the audio files transcribed – we have a longstanding relationship with an experienced transcriber who does a great job. I think we didn't discuss the transcription process because it seemed relatively unproblematic and the constraints of the word limit encourage us to focus on other, more challenging areas" (JPD).

"I did not meet challenges when doing the transcribing" (LS).

"It was just a straightforward verbatim transcription of audio interviews by a professional company so not much room for biases to come into play." (KTG).

Interestingly, transcription is often considered as a straightforward process, and a useful alternative for transforming audio files into text:

"I see this part of the process as relatively straightforward and mechanical. The transcription process is a way to create a text version of the audio file where the research recorded a research interview." (TR).

"I always prefer to have interviews transcribed. I find it much easier to pick up the detail by reading the transcript though I do also listen to the audio file to see if there are any nuances to be picked up." (JPD).

Transcription is seen as a necessary stage to code the data and facilitates the cooperation between co-authors in case of co-authorship.

"For me, it is essential to have text in order to analyze data. Text segments are the unit of analysis." (TR).

"Personally, we found it easier to code and share codes by transcribing the interviews." (EC).

"So the transcription was a practical method to share the interview between the co-authors. It was also essential in order to send it back to the interviewees to guarantee that we would respect the detail of what they told us." (SG).

Transcription is not without its challenges, particularly with recording problems and language issues.

"The only problem that I recall with the transcription process concerned the difficulty in grasping a word or two due to non-native English speakers' accents." (KHH).

"In the transcription per se, the main difficulty was the transcription itself, as I did not use any software to do it (…) My recordings twice suffered from glitches too. So I tried to remember what has been said during the interviews and if needed I contacted again my interlocutor (…). So to sum up, I faced as challenges: the technological limit of the artefacts used to record, the time I spent to do the transcription (I had at the more about 600 pages of transcriptions), the issues I faces while dealing with three different languages."(SC).

Transcription is increasingly facilitated with the use of software and AI tools. Nevertheless, whatever tool is used, manual editing might still be necessary to correct errors in the transcription process.

"Even now, I have used AI transcription – but it has severe limitations. Transcripts still need quite a bit of work. (…)- although AI transcription works reasonably well for a "standard" accent (e.g. mother-tongue Canadian English, and most mother-tongue UK or US English speakers) – there are many errors when speakers have other accents." (TR).

"Until very recently I have not been satisfied with automated transcriptions using voice recognition. I used Dragon for a while, but it takes some time to train and correcting mistakes can be tedious. I am now using Otter.ai, which is a lot better, but still requires quite a lot of manual editing." (RW).

Transcription has to be conducted in an accurate way to improve rigour in the qualitative research.

"It is important to have accurate transcriptions in text, so that the researcher can engage in appropriate and meaningful analytic work." (TR).

"We listened to the recordings whilst checking the transcriptions for accuracy which was time consuming but ultimately allowed us to become even more familiar with the data." (EHF).

"I use a service so I don't need to transcribe interviews myself. I've used this service before and have found the transcriptions to be done well. I can let them know about key terms which are not in public discourse to increase accuracy." (SS).

Explaining why direct coding (e.g., from raw data) would not be possible, three challenges with direct coding were raised: time, coding and team working:

"We only had audio, not video, and it would ultimately (I feel) have been a longer process to work direct from the audio particularly when working with a team." (EHF).

"The coders separated long or multiple statements to be separate messages. That way each message clearly linked to one code. I don't think this could have been done effectively by coding directly from the audio. For a new project we have been trying to code direct from audio but we found it takes a lot more time. So we are in the process of getting the new audio data transcribed." (DMK).

"It is possible to code audio but we find that much more time consuming." (EC).

Overall, some researchers might be sceptical about the direct coding process.

"When asked how would he consider 'direct coding from row data' if he was reviewing a paper that used direct coding – the answer was clear: He would be sceptical. He would expect the transcription process to be conducted". (BB).

5. Discussion: Current and future trends of transcription

We contribute to the continuous debate and discourse of improving qualitative research (Cartwright, Teerikangas, Rouzies & Wilson-Evered, 2010). Our results show that transcription as part of the methods section tend to be under-addressed in qualitative academic papers. They also highlight the taken-for-granted nature of transcription by researchers in management, often considering transcription as a mechanical task. In the vein of Bird (2005), Davidson (2009), Hammersley (2010), Kowal and O'Connell (2014) and Poland (1995), we question why transcription is under-addressed in this way. While we focus on the field of business and management studies our findings may be applied for a wider context of the whole field of social and psychology studies.

Given the lack of information highlighted in the manuscripts, we could not draw the proportion of each transcription strategy. Most researchers seem to transcribe their data on their own – or at least they are not transparent enough in the way they report the way to transcribe data. Even though qualitative research is now an accepted paradigm, in particularly to emerging phenomena (Lô & Diochon, 2019), it is widely used and considered rigorous and valuable (Cassell & Bishop, 2019; Gioia et al., 2013), we identified a significant lack of disclosure and representation of this method. Although transcription is clearly considered a crucial phase in qualitative studies, none of the 434 papers we reviewed highlights the challenges of the transcription process. For example, it is possible to apply the punctuation system of written English and some other languages onto transcribing recordings of spoken language. In so doing, scholars may produce more orderly, indeed more formal, transcripts of what was "said". Unfortunately, it is rare to find a researcher even acknowledging that they applied punctuation conventions of written English in their transcripts. Maybe the lack of space in academic papers forces researchers to reduce their contribution and methodology is often a section that is streamlined. Poland (1995) calls for greater reflectivity about *whether, when* and *how* we use transcription.

Even if we take the lower estimations of both Bell et al. (2018) and Saunders and Townsend (2016) that it takes at least five hours of

transcription time for each hour of interview, with one interview typically taking one hour, this means an average of 175 h for one qualitative paper. Therefore, we fully understand the temptation to outsource this activity, even if it seems to bring more biases to the analysis. Our results show that a few researchers disclose and, more importantly, acknowledge this outsourced practice. Given that a significant portion of the reviewed papers did not highlight any information about transcription, we assume that the proportion of outsourcing transcription strategies is higher than these evidences.

We argue for a full consideration of transcription in academic papers presenting qualitative studies. Researchers need first to consider the amount of the data they would like to transcribe (Brandenburg & Davidson, 2011; Davidson, 2009; Vanover, 2021) and to view transcription as a process reflecting theoretical goals and definitions (Ochs, 1979). Our findings show that transcription is typically seem as an atheoretical and is taken for granted. More disclosures should be presented in academic papers. This is in line with the suggestion that the amount of ""information needed by the researcher" depends on the researcher's methodological approach, whether linguistic, conversational, or phenomenological" (Bird, 2005: 230).

Finally, a very few papers favour direct coding and thus tend to skip transcription. Although transcription of recorded data is a necessary step towards their interpretation (Flick, 2014), scholars like Halcomb and Davidson (2006) and later Evers (2011) have also questioned why researchers would transcribe a recording at all. Given the digitalisation of qualitative research over the last decades and the systematic use of software these last years, we argue that transcription can be avoided with the help of new qualitative data analysis (QDA) software, which is capable of helping researchers to perform direct coding. The qualitative studies have not yet benefitted from IT and AI to that extent, although the introduction of QDA software has made the outcomes of analysis more rigorous and improved the life of scholars. We suggest that, with developments in digitalisation, similar progress to that achieved by quantitative analysis is reaching maturity and could also be achieved in qualitative studies. Our analysis of four top scholarly journals in management manifests that, currently, scholars refrain from using such technologies. Coding directly from the audio (or video) format and omitting transcription might also encourage researchers to develop the use of annotations and memos, ensuring that the coding analysis is more grounded and closer to the data. Even though memos remain useful in convincing qualitative research (Jonsen, Fendt & Point, 2018), publications do not always emphasise the crucial use of memos in their analyses. Therefore, a more direct approach to coding – i.e. without transcription – may force the researcher to keep a better track of their analysis. As Vanover (2021) suggested, these strategies should not encourage researchers to forget reflexivity about their data such as the theoretical perspectives.

Evers (2011) shares his experience in directly coding audio or video files instead of transcribing those files. He emphasises the key advantage of direct coding on audio files as the time gained in not transcribing whole swathes or irrelevant segments of data (as we never use and code 100% of the transcript). Conversely, he argues that coding audio directly goes too fast: the lack of reflection on what is heard contradicts with time often needed to process the text and decide how to code or analyse it. Overall, Evers (2011) concludes that apparently it requires more effort to code directly than to read transcripts. However, dispensing with the transcription process might question the way many methodologists feel about transcription – i.e. that the transcription is analysis; or that it is a vital warm-up for more in-depth analytic work; or that it provides cognitive ownership and strong insight about the data (Saldaña, 2011).

6. Implications and recommendations to authors

Despite the need to be explicit about transcription (Davidson, 2009), the process of transcription itself as well as its implications for the validity and reliability of the study are often poorly described in published research. Our findings converge with some past research (Poland, 1995), suggesting that the transcription tends to be a hidden component of any qualitative analysis and lacks representation in many publications. Scholars fully transcribe interviews, without disclosing any bias or limits emerging from the transcription process (Bell et al., 2018; Saunders and Townsend, 2016) and without considering three existing strategies in transcribing data: doing the job himself/herself, get the job done and consider direct coding. They also apply other strategies such as outsourcing the process (to either paid or unpaid others), or, even worse, neglect to discuss the process of transcribing albeit using it.

Despite its crucial need in qualitative research, transcription is prone to biases, is time-consuming, increase errors, loss and alterations of the data and has many constraints (Tessier, 2012). Consequently, for the researcher, the temptation to outsource this task is great, and bring more biases and errors. Also, skipping the transcription phase in the research process can help reduce sources of these errors due to 'middle-man' intervention in transcription. Moreover, one issue in conducting studies is the replicability of the work. If a piece of research is conducted by different scholars (or laypersons – many transcriptions are outsourced by academics to laypersons or students), the outcome of the transcription might not be 100% similar. By "retaining the original data", we mean, "Audio-recordings preserve some of the sounds from the occasion that was recorded, and in particular (usually) those sounds within the frequency range relevant to most human speech" (Hammersley, 2010:13).

An emerging strategy is to skip transcription and code directly the data. Eliminating the need for transcription will raise new questions: How will the omission of transcription as a stage in the data analysis process affect the quality of theoretical insight? Will it affect styles of theorising (Cornelissen, 2017)? What might a researcher jeopardise by giving up transcription? The last point acknowledges that ending transcription would mean further reliance on IT/AI. As the norm for so long time (Miles & Huberman, 1994), the use of traditional transcription reassures the researchers that their method is accepted and well tested, justified, and reliable. Transcription turns the raw data into visible presentation, helping to make sense of the data.

Lastly, an emerging technology may mark the practical end for manual transcribing. With future improvement and the growing development of algorithms, AI will perform transcription in a more reliable manner and provide "a time-saving boost to the analysis process (di Gregorio, 2021). Even if AI will perfectly automatically generate reliable transcripts, the researchers will still need to review and familiarise themselves with the data. As Tessier (2012: 457) highlighted, "technological advancements should be considered as a way of improving data management, rather than a way of replacing older methods".

Future thought and research might concern coding directly from an audio file (e.g., direct coding); this allows the richness of the interview to be captured and retained. Using QDA would not interfere with what Klag and Langley (2013) label as 'conceptual leaps', contributing to scholarly progress. Furthermore, dispensing with transcription will not affect the development of insights from the work. By retaining the richness of the data, the researcher(s) can actually achieve better quality and trustworthiness of the process and their conclusions, which are critical for the essence of research.

Therefore, we offer a few guidelines for qualitative-oriented scholars conducting studies that use transcription. The first guideline resulting from the study is a clear need to explicate the transcription process rather than take it for granted. The transcription process should be reported, providing the following details:

6.1. Information about transcription should cover

- To what extent the transcription method highlights the chosen theoretical perspectives?

- How much data did the researcher consider in the transcription process?
- What was the outcome of the transcription process in terms of pages or words? (e.g. length in terms of pages, words, hours of transcription.)
- How many hours on average did the transcription take for each interview?
- Was the researcher assisted with the transcription? If so, by whom (research assistant; professional service)? Did the researcher still get familiar with the data using the recordings?
- Did the researcher use any IA software in the transcription process? To what extent help the researcher in dealing with transcription?

6.2. *Rigour in the transcription process*

- Did anyone verify the accuracy of the transcriptions and oversee the translation of the interviews?
- How did the researcher consider and overcome the potential loss or distortion of the data?
- If the researcher was assisted with the transcription, how did he/she get accustomed to the data?
- If researchers used any video or audio file as raw data: Why did the researcher do consider direct coding?

According to Vanover (2021), rigorous qualitative work is not built from the unreflexive markings of paid transcribers and automatic coding systems. From our result, we can highlight that rigour rather comes from a reflexive approach to transcription, considering the theoretical perspectives under considerations and the amount of details the researcher needs to transcribe.

7. Conclusion

This paper questions the transcription strategies as highlighted by academics in their research papers. To the best of our knowledge and to date, academics have never questioned the relevance of the transcription process for doing research in management; it is simply taken for granted. Consequently, our analysis of 434 academic refereed papers from top management journals highlights that the transcription process is rarely mentioned nor considered in line with theoretical perspectives. Transcription is an interpretative act, rather than simply a mechanistic technical procedure. As pointed out in the introduction, it is theoretical, selective and representational process. We underline reflexive questions for researchers to better consider transcription beyond a mechanical tool and what should be reported in academic papers.

Like any study, our paper has some limitations. We mainly considered transcription as verbatim. We have not considered other types of transcription such as conversation analysis: in some specific situations such as conversational analysis, it may still be used to develop transcription notation. Else, basing our analysis on only four management journals (e.g. *Academy of Management Journal* (AMJ), *Administrative Science Quarterly* (ASQ), *Journal of Applied Psychology* (JAP) and *Journal of Management Studies* (JMS)) imposes another limitation to your analysis.

Maybe in the future, the process of analysis of qualitative data will not have to include traditional transcription and most researchers will skip transcription to code directly their data. The development of complex algorithms is expected to lead to new ways to think about transcription. However, does this move to transcription conducted by expert system software and packages really improve research quality and rigour (and coding process)? Certainly not – because good research depends on a good coding process; therefore, the influence of transcription over the quality of research still needs to be demonstrated.

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