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How to use thematic analysis in qualitative research

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Thematic analysis has received increased attention from the research academic community, echoing Braun and Clarke's (2006) influential argument of its theoretical accessibility and flexibility. Along with its current status, dilemmas have arisen in regard to its practice as a result of escalated demand for analytical software programs. Synchysis, the rhetorical practice of creating bewilderment by scattering words, endures in critical reviews and in the analysis of data derived from social media platforms. This paper departs from a simple replication of existing studies by addressing current issues as a result of the evolution of thematic analysis. Furthermore, it outlines specific implications (step-by-step guidance) while incorporating the somewhat overlooked phase of the creation of conceptual diagrams and theory-development during the stages of conducting a rigorous thematic analysis.

Keywords: *thematic analysis, qualitative research, theory-building/development*

1 INTRODUCTION

Thematic analysis is an extremely valuable analytic tool for qualitative studies that, if done properly, certainly does not fail to provide insights into a phenomenon under investigation or even theory-building. Its importance and advantages are stressed in various books and recent academic articles (Braun/Clarke 2021; Clarke et al. 2015; Joffe 2012; Terry et al. 2017; Vaismoradi et al. 2013). Even so, an argument put forward by Braun and Clarke (2006: 97) seems to endure. In the conclusion of their intriguing paper, they stated that thematic analysis 'is a poorly demarcated and claimed, yet widely used' analytic method. The very fact that their paper received so much academic attention is proof that thematic analysis is widely used. But, is it still a poorly demarcated and claimed form of analysis?

It is extremely hard or even impossible to provide adequate evidence to address the above question. Conceivably there are numerous qualitative studies that have used, and acknowledged the use of, thematic analysis. Others may have used variations of it, but may have made claims of clustering or content analysis. Nonetheless, there are researchers who stress the sharp dissimilarity of such forms of analysis or/and distinguish between and discuss each of these thoroughly. Essentially, thematic analysis is a flexible tool that provides a qualitative, detailed and nuanced account of data (Braun/Clarke 2006), whereas content analysis is regarded as a more descriptive and quantitative analytical approach that relies on quantified measures. For instance, the recent study by Christou et al. (2023), which involved analysis and clustering of content derived from a social media platform (in the form of reviews), revealed six

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'clusters'. It could be argued whether these clusters (which were generated automatically by software using specific algorithms) might also be regarded as 'themes'. Obviously, each cluster in that study represents a specific topic (for example, the first cluster deals with 'space and time'). Although the researchers labelled this cluster 'space and time' based on the prevalence of and interconnections of terms linked to space/time, they did not use their cognitive and evaluative skills to form these clusters (that could potentially inform the construction of 'themes'). Nonetheless, who can really argue that the creation of a theme necessarily requires the cognitive skills of the researcher, and hence should be conducted 'manually' – that is, without the aid of computers? Or, how easy is it to conclude that content analysis does not lead to the generation of specific clusters that may also be labelled as 'themes', or that thematic analysis does not involve a thorough analysis of the 'content' of information derived from various sources, be they interviews or focus groups?

The scope of this paper is not to enter into a rather *chaotic* and possibly endless discussion of what distinguishes thematic analysis from other similar forms of analysis. Neither does it attempt to replicate existing papers regarding thematic analysis that explain in detail the epistemology, procedures, and advantages and disadvantages of this form of analysis (see for instance Braun/Clarke 2006; Joffe 2012). Instead, the aim of this paper is to deliver specific implications on the use of thematic analysis while acknowledging how thematic analysis has evolved and developed in recent years. Specifically, researchers emphasize an even greater need for trustworthy qualitative analytical methods (Nowell et al. 2017), and much has changed over the last few decades.

Nowadays thematic analysis is not only used in the case of qualitative information derived from sources such as focus groups and interviews. It is increasingly being used for the analysis of information derived from the internet and social media platforms, such as in the form of online reviews and e-comments. It is also used for the analysis of existing commentaries, literature and critical reviews (Berbekova et al. 2021; Sodhi/Tang 2018). Furthermore, journals and reviewers may *demand* rigorous analytical demonstrations that are supported by sophisticated software programs that use complicated algorithms. This may pose a significant dilemma for researchers who may be more reluctant to use such programs, particularly due to these programs' inability to demonstrate cognitive critical analytical skills (compared to manual analysis). It is left to the discretion of the reader of this paper to conclude whether this 'demand' is a manifestation of today's society, which relies heavily on technological means to perform tasks and analyse information, and/or the prevalence of perceptions of 'undervalue' of manually conducted thematic analysis. In fact, this undervalue bias is not only directed towards manual thematic analysis, but extends to the general use of this form of analysis in qualitative academic theoretical and empirical studies and theses. Indeed, Braun and Clarke (2014: 1) state that they received emails from doctoral students and researchers who have been told by others (such as reviewers) that thematic analysis is a descriptive and 'not sophisticated enough' method that requires no interpretive skills.

This paper progresses by providing initial understandings and key critical considerations of thematic analysis while presenting the case of the current dilemma over the use of technological means (that is, software-assisted programs) to conduct thematic analysis. It then provides specific directions for and implications of how to conduct a thematic analysis, acknowledging current practice (such as its use in critical reviews) and the implementation of different software programs. A critical step in the creation of conceptual diagrams and theory-development facilitated by thematic analysis,

overlooked in previous papers, is also acknowledged and presented for future implementation.

2 WHAT DOES THEMATIC ANALYSIS ENTAIL?

2.1 Initial understandings and critical considerations

Thematic analysis entails the identification, analysis and interpretation of themes within a qualitative data set. The term 'theme' originates from the ancient Greek *θέμα* (thema), derived from the word *τίθημι* (títhemi), meaning 'I put' or 'I place'. In its broad sense it can imply differing understandings linked to how the term is used within a contemporary thematic analytical context, such as 'I put my information in order/categorize it', 'I place certain propositions', 'I assign specific information in a specific (theoretical) place'. Although it is hard to establish when precisely the term 'thematic analysis' was put into practice in the context of qualitative research, there is evidence of scientific thought linked to themes (*themata*) in the 1970s (Holton 1975), if not earlier. Of note is the fact that the method has evolved, and is widely referred to as a useful means to analyse qualitative information. For instance, a search on the *Scopus* database reflects the term's extensive use in academia, particularly over the last decade: the words 'thematic analysis' appear in the title/abstract/keywords of 1,988 works published in 2011, compared to 14,551 in 2021.

I am in agreement with the argument put forward by Terry et al. (2017: 34) that different *versions* of thematic analysis have emerged. Braun and Clarke (2019), who dealt in depth with thematic analysis practices and processes, now refer to it as 'reflexive thematic analysis'. In other instances, it may be hard for researchers to determine whether thematic analysis has been used in a published work, given that it may not be an actual 'named' method. Either way, academics refer to the advantages of this method of analysis, embracing (amongst others) an accessible form of analysis, a given sense of flexibility, an interactive process of data interpretation, and a method leading to theory-building and outcomes that can be easily understood by both academics and practitioners (Boyatzis 1998; Braun/Clarke 2006, 2019; Neuendorf 2018; Riger/Sigurvinsdottir 2016). Hence its increased use in various disciplines, such as in psychology and social sciences. For instance, tourism researchers acknowledge the value of this form of analysis and continue to use it in their qualitative studies (Andriotis/Paraskevaidis 2022; Berbekova et al. 2021; Christou/Sharpley 2019; Christou et al. 2019a; Ingram et al. 2021; Matson-Barkat/Robert-Demontrond 2018; Rickly 2022; Xin et al. 2013).

Important aspects for analysts to consider when conducting thematic analysis is determination of the type of analysis they want to conduct and determination of the claims they want to make in relation to the set of information obtained. More specifically, the analyst may want to provide a rich thematic description for the *entire* data set. This is particularly useful for an under-investigated topic, or if dealing with research participants whose perspectives on a given area or topic are not yet known. For example, Christou (2018) explored an under-researched topic – namely, 'agape' (a particular form of love) – in the context of tourism, and obtained views and understandings of participants whose perspectives on the topic were not known. In this or similar cases, the themes that are spotted by the analyst should reflect accurately the content of the entire data set. In other cases, thematic analysis may involve the provision of a detailed account of one or more specific themes. This may be more applicable in the case of a specific

question, a 'semantic approach' or a specific 'latent' theme. More precisely, with the semantic approach the analyst looks no further than what a participant said. According to Byrne (2022), semantic codes are identified through the 'surface meanings' of the data. In this case, data are organized by the analyst to exhibit patterns in semantic content (relating to meaning in language or logic). Eventually these are summarized to an interpretation while attempting to theorize the significance of these patterns (Patton 1990). At the latent level, thematic analysis moves beyond the semantic data content. Theme formation embraces interpretative work that moves beyond description to theorization. For this to occur, the analyst examines underlying ideas, ideologies and assumptions that inform and shape the semantic data content. Indeed, as Byrne (2022) stresses, the analysis becomes much more interpretive when coding is latent, requiring a more active as well as creative role on the part of the researcher.

A further critical consideration entails the initial development of the research questions that will guide the study. Qualitative research involves an overarching research question or series of questions that the researcher sets at the beginning of the research project. There is a need not only for the research questions to be clear, but also for clarity about the relationship between the questions. A clear association between different questions may assist in the process of the thematic analysis and in reaching clear conclusions. The initial general questions that drive the study can be extremely broad and exploratory in nature, or even narrow. Narrow and more specific questions may be part of a general/holistic question. Conceivably, the analysis of these narrow questions will eventually address and provide conclusions to the overall question of the project. For instance, based on a literature review conducted by Egger et al. (2020), an interview guide was developed that centred on four core research questions. Questions linked to 'types of ICT used in daily lives' and 'general relationships with ICT' served in addressing one of the core research themes/questions of the study: 'What is the general use of digital technology of participants?'

The research analyst should not simply use the 'questions' put to the interviewees/focus groups as the themes that are developed and presented in the findings section. Arguably, this may evidence a rather superficial and descriptive record of opinions and experiences as set by informants under the heading of each general/narrow question raised. Instead, as an example of good practice, the study by Kirillova et al. (2017) provided five specific questions that guided discussions between the researcher and the informants. Following the analysis process, the researchers did not present/simply state the responses and conclusions under the 'heading' of each question/theme. Instead, they commenced their results and discussion section by presenting and explaining the general structure of the topic of interest, which summarized the main outcomes of their study.

Another major consideration is the establishment of the use of theoretical or inductive thematic analysis. More precisely, themes may be identified through two principal ways. On the one hand, inductive analysis (also acknowledged as a 'bottom-up' way) is data-driven and involves coding data without fitting them into specific pre-existing coding frames. For instance, a researcher would have carefully read the data derived from interviews related to a specific topic to establish themes, without paying attention to any other themes that might have been identified in previous studies on the same topic. This approach may arguably be more fitting (yet not restricted to) in the case of exploratory or phenomenological studies in which previous knowledge (and themes) may be limited or absent. For example, Merkx and Nawijn (2021) adopted an inductive approach while analysing the content of tourists' online reviews/blogs regarding their virtual reality experience. The authors' thematic analysis

involved searching for similarities and establishing commonalities of focused codes that were eventually organized into meaningful themes. On the other hand, theoretical thematic analysis – that is, a 'top-down' (deductive) way – is instead directed by the analyst's theoretical knowledge of the field of investigation, and hence is regarded as analyst-driven. The choice between the two methods is conceivably influenced by how and why data are coded; however researchers may use both approaches in the same study where a combination of *a priori knowledge* and *open-mindedness* is deemed essential (see Bosangit et al. 2015).

2.2 The dilemma of whether or not to use software in thematic analysis

As in other forms of analysis, thematic analysis has advanced tremendously (particularly in the last few decades), not least because of technology. Clearly, it is not possible in these few pages to deliver a practical guide on how to conduct thematic analysis through the use of all available software. Despite the availability of many types of sophisticated software, there are researchers who still rely on manual (rather than computer-assisted) means to conduct thematic analysis (Christou 2020a; Christou/Simillidou 2020; Jørgensen/McKercher 2019). Nonetheless, researchers use technological means in the form of specialized software to analyse and present their qualitative derived findings. A widely used program is *NVivo*, which may assist in the organization and analysis of unstructured qualitative information such as that derived from interviews. This software may enable researchers to gain some insights into transcribed text; for example Fu et al. (2022) gained initial insights into the connections between life and travel. Amongst other functions, such programs may enable users to run quick-term frequency queries to identify words that informants are using most frequently. Arguably, this may lead to an over-reliance on the 'frequency' of terms, depriving the analyst of a meaningful examination of the essence of a sentence (rather than of a term), and inter-connectivity with other terms or sentences. Certain researchers (such as Castleberry/Nolen 2018) argue for the 'deep analysis' such programs may deliver, while others (Zamawe 2015) argue that *NVivo* or similar computer-assisted qualitative data analysis software may aid the analysis process, with the analyst having to remain in control of this process.

Other programs that generally function in a similar manner may use specific (and in some cases particularly complicated) algorithms, such as *DataRefiner*, *Leximancer* or *VOSviewer*. These may deliver rather impressive graphical and visual clusters. Such programs may identify links and associations, but primarily between 'terms' rather than notions from the data set that is imported into the program by the researcher. Also, such programs are widely used in the analysis of descriptions and posts shared on social media, rather than for information derived via interview and focus group means. There are antithetical views in regard to the appropriateness and usefulness of such means. On the one hand, researchers using such software stress a particular program's appropriateness to address qualitative studies (Neuhofer et al. 2021) and its advantages over other similar programs and traditional/researcher-led (that is, manual) methods of thematic analysis. For example, Çakar and Aykol (2021) used *Leximancer* software, arguing that it creates thematic clustering to map complex themes that are derived from the data. On the other hand, there are concerns about how and whether they actually form 'themes' and, most importantly, how these themes inform conclusions. A potential pitfall of thematic analysis is not considering alternative readings of the data, or not considering their variation and contradiction (Braun/Clarke 2006). Although this may be a potential pitfall in the case of manual

(non-software assisted) thematic analysis, arguably the risk of this pitfall is greater in the case of a software program, particularly if restricted by a specific algorithm.

It is not the intention of the author of this paper to encourage or discourage the use of such programs in thematic analysis. Besides, throughout his academic career involved in conducting qualitative research, the author has made use of both manual/researcher-led and technological/software-led thematic analyses. In each instance, he documented and justified the rationale behind the employment of either manual or software-assisted analysis. Although the appropriateness of such software programs in producing theoretical conceptual frameworks and theory in general may be arguable, this does not imply that such programs are useless at spotting and identifying links from the 'content' of the data set. Even so, the actual cognitive input of researchers (particularly those who may have researched a particular topic extensively) may be a valuable tool in creating cognitive associations and identifying themes, consequently leading to theory-building. Ellis et al. (2018) provide a good account justifying the use of cognitive and researcher/manual (rather than computer-assisted) maps. Some further implications in regard to the use of software in thematic analysis are provided in the following section.

3 THE STAGES OF A THEMATIC ANALYSIS

It is no surprise to researchers conducting a rigorous and well-documented thematic analysis that there is a particular process involved. This process commences when the analyst starts searching for meaning in a data set, while the final stage involves the reporting of themes. Researchers referred to different stages when explaining or conducting a thematic analysis. Some referred to three steps (Sundler et al. 2019) and others to as many as six steps (Nowell et al. 2017), with the most widely used in academia being those suggested by Braun and Clarke (2006). These researchers provide useful guidance when referring to the same or similar notions, procedures and tactics in their recommended stages/phases of thematic analysis. What is important is for the analyst to follow and document a rigorous procedure.

Thematic analysis is not a straightforward process as it requires going back and forth between the entire data set, constantly searching for meaning in patterns. Hence, it is regarded as a more recursive rather than a linear process (Braun/Clarke 2006). Contrary to statistical analysis, writing up does not occur at the end, but is instead an integral part of the analysis process. Analysts therefore need to commence writing up even as early as the first stage of the analysis process by noting initial ideas as well as potential coding schemes. The phase in which the analyst will engage with existing literature depends on the researcher's approach and whether it is inductive or theoretical. In the former case, the approach could be enhanced if, in the early phase of the analysis, the researcher does not engage with what has been studied and delivered by other researchers previously. In the latter case, the analyst would be required to engage with what has been delivered prior to the analysis. A step-by-step process for thematic analysis is outlined below, but it should be re-emphasized that this is not necessarily a linear process.

3.1 Stage 1: familiarization with the research data

There seems to be accord between academics discussing thematic analysis that this initial stage commences with 'familiarization' with the research data (Braun/Clarke 2021; Maguire/Delahunt 2017; Sundler et al. 2019). They all stress the importance of not

'scratching the surface' when it comes to becoming familiar with the qualitative data. In this initial stage, it is very important for the analyst to become familiar with information derived from differing and combined forms of qualitative data, such as interviews, observation notes, focus groups, texts and multimedia (Nowell et al. 2017). Special attention should be paid in the case of having to translate the data, such as when dealing with non-English quotes and excerpts (see, for example, Zhu et al. 2019).

Obviously, if we – as researchers – collect the primary information ourselves, we are more familiar with it. Even so, it is necessary to immerse ourselves in all information derived by qualitative means so that we become familiar not only with the data itself but also with the depth of its content. This requires 'active' and 'repeated' reading in search of meanings and patterns. Even if the data set is input into a software program in search of patterns of codes and links (as in Castleberry/Nolen 2018), it is extremely important for the analyst not to skip this very important step, even though it can be very time-consuming (as information derived qualitatively results in large numbers of words). The analyst is encouraged to take notes and write down initial ideas for coding before the more formal coding process begins.

Since our data set may not necessarily entail written information (as in the case of interviews, group discussions and speeches), it is necessary to transcribe verbal data into a written form. This process, though time-consuming and tedious, provides excellent opportunities for researchers to become familiar with the data set. Although there are no precise rules for producing a transcript, it is necessary to ensure that it provides a rigorous verbatim account of all verbal and (advisably) non-verbal information. It is vital to ensure 'accuracy', with the analyst checking and cross-referencing the transcripts against the original audio recordings, especially if the transcripts have been produced by someone else.

3.2 Stage 2: generation of initial codes

Coding commences when the analyst is organizing the data into meaningful groups. Codes deliver features of the data that may be of interest to the analyst. Most importantly, it is the most basic element derived from raw data that may be interpreted by the analyst in a meaningful manner. As Nowell et al. (2017: 5) aptly mention, 'coding allows the researcher to simplify and focus on specific characteristics of the data'. Coded data differ from themes (that is, units of analysis), which are usually broader. Coding may depend on whether the themes are driven by data or theory. In the latter case ('theory-driven' themes) the analyst might approach the information available with particular questions that may inform how codes are formed. Either way, the coding can be conducted manually or via technological means (that is, using software programs). In the latter case though, researchers have argued (and continue to argue) about the 'inability' of such programs to perform intellectual processes required to interpret raw data or make *judgements* (King 2004; Nowell et al. 2017; Thorne 2000).

If the analysis is done manually (that is, without the assistance of software), then the researcher must ensure that equal attention is given to each item in the data set. Additionally, the analyst must go deeper to identify interesting and meaningful aspects of those items that might eventually create the basis of themes. Researchers may use various means to code their data if analysis is conducted manually, such as sticky notes or highlighters. During this stage data must be coded and assembled within codes – but it should be emphasized that a specific code need not fall under only one theme, as shown by the example in Table 1.

Table 1 Example of generating initial codes

Extract from an interview	Application of codes
'I'm not sure whether they [referring to employees] understand what I am trying to communicate to them. Whenever I set a new goal for us [the organization], some of the members of the team seem to either ignore me or try to avoid the task. [inaudible] It's so frustrating and it annoys me.'	1. Referred to employees 2. Miscommunication and misunderstanding 3. Emotion (frustration)

3.3 Stage 3: searching for and reviewing themes

Themes embrace something important and meaningful while representing pattern responses within a data set (Braun/Clarke 2006). Obviously, the analyst needs to address questions of what counts as a theme and whether it is numerically identifiable. A theme might have a number of occurrences; but, in the case of qualitative research, there is no direct rule on the numerical presence of a theme (for example, percentage-wise). It may also be the case that a theme emerges from some narratives – such as those obtained from interviews – and hence a theme may not appear extensively in a data set. For example, a software package used in the analysis of qualitative findings might produce a list of *terms* based on their occurrences in the data set. However a 'term' is not synonymous with a 'theme', even if the former appears numerous times within a data set. In addition, a theme is not necessarily guided by quantifiable rules.

This does not imply that prevalence is not important, with qualitative studies referring to, for example, 'some participants' or 'many informants' as a means of representing prevalence in thematic analysis. In other cases researchers may choose to provide a 'representative' quote/extract from a research informant and then argue that these words represent or reflect the opinion, perspective or feelings of 'more/other' informants. For instance, under the theme 'authenticity of location' within the context of educational dark tourism, Cohen (2011: 202) mentions the words of one participant and then claims: 'This quote succinctly summarizes [the] responses and reactions of many.'

Nonetheless, as some researchers note (for example, Braun/Clarke 2006), there is no given right or wrong way for analysts to determine prevalence. The analyst's decision is critical to establish what a theme actually is, while a theme's 'keyness' should rest on the fact that it embraces a vital aspect in relation to questions guiding a study. For instance, in their study of 'nostalgia' within the context of tourism, Christou et al. (2018: 45) grouped 'triggers' of nostalgia (for example, ambiance, tangibles and acoustic elements) based on the responses provided by tourism stakeholders when the following was asked: 'Can something or someone trigger nostalgia of a visitor?'

This third stage in the thematic analysis process involves two main steps. The first involves searching for themes, and the second involves reviewing these themes. The first step should take place when data have been coded and collated by the researcher. It involves a focus on broader level of themes, essentially entailing a combination of codes to form overarching themes. Analysts during this stage may use visual (or cognitive) maps to assist in the process of sorting the different codes into themes. This can be done either manually or via software programs, as discussed previously. If done through software programs and the application of specific algorithms, the researcher must be prepared to receive criticism on the grounds discussed earlier. Likewise, if done manually, the analyst must provide a thorough, rigorous and

clear map of how these themes have been developed. The analyst must search for interconnections and relationships between various codes and identifiable themes. Some codes may direct the formation of a main theme, some may form sub-themes, some may be discarded and others still may go into a 'miscellaneous' created theme.

For example, assume that the overarching aim of a qualitative study is to investigate people's perceptions of the use of robots in services. Initially, seven broad themes are developed: (1) positive perceptions, (2) negative perceptions, (3) neutral perceptions, (4) negative experiences, (5) positive experiences, (6) interaction (with robots) and (7) lack of interaction. Eventually, these seven themes inform the formation of three main/overarching themes – these being positive, negative and neutral perceptions of people/users. Figure 1 illustrates all the themes and sub-themes that were formed in the process of searching for themes in this hypothetical scenario/study.

Once themes have been devised and developed, the second step – reviewing the themes – takes place. During this step the analyst needs to refine the themes by considering whether the generated themes are problematic and whether or not data extracts fit in specific themes. This refinement process ensures that a thematic map is generated. The analyst must then consider carefully whether this generated map of themes reflects accurately the meanings and essence of the whole data set. This step ends once the analyst gains a thorough understanding of the differing themes, how they connect with each other/together and what narrative the researcher wants to deliver. Special attention should be paid so that analysts avoid what Braun and Clarke (2006: 94) referred to as 'unconvincing analysis' in which themes may not be internally coherent or may have too much overlap between them.

The important process of reviewing themes becomes even more challenging in the case of themes generated by specialized software. Take for example a thematic analysis of people's experiences in a specific setting where researchers choose to analyse information obtained from social media platforms (in the form of reviews). After extracting the data (that is, the reviews), specialist software is employed to proceed with the analysis, following a 'pre-analysis' of the data (for example, removing punctuation and unnecessary symbols, and using stop word filters). The software program's association strength formula considers terms according to number of occurrences, similarity and interconnection, leading to the construction of visual maps (such as the one presented in Figure 2) that enable the identification of specific clusters. Even so, it is advisable that the analyst refers to the preceding stages 1 and 2 to ensure that these generated clusters make sense, and thus whether they may be regarded as themes. For this to occur, the researcher's cognitive input is required before any conclusions are made concerning what themes will eventually be presented and how these themes address the overall aim of the study.

3.4 Stage 4: theme definition

During this stage of thematic analysis, the analyst needs to find the 'essence' of each theme. This phase does not only involve the 'labelling' of each theme since it embraces identification of the story that each theme tells and how each of these stories fits into the general narrative that the researcher wants to communicate. For this to occur, the analyst must consider each theme both individually and in relation to other themes. While discussing the main thematic analysis pitfalls to avoid, researchers highlighted the analyst's failure to go beyond the specific content of the data to make sense of it and communicate its possible meaning to the reader (see, particularly,

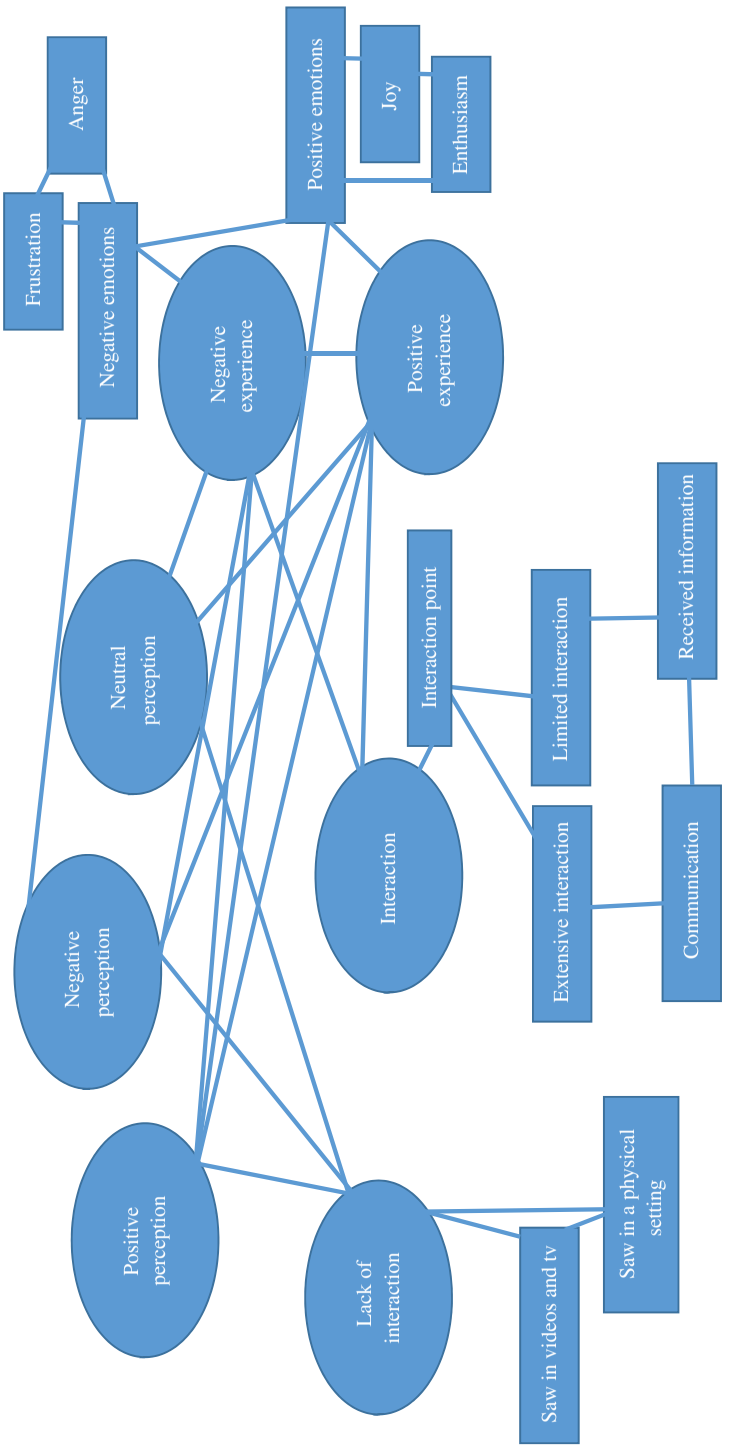

Figure 1 Thematic map illustrating main themes and sub-themes

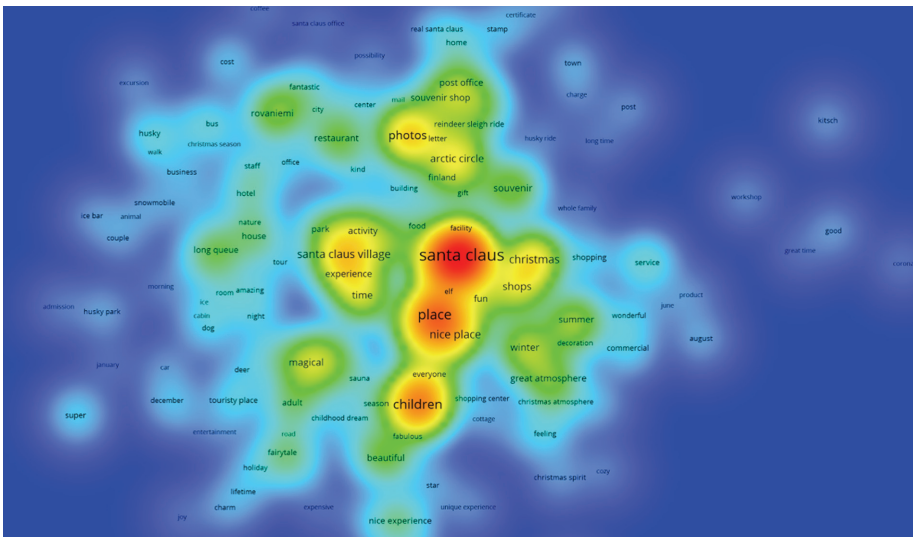

Figure 2 Software-generated clusters

Braun/Clarke 2006). As noted previously, each theme may consist of various sub-themes. For instance, in their study Jørgensen and McKercher (2019) identified two dominant and closely interrelated thematic domains and 13 sub-themes.

Towards the end of this stage, the researcher obviously must have defined the themes and sub-themes of their study, and should be able to describe the content of each theme. This is important for moving to the next stage, that of producing the final report. More specifically, Braun and Clarke (2006: 94) suggest that, towards the end phases of the analysis, analysts ask themselves specific questions that demonstrate deep analytical skills, such as: 'What conditions are likely to have given rise to [this theme]?' The naming of each theme is a necessity for both manually and program/software-produced themes. Names need to be concise, while giving readers a sense of what each theme is about. Careful consideration should be given in the 'finalization' of themes, with researchers arguing that themes may not be considered final until coding is scrutinized thoroughly, and more than once (see, for example, King 2004).

3.5 Stage 5: creating conceptual diagrams and theory-building

Thematic analysis has been used in the analysis of existing theoretical models, such as in the study by Mitchell et al. (2010), who investigated 47 models for knowledge translation. Yet, the question is not whether thematic analysis may be used for the analysis and evaluation of existing theories, but whether it may produce new theories. Braun et al. (2022: 434) argued that thematic analysis is 'intended to be an approach that is embedded in theory. But unlike other approaches, you select the theory it's embedded in.'

It should be emphasized that the development of themes and their definition (as explained in the preceding stages) does not necessarily lead to the creation of conceptual diagrams or to theory-building. This is perhaps why this specific stage is not included in previous/other academic papers that discuss the process and stages of thematic analysis.

Thus, this stage may be omitted – not necessarily on grounds of the researcher's inability to construct conceptual diagrams, but rather because of a combination of facts and the analyst's critical judgement. Obviously, a conceptual diagram is not synonymous with a 'theory'. The former is a representation in visual format of how a system works or is put together, whereas the latter is a rational type of abstract thinking about a specific phenomenon. Though both may be the result of a study following a thematic analysis, a conceptual diagram may or may not present a theory, and a theory may stand on its own without being supported by a process or model being visually presented or not (for example, in the case of a diagram).

Conceivably, the process of creating new knowledge (such as in the form of theory) does not rely on the manner in which data have been analysed – although data analysis may facilitate such development or lead to new/further theoretical understandings of a phenomenon under investigation. Following a thematic analysis, Farmaki et al. (2020: 11) stressed in their concluding remarks that their study elucidated 'understandings of Airbnb as an urban phenomenon'. Likewise, the thematic analysis conducted by Fu et al. (2022) helped highlight how lifecourse and travel experiences influence each other. Furthermore, in the theoretical implications of their study within the restaurant experiential context, Matson-Barkat and Robert-Demontrond (2018) made use of and specifically discussed four main themes derived from their study in an attempt to provide understanding of how social meaning is created for tourists. These themes were illustrated in their summary as a conceptual figure capturing the process of the co-production of meaning of tourists' restaurant experience.

Themes may inform the construction of conceptual diagrams that could cohesively provide a conceptual framework as a significant outcome of a qualitative study (see, for example, Ingram et al. 2021). Such conceptual diagrams may be of great use to both academics (that is, for new theory-building/re-shaping) and practitioners in terms of gaining clear and holistic understanding of a specific phenomenon. For example, Christou et al. (2019b: 8) presented a diagram that basically conceptualized the notion of 'philanthropy' within the context of rural tourism. In this case, the researchers' cognitive input was deemed both necessary and vital for generating the conceptual diagram. Similarly, in another study Christou (2020b) conceptualized the nostalgia and tourism nexus following a thematic analysis. Here he identified and justified the interrelation of predominant themes and sub-themes that emerged from the data set, providing the basis for constructing a conceptual diagram. A different example is the critical review by Ellis et al. (2018), who identified five themes that together formed the conceptualization of food tourism research from a cultural anthropology perspective.

3.6 Stage 6: producing the final report

Qualitative studies may involve information derived from just one person (that is, cases of auto-ethnography). Even so, the information derived can comprise thousands of words and a complicated story. This final thematic analysis phase involves communicating a complicated story in a manner that convinces other researchers of the validity of the analysis. It is therefore imperative for the analyst and report writer to deliver a logical, coherent and concise account of the story the information/data tells across the established themes. For this to occur, sufficient evidence of the themes should be provided from the data. Extracts (such as in the form of direct quotations from interviewees) may also be used as vivid and relevant examples to demonstrate the essence of each theme and the story in general (as shown in Table 2). However, one or two

Table 2 Exemplar extracts from literature supporting themes in qualitative studies

Source	Type of study	Theme(s)	Exemplar extract
Berbekova et al. (2021: 4)	Literature/critical review	'Crises and disasters' consequences': Eight themes ranging from (1), the travel and tourism industry's vulnerability and resilience to crises, to (8), dark tourism	'We employed an inductive approach in identifying underlying themes across reviewed studies. The inductive approach implies that the processes of initial coding, identification, and refinement of themes were not driven by any specific theoretical perspective, nor did we use a pre existing coding frame. Thus, the thematic analysis for this study was data-driven. As a result, 28 codes were created with 1451 references. Following the second and third steps of TA … the codes were grouped into eight main themes.'
Christou (2018: 17)	Qualitative: exploratory	'Love outcomes'	'There were also references about the constructive and mainly positive results of love at the individual, organisational and societal levels, with comments such as: "if there is love in a place, there is no sadness and there is more joy amongst people." … "a person in love feels that [he/she] can move mountains. A person who loves his job works and acts with passion and enthusiasm!"'
Cranmer et al. (2020: 4)	Qualitative: exploratory	'Value dimensions/themes': Marketing, economics, tourist, epistemic and organizational	'Data analysis was conducted by two researchers who both identified and agreed on the same newly identified themes … The analysis revealed two new emerging themes; marketing and organisational value.'

Jørgensen/McKercher (2019: 908–909)	Qualitative: video interviews	Main/dominant themes: Sustainability (ecological impacts and climate change); sustainability (tourization and overtourism)	'However, despite the diversity of challenges mentioned, two issues were raised consistently, regardless of the person's location, academic background, or area of research interest.'
Matson-Barkat/Robert-Demontrond (2018: 569)	Qualitative: unstructured and semi-structured interviews	Four key themes representing symbolic social meanings of tourists' restaurant experiences: sharing; family togetherness and transmission; cultural guidance; other customers	'When analysing the transcriptions and comparing these examples, we grouped them together … The themes are reviewed and sometimes evolve as the corpus is explored progressively and themes can be grouped together.'
Xin et al. (2013: 77)	Qualitative: analysis of conceptual research in tourism	Twelve themes ranging from defining concepts to proposing new concepts/reconceptualization	'This process was repeated until no more new memos were uncovered – or in other words until theoretical saturation of the data was achieved. The memos were synthesised and ordered into themes and the themes were reviewed and refined by three researchers. As a result forty six pure conceptual research articles were analysed in detail and twelve themes emerged.'

examples (such as extracts) may not be adequate or convincing. In such cases, the researcher may run the risk of their qualitative study being perceived as 'anecdotal' (Bryman 1988), where the impression of a theme is reified by a few instances of a phenomenon.

4 CONCLUSION

In the last few decades much has been written about thematic analysis in the form of books, book chapters, academic commentaries and journal articles. Studies have made extensive use of this form of analysis, and, in all likelihood, researchers, academics and students will continue to implement it in the future. Yet, technological advancement in the form of sophisticated software programs and emerging research dilemmas regarding the use (or not) of thematic analysis call for further insights on and implications of how best to make use of this analytical method. This paper has discussed certain current issues linked to thematic analysis, such as researchers' use of software. Though not in detail, this study has presented the rather neglected critical link between thematic analysis and theory-building. As a result, six stages of thematic analysis were proposed, with one stage embracing the highly important yet marginalized nexus of thematic analysis and theory-building. More specifically, the first stage involves familiarization with the research data. The second stage involves the generation of initial codes, followed by a stage that deals with the search for themes and the process of reviewing those themes. The fourth stage discussed here is theme definition, while the fifth stage that is proposed concerns the creation of conceptual diagrams and/or theory-building. Producing the final report is the sixth and final stage in thematic analysis that has been explained in this paper.

My intention while writing this paper was not to replicate existing work and guidelines provided in previous studies on thematic analysis. It is admirable how researchers have shared their knowledge of this fascinating, flexible and intriguing analytical method. They have provided us (including myself as a researcher) with a strong theoretical foundation of how to use and justify the use of this method. While building on this existing knowledge, I have chosen to *supplement* it with this paper, which presents dilemmas and aspects that, due to the progress of analyses and technology, have been overlooked in previous work. It is left to the discretion of future researchers to decide which specific process (and steps) to follow in their thematic analysis; but what I suggest is that they follow a rigorous and well-documented process.

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