Content Analysis of Metadata, Titles, and Abstracts (CAMTA): Application of the Method to Business and Management Research

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Application of the Method to Business and Management Research

Abstract

Purpose

To offer a 'Content Analysis of Metadata, Titles, and Abstracts' (CAMTA) method underpinned by a newly evolved M-TAIMRAD (metadata, title, abstract, introduction, methodology, results, analysis, discussion) framework.

Design/Methodology/Approach

Draws on innovations of content analysis from the field of healthcare to offer a pragmatic and transparent method for conducting rigorous and valid research within the field of business and management.

Findings

Replicable and valid guidelines for conducting the CAMTA method are offered, including an illustration. This is followed by a critical examination of the potential applications and benefits of the method to the field of business and management research.

Originality/Value

The CAMTA method enables researchers to assimilate and synthesize metadata, titles, and abstracts as a means of identifying grounds for future research and theory development. This will help to advance the field and subsequently benefit the wider readership including fellow academics, practitioners, and policymakers. The flexibility of the CAMTA method means that it can be used as a stand-alone method or combined as part of a mixed-methods approach.

Keywords: Content Analysis, Research Method, Pragmatic, Management Research

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Introduction

Isaac Newton (1642-1727) wrote a letter to Robert Hooke in 1675 which included the line '*If I have seen further it is by standing on the shoulders of Giants'* (in Chen, 2003, p.135). This quote epitomises the core purpose of scholarly publishing: to progress our individual and collective understanding through the advancement of a particular body of knowledge (Douglas, 2014). One of the challenges faced in business and management research is the increasing volume of publications. For example, a search of the term "business and management" in Google Scholar returns 3,650,000 results. When we delve a little deeper into these results, we see that 1,320,000 (36%) have been published within the last five years (2016-2020). Literature reviews, therefore, are vital in the assimilation and synthesis of scholarly publications such that the reader and wider academic community can understand the general state of knowledge within that research field and keep abreast of evolving issues, trends, and concepts (Palmatier *et al.*, 2018). One method for conducting a systematic literature review is content analysis, which forms the focus of this paper.

Content analysis was originally defined by Berelson (1952, p.18) as '*a research technique for the objective, systematic and quantitative description of the manifest content of communication'*. However, Holsti (1969), Krippendorff (1980), Weber (1985), Schaefer (2017), and Gaur and Kumar (2018) move beyond an exclusively quantitative position. They recognise that content analysis sits at the intersection between quantitative and qualitative traditions and can progress along a continuum between the two traditions based on the purpose for which the method is being used. The use of content analysis on "a text" must, however, conform to replicability and validity (Krippendorff, 1980; Gaur and Kumar, 2018; Weber 1985) and provide a clear rationale for the coding and recording of data (Gaur and Kumar, 2018; Schaefer 2017; Weber 1985). In the context of a literature review, "a text" can refer to the main body of a journal article (i.e., the introduction, methodology, results, and

discussion). Alternatively, as is the case in this paper, "a text" can refer to the metadata, title, and abstract of a journal article. According to Tullu (2019, p.12), these are *'the most important parts of a research paper'* because they are often the only parts that are freely available without having to pay for access.

Yet, existing applications of content analysis to metadata, titles, and abstracts of journal papers are predominantly clustered to research within the field of healthcare. For example, Bakkalbasi *et al*. (2006) compared two subcorpora of 100 journal articles from two subdisciplines in medicine. Rotgans (2012) compared abstracts of medical educational journals using five-year intervals. Hamad *et al*. (2016) looked at the application of content analysis to tweets on Twitter. And Kaneko *et al*. (2018) compared qualitative and mixed methods abstracts from subcorpora of Japanese, UK, and US primary care conferences using five-year intervals. The application of the method to metadata, titles, and abstracts of journal papers offers an opportunity to apply this healthcare-inspired method to additional fields of research. Specifically, in this paper, we are interested in applying the method to the field of business and management. Such application is valid due to the transferable and flexible nature of the method and is useful as it offers a pragmatic, transparent, and novel approach for conducting valid research in the field of business and management.

Furthermore, Gaur and Kumar (2018, p.280) observe that content analysis as a method for conducting a literature review in business and management research is often '*poorly understood and incorrectly applied'*. This is despite claims made nearly two decades earlier by Insch *et al.* (1997) that content analysis is a less used approach in business and management research due to a lack of familiarity with the method. Robust uses of metadata within the field of business and management have tended to focus on Citation Context Analysis (e.g., Anderson and Lemken, 2019; 2020) or Bibliometric Analysis (e.g., Kosch and

Szarucki, 2020), rather than on titles, abstracts, and other elements of metadata beyond the citations.

Therefore, the motivation and purpose of this paper is to address the gap identified by Gaur and Kumar (2018) and Insch *et al.* (1997) by offering a rigorous and robust 'Content Analysis of Metadata, Title, and Abstract' (CAMTA) method to the field of business and management. The flexible nature of content analysis means that the CAMTA method can either be used in isolation or combined with other methods (White and Marsh, 2006). This responds to calls by Parry *et al.* (2020) and Aguinis *et al.* (2018) to acknowledge the need for methodological pragmatism and transparency for conducting rigorous and valid research in the field of business and management. The adaption of the CAMTA also responds to calls by Beech and Anseel (2020) for business and management research to act as a vehicle for interdisciplinary research. Additionally, Budhwar and Cumming (2020) state that the innovations in methods from other disciplines to the field of management offer important advances that would otherwise not be realised. The link between healthcare and business and management is also timely given the impact of COVID-19 at the health, economic, and societal levels.

The paper is structured as follows. Firstly, the development of a newly evolved M-TAIMRAD (metadata, title, abstract, introduction, methodology, results, analysis, discussion) framework underpins the CAMTA method. Next, a set of replicable and valid guidelines for conducting the CAMTA method are offered, including an illustration. This is followed by a critical examination of the potential applications and benefits of the method to the field of business and management research based on existing uses of content analysis in other fields. Finally, the discussion section evidences the contribution of this paper in terms of the methodological and theoretical implications and the implications to the scientific community of business and management studies of the CAMTA method. These primary contributions

also transcend to practitioners and policymakers either when reading academic journals or through exposure to the published content via search engines or social media.

Development of the M-TAIMRAD Framework

The IMRaD Model, which stands for introduction, methodology, results, and discussion was documented by Swales (1981, 1990) and is primarily used as a structured guide for the format for empirical research articles. However, Day (1989) attributes the creation of the IMRaD Model of writing to the book '*Études sur la Bière*', written by Louis Pasteur and originally published in French in 1876. The title directly translates from French to English as '*Studies on Beer'*, although subsequent publications of the text in English also use the title '*Studies on Fermentation*'.

The IMRaD Model was mirrored by Santos (1996), who offered a Five-Move framework for the structure of research article abstracts, (move one: situating the research, move two: presenting the research, move three: describing the methodology, move four: summarizing the findings, and move five: discussing the findings), whereby the introduction aspect of the IMRaD Model is split across moves one and two. Subsequently, the IMRaD Model was evolved by Parsell and Bligh (1999) to offer the SIMRAD framework, which follows the sequential order of summary, introduction, methods, results, analysis, and discussion.

This paper offers a newly evolved M-TAIMRAD framework which stands for metadata, title, abstract, introduction, methodology, results, analysis, and discussion'. The M-TAIMRAD framework is underpinned by and evolved from the IMRaD model (Swales, 1981, 1990), the Five-Move framework (Santos, 1996), and the SIMRAD framework (Parsell and Bligh, 1999). Metadata in the context of the M-TAIMRAD framework refers to data about the manuscript (e.g., year of publication, number of authors, etcetera.). Title is added because,

despite the exclusion of the title from the SIMRAD framework, Parsell and Bligh (1999) subscribed to the view of Bordage (1989) that the title can be considered the most important part of the manuscript. Finally, the word summary in the SIMRAD framework is replaced with the more commonly used term abstract in the M-TAIMRAD framework.

Guidelines for Conducting the CAMTA Method

The CAMTA method is a specific application of content analysis to the metadata, title, and abstract aspects of the M-TAIMRAD framework. The method is a form of a hybrid approach to content analysis, classified as a quantitative dominant approach (Hamad *et* al., 2016). This means that categories are generated deductively from previous research using content analysis and a probability sampling technique is adopted. The codes are also initially generated deductively before being expanded inductively to offer new insights (Miles and Huberman, 1994; Pool, 1959). This acknowledges the pre-existing view that deductive and inductive approaches to content analysis are not mutually exclusive and can augment each other (Harding, 2018; Kondracki *et al.*, 2002; Smith, 1975). The hybrid approach moves beyond an exclusively quantitative position by recognising that content analysis sits at the intersection between quantitative and qualitative traditions and can progress along a continuum between the two traditions based on the purpose for which the method is being used (Holsti, 1969; Knalf and Howard, 1984). The final codebook which evidences a clear rationale for the coding and recoding of data (Schaefer 2017; Weber 1985), is then applied to the entire sample. If any changes are made to the codebook after this point, then the entire sample must be recoded to ensure replicability and validity of the method (Krippendorff, 1980) and to enable the use of descriptive and inferential statistical analysis.

The CAMTA method can be used as a stand-alone approach to offer a high-level overview of a research area. However, it can also be used to complement alternative methods

either as part of an extensive literature review or as an initial phase of an empirical study to identify gaps in the literature for further exploration and/or explanation. Furthermore, the versatile nature of the CAMTA method means that it can be used to compare two homogeneous subcorpora (White and Marsh, 2006). For example, to compare the content of two different journal publications in the field of business and management. Or the content from two different periods, for example, 2011-2015 and 2016-2020 to see how the field of business and management research has evolved over the last decade. Further applications of the CAMTA method to the field of business and management are discussed later in the paper.

The CAMTA method follows the Seven Steps of content analysis as offered by Hsieh and Shannon (2004, p.1286). Step One: Formulate the research question. Step Two: Select the sample and unit(s) of analysis. Step Three: Define the categories. Step Four: Outline the coding process. Step Five: Implement the coding process. Step Six: Determine trustworthiness. Step Seven: Analyse and represent the results. These seven steps help to ensure integrity and robustness in the CAMTA method, which addresses the concerns of Gaur and Kumar (2018) and Insch *et al.* (1997) that content analysis in the field of business and management is often poorly understood and incorrectly applied. Guidelines for conducting the CAMTA method underpinned by these Seven Steps of content analysis are now presented using an illustrative example.

Step One: Formulate the Research Question

Let us use a research question that addresses a substantive issue that might be considered by academics in the field of business and management (Brammer and Clark, 2020; Ojala, 2019): 'How has Business School's interest in graduate employability evolved in the last decade (2011-2020)?'. The term "graduate employability" is an antecedent of graduate employment (Clarke, 2018) and refers to whether an individual is capable upon completion of

their undergraduate degree of securing a job that lists a university degree as an essential component of the job specification (Donald *et al.*, 2018; Gedye and Beaumont, 2018). Neoliberalism in Higher Education (HE) in England since the Robbins Report in 1963 places an ever-greater emphasis on graduate employability as a research topic (Donald *et al.*, 2017; Maisuria and Cole, 2017; Tomlinson, 2012), as a measure of performance (Bridgstock and Jackson, 2019), and as part of a wider diversity and corporate social responsibility agenda (Bharadwaj and Yameen, 2020; Samdanis and Lee, 2019).

The CAMTA method enables us to understand what changes have occurred in the literature by looking at different aspects of the metadata, title, and abstract (e.g. number of authors per journal article, the dominant type of methodology, countries of focus, main topics of focus, subtopics of focus, etc.) across different subcorpora (e.g. 2011-2015 and 2016-2020). The findings from the CAMTA method can then underpin additional literature review methods or act as justification for empirical studies to answer the research question. In this illustration, the comparison is between periods of time, although the CAMTA method can also be used to compare different journals. A full discussion of the applications and contributions of the CAMTA method is presented later in the paper.

Step Two: Select the Sample and Units of Analysis

We now select the sample and the units of analysis to aid us in addressing the research question identified in Step One. Our representative sample is empirical journal papers published between 2011-2020 from a single journal that publishes articles on higher education (Studies in Higher Education). Our unit of analysis is the metadata, title, and abstract of a journal article. Our unit of observation and additional selection criteria for the initial corpus of articles is Business Schools within the context of graduate employability. We search for the term 'graduate employability' and filter the results to 2011-2020 for the year of publication.

This gives us a preliminary corpus of 276 journal articles which we collate using reference manager software (e.g. EndNote, Zotero, Mendeley, etc.). We then apply our selection criteria and remove 208 papers from the corpus either because they are not empirical papers (e.g. policy, conceptual, literature review, etc.) or they are not relevant to the research question. Therefore, our revised corpus consists of 68 empirical papers related to graduate employability and Business Schools, representing 24.6% of articles identified from the original search criteria of 'graduate employability'.

Next, we split the corpus of articles into two homogeneous subcorpora based on the year of publication to create a 2011-215 subcorpus (n=18) and a 2016-2020 subcorpus (n=50). This indicates that 28.1% (18/64) articles from 2011-2015 were empirical and relevant compared to 23.6% (50/212) from 2016-2020. The numeric increase from 18 (2011-2015) to 50 (2016-2020) relevant empirical articles on graduate employability published by Studies in Higher Education supports the need for the CAMTA method to address the increased volume of literature being published in the field of business and management. For this illustration, we then apply stratified probability sampling to select a relatively small sample of 15 units of analysis at random from each of the subcorpora (Karmel and Jain, 1987). The selected units of analysis represent the final corpus of 30 articles composed of two subcorpora (2011-2015 and 2016-2020) of 15 articles each. Figure I offers a visualisation of the Step Two process.

Insert Figure I Here

Step Three: Define the Categories

The next step is to define the categories. These are generated deductively from existing studies that looked at the metadata, title, and abstract elements of the M-TAIMRAD framework as units of analysis (e.g. Cook *et al.*, 2007; Sabharwal *et al.*, 2018). Table I evidences the data categories and their corresponding unit of analysis.

Insert Table I Here

Step Four: Outline the Coding Process

The next step is to outline the coding process which involves a three-phase approach (Schaefer, 2017), and classifies the CAMTA method as a quantitative dominant approach to content analysis (Hamad *et* al., 2016). In phase one, deductive codes are adopted from the same two pre-existing studies (Cook *et al.*, 2007; Sabharwal *et al.*, 2018) as the categories in Table I. In phase two, the codes are expanded inductively by conducting a pilot study (Miles and Huberman, 1994; Pool, 1959). The pilot study is conducted on the journal articles which were not selected during the probability sampling. This enables the pilot study to be applied to the same units of analysis and the same context, whilst remaining distinct from the main corpus and subcorpora created via probability sampling. In phase three of this systematic approach, the final set of codes are agreed upon within the codebook to offer a clear rationale for the coding process. This forms as an initial check of intercoder reliability and enables us to see if any amendments are required before the commencement of the main data collection phase (Weber, 1985).

At this point, all the codes, whether generated deductively or inductively are treated and processed in the same systematic way (Kondracki *et al.*, 2002). The coding procedure is now implemented on the corpus (n=30) containing the two subcorpora from the random sampling. However, if any additional codes are generated inductively after this point, then the entire sample needs to be recoded against the updated codebook. This ensures replicability and validity of the method (Krippendorff, 1980), and enables the descriptive and inferential statistical analysis in Step Seven. Table II evidences the codes and procedures for each of the categories identified in Table I.

Insert Table II Here

Step Five: Implement the Coding Procedure

The next step is to systematically implement the coding procedure identified in Step Four. A Microsoft Excel spreadsheet is set up with a worksheet for each of the subcorpora. Each row corresponds to one of the empirical papers from the sample and each column represents a code with the codes grouped by their respective category as per Table II. The title and abstract for each empirical journal article in the sample are loaded into NVivo. Alternatively, Microsoft Word can be used depending on the experience and preference of the research team and/or the available budget. The title word count, abstract sentences count, and abstract word count are deduced and populated into the corresponding row and column in the Microsoft Excel spreadsheet.

A "1" is then placed against the appropriate code(s) for each category in the row that corresponds to the specific journal paper to facilitate statistical analysis in Step Seven. In most cases, the total count for each category should equal the number of articles in the corpus (n=30). However, in some cases, there may be more than one "1" coded within a category and this means that the total count for that category will be greater than the number of articles in the corpus (e.g., there might be two or three countries of focus rather than a single country per journal article). The total amount of codes within a category should not be less than the number of articles in the corpus because the codebook must capture all potential classifications (e.g., 'Not stated in the abstract' is a code for the 'Methodology' category in Table II).

Step Six: Determine Trustworthiness

The next step is to determine trustworthiness concerning the validity, reliability, and replicability of the CAMTA method (Schreier, 2012). If more than one researcher had been involved in the coding process then intercoder reliability would be checked to evidence

validity (Hayes and Krippendorff, 2007). We suggest using Krippendorff's Alpha Coefficient (Krippendorff, 1970; 1980) to adhere to norms within the field of business and management. This is not relevant in our illustration because only one researcher was involved in the coding process.

Validity, reliability, and replicability are also evidenced through the rigor of the systematic process, via the probability sampling, and by ensuring that the codebook can be replicated (Schreier, 2012). The statistical analysis process evidenced in Step Seven and endorsed by Hamad *et al.* (2016) also contributes to the trustworthiness of the CAMTA method.

Step Seven: Analyse and Represent the Results

The final step of the CAMTA method process is to apply descriptive and inferential statistics. Descriptive statistics include central tendency (mean) and measures of variation (standard deviation) and inferential statistics include the Chi-Squared Test, otherwise known as the χ^2 Test (Pearson, 1900). However, the small sample size means that for our illustration we will only report the descriptive statistics (Table III).

Insert Table III Here

The results are then written up and presented. Our illustration uses a very small sample size (n=30), only reports descriptive statistics, and only focuses on findings from a single journal (Studies in Higher Education). Whilst the CAMTA method can be used in this way, its main advantages come from larger-scale datasets and inferential statistics. Therefore, the findings of our illustration are limited, although they do offer preliminary insights into what changes have occurred in the literature of Studies in Higher Education over the past decade in relation to Business School's interest in graduate employability.

The descriptive statistics in Table III indicate preliminary support for the following findings from Studies in Higher Education. First, the number of authors per journal article

increased from a mean of 2.00 (2011-2015) to 2.71 (2016-2020). Titles (13.00 v 12.07 words) and abstracts (142.00 v 136.71) were marginally shorter in 2016-2020 compared to 2011-2015. The three main topics of focus have remained constant in the journal over the last decade and include graduate employability (n=7), work placement (n=6), and doctoral education (n=6). The subtopic of focus varies significantly with 15 different representations across the 30 journal articles. However, skills and attributes remain a key subtopic (n=8). The country of focus is often not reported in the abstract (n=13), when it is, Australia (n=5) and the UK (n=5) have the highest representation. With regards to study participants, undergraduate students (n=20) dominate, followed by doctoral candidates (n=6). The study setting is dominated by the university (n=26), followed by the labour market (n=4). The methodology is dominated by quantitative studies (n=26) and the data source by primary data (n=24). However, the journal does appear to publish qualitative (n=3) and mixed methods (n=3) studies, as well as studies using secondary data (n=4). However, these appear to be the exception rather than the norm.

The most significant change appears to be an increase in the number of authors, perhaps reflective of an emphasis in the last five years on collaborative research between authors from different institutions and countries. However, this is only the view from a single journal and a very small sample size. These initial findings indicate that the type of research conducted in relation to Business School's interest in graduate employability over the last decade has remained constant in the journal. Studies in Higher Education appears to favour a very specific type of article focusing on undergraduate students in a higher education setting (e.g. Donald *et al*., 2019; Strauss *et al*., 2011; Tymon, 2013), which tend to use a very specific approach (i.e. quantitative methodology). The low representation of other approaches such as the mixed methods methodology (see Nabi *et al*., 2018 for a rare exception in this journal) may either offer a greater opportunity for an original contribution in Studies in Higher

Education or it might be preferable to target another journal for such a submission. The CAMTA method needs to be applied to a wider number of journals and look at additional categories based on the preference of individual researchers to evidence a more robust understanding.

Further Options

At this point, three options exist. Option One: The research concludes if sufficient insights now exist to answer the research question through using the CAMTA method in isolation. We opt to end our illustration at this point. Option Two: The findings from the CAMTA method underpin a deeper literature review looking at how Business School's interest in graduate employability has evolved in the last decade. For example, by carrying out a systematic or semi-systematic literature review driven by the initial findings from the CAMTA method. Option Three: The findings from the CAMTA method form the basis for an empirical study by representing the literature review, motivation, and research gap in the empirical study and subsequent journal article to justify the need for the empirical study. For example, if the CAMTA method produced results that differed from the dominant view of the literature, then an empirical study might be useful as a means of investigating this divergence. These options of applications of the CAMTA method to the field of business and management are now critically examined, driven by existing uses of content analysis in other fields of research. We continue to use the same research question to provide context: 'How has Business School's interest in graduate employability evolved in the last decade?'.

Potential Applications of the CAMTA Method to the Field of Management

Option One: CAMTA Method as a Stand-Alone Approach

Option one is to use the CAMTA method as a stand-alone approach to compare two homogeneous subcorpora (White and Marsh, 2006). The example illustration looked at the comparison of two different time periods. Alternatively, the research question could be addressed by comparing the content of two different journals within the same field, two different disciplines (e.g., business and management versus humanities), two different sub-disciplines (e.g., the employability of economic students versus project management students), or two different countries (e.g., England versus the USA). The purpose of these approaches would be to identify similarities, differences, and learning opportunities in terms of providing a blend of generic and tailored support to students to enhance their employability. Such outcomes are valuable because as previously mentioned, the impact of neoliberalism in HE places ever greater emphasis on employability outcomes (Donald *et al.*, 2017; Maisuria and Cole, 2017; Tomlinson, 2012). This approach would also help to identify evolution within the literature and gaps which could form the basis for future conceptual, methodological, or empirical research within the field of business and management, or through a multidisciplinary approach (Budhwar and Cumming, 2020).

Option Two: CAMTA Method to Underpin a Deeper Literature Review

Option two is to use the CAMTA method to underpin a deeper literature review to address research questions such as how Business School's interest in graduate employability has evolved in the last decade. The CAMTA findings could act as an initial phase that is then followed by an integrative, systematic, or semi-systematic literature review approach (Snyder, 2019). Alternatively, the CAMTA method could be carried out either alongside an alternative literature review approach or following the use of an alternative approach. Such options

further underline the flexibility that the CAMTA method can offer as a form of content analysis (White and Marsh, 2006). The CAMTA method specifically focuses on the metadata, title, and abstract elements of the M-TAIMRAD framework. This paper now briefly maps the framework to the integrative, systematic, and semi-systematic literature review approach. For a more in-depth discussion of the approaches and purposes of each literature review type please refer to Snyder (2019) as such this lies outside the remit of this paper.

An integrative literature review tends to use the metadata, title, and abstract as a means of identifying literature that the author considers being of interest. The focus of the review itself tends to be on the results, analysis, and discussion elements of the M-TAIMRAD framework. An integrative literature review is like a narrative literature review in terms of approach and mapping to the M-TAIMRAD framework. However, the output of a narrative literature review tends to focus on arguing for changes to policies, procedures, or the direction of future research, rather than a theoretical model or taxonomy. For example, Tomlinson's (2012) review of conceptual and empirical themes of graduate employability.

A systematic literature review tends to use the metadata, title, abstract, and methodology as a means of identifying papers for inclusion via search results of a database followed by a manual check by the researcher (e.g., Bal and Izak, 2020). The focus of the review itself tends to be the results, analysis, and discussion elements of the M-TAIMRAD framework. For example, Abelha *et al.* (2020) offer a systematic literature review of graduate employability and competency development in HE.

However, systematic literature reviews can also focus on content beyond the main body of text (i.e., the introduction, methodology, results, and discussion) of a journal article. Citation Context Analysis (CCA) is a method for conducting a '*distinct type of systematic and rigorous literature review*' (Anderson and Lemken, 2020, p.1) which collates all citations to an author, publication, or group of publications and uses content analysis to '*examine the*

citation's contexts and assess the realized impact of the work on a focal field or diverse fields' (p.1). For example, Anderson and Lemken (2019) examined 1,400 articles across eight management journals that cited a specific seminal work. The method uses the metadata as a means of identifying papers for inclusion and subsequently looks at the introduction, methodology, results, analysis, and discussion elements of the M-TAIMRAD framework to understand the use of the citation and to assess its impact. A similar style of approach is Bibliometric Analysis, as applied by Kosch and Szarucki (2020) to look for connections between countries and cities based on co-authorship and citation networks in the field of strategic management.

A semi-systematic literature review tends to use the M-TAIMRAD framework in the same way as the systematic review, except that the methodology selection criteria include quantitative, qualitative, and mixed methods empirical papers, rather than only quantitative papers. The semi-systematic literature review is predominantly used in research areas such as healthcare (e.g., Welsh, 2018) and ecology and urban planning (e.g., Hunter and Luck, 2015) and to date has had less attention in the field of business and management research (Snyder, 2019).

The M-TAIMRAD framework can therefore act as a means of underpinning the use of the CAMTA method before, with, or after any of these alternative approaches. This can provide greater coverage of the M-TAIMRAD framework than any one method can offer in isolation. It can therefore offer a deeper and more comprehensive response to research questions within the field of business and management research than the existing stand-alone approaches discussed here.

Option Three: CAMTA Method as Basis for an Empirical Study

Option three is to use the CAMTA method as a basis for an empirical study. This builds on option one similarly to option two. However, instead of combining the stand-alone CAMTA method (option one) with other literature review approaches (option two), it is used as the literature review element within an empirical study (option three). For example, the use of the CAMTA method in option one will produce some initial findings to address a research question such as how Business School's interest in graduate employability has evolved in the last decade. These findings may generate additional sub-questions, hypotheses, or sub-topics of interest for explanation or exploration via empirical research. The M-TAIMRAD framework then plays a more traditional role in the empirical aspect of the research by underpinning the approach and subsequent structure of the research paper for reporting the findings.

For example, Donald *et al.* (2018) and Gedye and Beaumont (2018) present the qualitative findings from two different mixed methods studies looking at the student perceptions of university education and graduate employability. In these instances, the findings of one empirical approach underpinned the use of another empirical approach. An alternative strategy would be to use the CAMTA method as the literature review component of the study design to inform the use of one empirical approach and report the findings within a single journal article. This could be useful if, for example, you wanted to compare findings from different disciplines or topics at the literature review stage to identify areas of interest for empirical research and/or to understand which method(s) is/are suitable for answering the research question.

Discussion

Methodological and Theoretical Implications

Limited opportunities exist in business and management research to publish full journal articles that focus on methodological approaches (Budhwar and Cumming, 2020). Where discussions of methodological approaches do occur, these are often of limited depth due to a lack of space and associated word count restrictions (Lee, 2020). This paper draws attention to such issues and acts as a catalyst for further discussion of the CAMTA method, content analysis, and the merits of methodological pragmatism and transparency for conducting rigorous and valid research in the field of business and management (Aguinis *et al.*, 2018; Parry *et al.*, 2020). The value of the method is linked to its flexibility (White and Marsh, 2006), and to addressing the increasing volume of publications in the field of business and management research (Snyder, 2019). Different approaches to literature reviews are needed to assimilate and synthesise scholarly publications so that the reader and wider academic community can understand the general state of knowledge and keep abreast of evolving issues, trends, and concepts (Palmatier *et al.*, 2018).

The CAMTA method further contributes by addressing concerns initially raised by Insch *et al.* (1997) and subsequently repeated by Gaur and Kumar (2018) two decades later. They state that to date, content analysis is often poorly understood and incorrectly applied in business and management research due to a lack of familiarity with the method. The CAMTA method is underpinned by the M-TAIMRAD framework and offers a set of guidelines for conducting the method. The guidelines ensure that the CAMTA method is replicable and valid (Krippendorff, 1980) and that the coding procedure and recording of data are guided by a clear rationale (Weber, 1985), offering traceability of the arguments and conclusions drawn (Schaefer 2017).

The adaption of the CAMTA method also responds to calls by Beech and Anseel (2020) for business and management research to act as a vehicle for interdisciplinary research. Additionally, Budhwar and Cumming (2020) state that the innovations in methods from other disciplines to the field of management offer important advances that would otherwise not be realised.

Implications for the Scientific Community of Business and Management Studies

The primary contribution of the CAMTA method to the scientific community of business and management studies is to enable researchers to assimilate and synthesize metadata, titles, and abstracts as a means of identifying grounds for future research and theory development (Snyder, 2019). This might take the form of a research topic, a research question, or a method for conducting research. The speed at which data can be collected and insights gained is another benefit of the CAMTA method compared to traditional systematic literature review processes.

At the individual level, the CAMTA method can help to inform research scholars in the decision-making process of which journal to target for submission of an article. This can be achieved by using the CAMTA method to identify a set of journals that publish articles on a particular research topic or area. This could be particularly useful for early career researchers who lack familiarity with the journals within their field. Or in circumstances where the aim and scope of a journal do not provide sufficient information to assess the suitability of the journal for the submission of an article.

Research scholars could also utilise the metadata, title, and abstract findings from the CAMTA method as a tool for marketing their papers. This could be achieved by identifying common elements of titles and abstracts of highly cited papers within the field of business and management and applying these elements to the title and abstract of their paper. Such an

approach is also likely to act as a hook to engage the editor of a journal and increase the odds

of safe passage of the paper through the peer-review process. The metadata, title, and abstract

are also the more important parts of a journal article because they are often the only parts of

the article which are not behind a paywall and are therefore freely accessible to prospective

readers (Tullu, 2019).

The combination of selecting the optimal journal for publication and maximising

visibility of the published journal article could lead to an increased number of publications,

citations, and offers for future collaborations. Such contributions of the CAMTA method also

transcend to practitioners and policymakers who are more likely to be exposed to the

published material either directly through reading the academic journal, or indirectly through

search engine results or social media feeds. The CAMTA method, therefore, can enable

research scholars to gain a competitive advantage over their peers due to the crucial role that

publications play in academia in terms of career progression and associated aspects of status,

job security, and remuneration (Checchi *et al*., 2020).

The CAMTA method also offers a practical contribution to the editors of academic

journals that publish empirical papers. The CAMTA method can be conducted on

publications within the journal to see if the findings indicate alignment with the aim and

scope of the journal. If there is divergence, then the editor can either amend the aim and scope

of the journal to reflect that its position within the field of business and management has

evolved. Alternatively, the editorial criteria for accepting manuscripts can be revised to align

with the original aim and scope. Or a special issue can be commissioned to address areas

identified as relevant to the journal but lacking in representation. The CAMTA method,

therefore, can offer a competitive advantage to the editor of the journal, which can lead to the

long-term sustainability of the journal. Such competitive advantage is likely to translate in

terms of a wider readership (i.e., fellow academics, practitioners, and policymakers), an

increased number of citations, and a higher ranking and impact factor score for the journal. The editor of the journal is also likely to benefit professionally from being credited as overseeing these improvements during their stewardship.

Conclusion

This paper has presented the CAMTA method, which is underpinned by a newly evolved M-TAIMRAD framework. The CAMTA method combines deductive and inductive approaches to content analysis in a systematic way to facilitate data analysis through descriptive and inferential statistics. A set of guidelines for conducting the CAMTA method were presented with an illustrative example using a research question that addresses a substantive issue that might be considered by academics in the field of business and management: 'How has Business School's interest in graduate employability evolved in the last decade?'. A critical examination of the potential applications and benefits of the CAMTA method to the field of business and management research was offered, followed by a discussion of the methodological and theoretical implications, and the implications to the scientific community of business and management studies.

Future research should look to validate the CAMTA method and guidelines. Employing it and reporting opportunities for iterative improvement will help to progress further our individual and collective understanding of the application of content analysis in this context within the field of business and management research. The opportunities for the CAMTA method as part of a mixed methods approach to literature reviews or empirical studies should also be explored in conceptual and practical terms.

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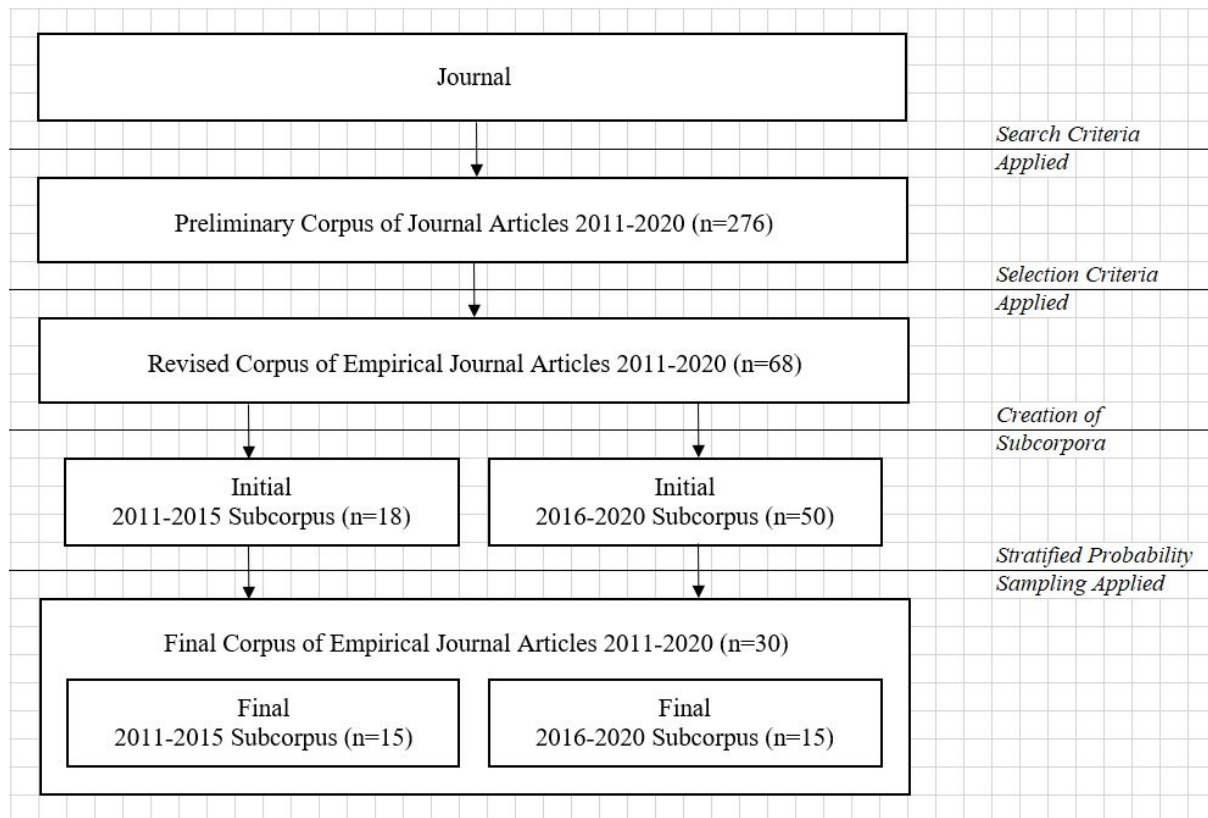40
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Figure I: Visualisation of the Step Two Process

Figure I offers a visualisation of the Step Two process for conducting the CAMTA method.

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Table I: Data Categories and Units of Analysis

ID	Category	Unit of Analysis
1	Year of Publication	Metadata
2	Number of Authors	Metadata
3	Title Word Count	Title
4	Abstract Sentences Count	Abstract
5	Abstract Word Count	Abstract
6	Main Topic of Focus	Abstract
7	Subtopic of Focus	Abstract
8	Study Setting	Abstract
9	Methodology	Abstract
10	Data Source	Abstract
11	Study Participants	Abstract
12	Country of Focus	Abstract

Page 1 of 1

Table II: Codes and Procedures

ID	Category	Code	Procedure
1	Year of Publication	Year (yyyy)	Deductive
2	Number of Authors	Number (n)	Deductive
3	Title Word Count	Number (n)	Deductive
4	Abstract Sentences Count	Number (n)	Deductive
5	Abstract Word Count	Number (n)	Deductive
6	Main Topic of Focus	Generated from the data	Inductive
7	Subtopic of Focus	Generated from the data	Inductive
8	Study Setting	Generated from the data	Inductive
9	Methodology	(1) Not stated in the abstract (2) Quantitative (3) Qualitative (4) Mixed methods	Deductive
10	Data Source	(1) Not stated in the abstract (2) Primary data (3) Secondary data (4) Primary and secondary data	Deductive
11	Study Participants	Generated from the data	Inductive
12	Country of Focus	List of countries	Deductive

Page 1 of 1

Table III: Descriptive Results

Category	2011-2015 Subcorpus		2016-2020 Subcorpus	
	Mean	**SD**	**Mean**	**SD**
Number of Authors	2.00	1.41	2.71	1.44
Title Word Count	13.00	4.06	12.07	3.87
Abstract Word Count	142.00	27.02	136.71	15.11
Abstract Sentence Count	5.71	1.44	5.93	1.27
	n	**%**	**n**	**%**
Main Topic of Focus				
Doctoral Education	4	26.67	2	13.33
Work Placement	3	20.00	3	20.00
Graduate Employability	2	13.33	5	33.33
Internships	2	13.33	0	0.00
Competencies	1	6.67	0	000
Graduate Identity	1	6.67	1	6.67
Group Projects	1	6.67	0	0.00
Psychological Contract	1	6.67	0	0.00
Entrepreneurship	0	0.00	1	6.67
Student Associations	0	0.00	1	6.67
Undergraduate Education	0	0.00	1	6.67
Year Abroad	0	0.00	1	6.67
	n	**%**	**n**	**%**
Subtopic of Focus				
Skills and Attributes	5	33.33	3	20.00
Employment Outcomes	2	13.33	1	6.67
Diversity	2	13.33	1	6.67
Student Perceptions	2	13.33	1	6.67
Degree Impact	1	6.67	1	6.67
Experiences	1	6.67	0	0.00
Industry Collaboration	1	6.67	0	0.00
Non-Technical Competencies	1	6.67	0	0.00
Academics' Perceptions	0	0.00	1	6.67
Brexit	0	0.00	1	6.67
Career Intentions	0	0.00	1	6.67
Career Progression	0	0.00	1	6.67
Collaborative Projects	0	0.00	1	6.67
Entrepreneurship	0	0.00	1	6.67
Graduate Choosiness	0	0.00	1	6.67
Psychometric Tests	0	0.00	1	6.67

Category	2011-2015 Subcorpus		2016-2020 Subcorpus	
	n	**%**	**n**	**%**
Country of Focus				
Not Stated in the Abstract	8	50.00	5	31.25
Australia	4	25.00	1	6.25
UK	3	18.75	5	31.25
Germany	1	6.25	0	0.00
Portugal	0	0.00	2	12.50
Romania	0	0.00	1	6.25
Spain	0	0.00	1	6.25
USA	0	0.00	1	6.25
	n	**%**	**n**	**%**
Study Participants				
Undergraduate Students	10	66.67	10	66.67
Doctoral Candidates	4	26.67	2	13.33
Graduates	1	6.67	1	6.67
Academics	0	0.00	1	6.67
HR Executives	0	0.00	1	6.67
Study Setting	**n**	**%**	**n**	**%**
University	13	86.67	13	86.67
Labour Market	2	13.33	2	13.33
Methodology	**n**	**%**	**n**	**%**
Quantitative	10	66.67	13	86.67
Qualitative	2	13.33	1	6.67
Mixed Methods	2	13.33	1	6.67
Not Stated in the Abstract	1	6.67	0	0.00
Data Source	**n**	**%**	**n**	**%**
Primary Data	13	86.67	11	73.33
Secondary Data	2	13.33	4	26.67
Not Stated in the Abstract	0	0.00	0	0.00
Primary and Secondary Data	0	0.00	0	0.00

*% may not total 100 due to rounding to two decimal places.

**The total for Country of Focus exceeds the total sample size as some articles have multiple

countries of focus.