Service Design From Staffing to Outsourcing:
Analysis of the Literature From the Last Decade

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ABSTRACT

The term "outsourcing" has become a conventional means of describing anything associated with the transaction of services that enables client organisations to blur core activities and thereby reduce their internal workforce and costs. The main objective of this study is confirming a gap in detailed and specific reviews of formats and economic transactions through non-standard forms of employment, namely in a service design model from staffing to outsourcing. The literature review was performed using text mining and topic modelling techniques to group relevant topics and decreases the likelihood of human bias, while bringing robustness to the analysis. The results are reflected in a conceptual state-of-the-art diagram that will serve as a basis to new discussions.

KEYWORDS

1 INTRODUCTION

Outsourcing happens when a client company uses services, people, or transfers ownership rights or decisions to an outside company that acts as a supplier. According to a variety of authors (Dolgui & Proth, 2013; Lacity et al., 2009; Mokhtari & Abadi, 2013; Su et al., 2014), the buyer does not worry about facing resource fluctuations from market needs because the aim is to pay for the amount of work needed, not the people required to do it. A detailed analysis of the information available in the last 10 years regarding resource transactions shows feelings of satisfaction and displeasure on the part of the various stakeholders involved, as well as divergences in value measurement, decision methods, impacts on the economy and society, and even in the normalisation of the concepts involved concepts (Claus Wehner et al., 2015; Riadinska et al., 2018; Veleva & Antonova, 2017).

Individual research using the terms "outsourcing" and "staffing" yields voluminous and usual results, as the themes are not new and impact the modus operandi of organizations. However, when searched in sync and in an aggregate form, the concept of "Staff Outsourcing" is very vague. There

is much imprecision, with the idea expressed in a multitude of different definitions in the literature, the exception being that of the authors Dey, Houseman, & Polivka (2012) and Fisher, Wasserman, Wolf, & Wears (2008), who present some ideas regarding this, although it is not enough. To study the subject effectively, it is necessary to connect several points in an attempt to converge the theme, for example, outsourcing practices and different arrangements, staffing practices, temporary work, resource leasing and others. Responding to this need, this paper is based on three objectives. Firstly, to present a review of the literature on Staff Outsourcing practices using advanced text mining and topic modelling techniques. Secondly, to indicate directions for future research in this field that address the gaps and overlaps found here and, thirdly, to elaborate a conceptual, state of the art diagram to support new discussions. This work is one of the first literature review on the subject to date and the fact that text mining and toping model techniques were used decreases the likelihood of human bias, while bringing robustness to the analysis. This work is could be certainly useful not only to academia but also to companies and society as it is a subject that involves working conditions and formats and economic transactions through non-standard forms of employment.

As a methodological approach 186 articles, published over ten years in international peer-reviewed journals or conference proceedings and retrieved from bibliographic databases and scientific search engines, were analysed through SLR and text mining. This was followed by a transparent and replicable structuring of information through topics resulting from the Latent Dirichlet Allocation algorithm, as well as analysis and synthesis of results to clarify terminology, definitions, variables, inconsistencies, and underlying theory.

The findings prove that there is a gap in the literature on the concept of staff outsourcing, the lack of standardisation of various terms, the lack of empirical studies from the perspective of vendors and even resources. It is also easy to recognise that in an excessive struggle for cost reduction, the typical outsourcing model may not be the most appropriate when it comes to pure resource trading. The working conditions that an employee in this type of work is subject to, as well as the lack of sufficient regulation raise several points of discussion for researchers.

Chapter two provides a framework of the basic concepts, chapters three and four explain the data collection process, chapter five presents a summary of the analysis of the articles according to the six topics found, and chapter six provides directions for future research, giving an overview of divergent opinions and ends with the presentation of the state of the art conceptual diagram of the subject under study. The last chapter presents the limitations of the study.

2 BACKGROUND

2.1 Staffing Industry

Contemporary organizations consider human resources to be the most strategic assets (Baporikar, 2017). The need for proper functioning and personal discipline resource with a high level of competency determines whether the company achieves its goals (Baporikar, 2017; Galli, 2018, 2019; Meyer & Xin, 2018; Storey et al., 2019)

Staffing industry sales totalled $138.5 billion in 2018, according to the latest annual data from ASA[1], Staffing Employment and Sales Survey, up 3.4% from 2017. Figures are in line with Van Arsdale's (2013) rationale, which indicates that staffing companies are among the largest employers in the US and are continually growing worldwide. In an era of rapid growth and unrivalled dynamics, human resources play, according to a set of work arrangements, a key role in achieving company goals (Veleva & Antonova, 2017). To become more competitive, especially those using more affordable labour from less developed countries, companies turn to the staffing industry for more efficient control of employment time (Arsdale, 2013).

A recent study[2] by ASA[1] shows that the concept of "staffing" has not yet been consolidated, in spite of its rapid growth and the increase in the number of suppliers and customers. In a survey from the same study, when asked which terms are more and less appropriate to refer to people who

are employed by a staffing company, the definitions varied greatly. However, the term "Temporary employees" was slightly favoured, followed by "Contract employees", "Temps" and "Staffing employees". The business model of staffing agencies, also called Temporary Agency Work (TAW), involves renting employees to client companies for a fixed period ranging from hours to years, was also characterised as a job broker (Arsdale, 2013). The primary relationship in this business area, associated with contingent or nonstandard work, can be described as triangular, i.e. between TAW, the client and the employee or temporary employee (TAE) (see e.g., Hopp et al., 2016; Imhof & Andresen, 2018; Lopes & Chambel, 2014). These employees perform their work in various client companies which, in turn, assume the responsibility of managing employees, directly coordinating their work, yet with no contractual involvement. These relationships are essential to keep in mind when discussing the work environment. Increasingly, researchers have begun to focus on issues related to this type of triangulation and the past few years have been rich in empirical and theoretical work from various perspectives. Client companies represent the largest share of studies; advantages and disadvantages, models of collaboration and management and adaptation of culture, are the most latent topics (Dey et al., 2012; Flickinger et al., 2016; Imhof & Andresen, 2018; Kuroki, 2012). The second-largest share falls on TAEs, considered the weakest link in labour triangulationsuch as working conditions, labour regulation or lack thereof, security, lack of training, (in) saturation, (in) voluntarism and low wages has been a topic of major debate amongst various authors (Allen et al., 2017; Flickinger et al., 2016; Imhof & Andresen, 2018; Inanc, 2018; Kuroki, 2012; C. T. Liu et al., 2010; Underhill & Quinlan, 2011; Winkler & Mahmood, 2015). Less mentioned elements (Goswami, 2018), although not less important, are the TAWs. Organisational capacity development, resource turnover, contract management and competitive strategies are the topics most addressed topics (Anagnostopoulos & Siebert, 2015; Brandl et al., 2018; Hopp et al., 2016; Imhof & Andresen, 2018; C. T. Liu et al., 2010; Lopes & Chambel, 2014; Veleva & Antonova, 2017). For Van Arsdale (2013), human resources are considered the most critical assets of TAWs, and thus, attracting and retaining a capable workforce will be a competitive advantage.

2.2. Outsourcing

According to the literature, outsourcing is not a recent concept, and it originated in the 1970s / 80s when organisations redirected vertical strategic thinking, where the focus was on core competencies and outsourcing other low value activities and products added to the primary objective of reducing costs and gaining control over various companies (Bhattacharya et al., 2012; Dolgui & Proth, 2013; Jeronimo et al., 2019; Mella & Pellicelli, 2012). In the 1990s, with the confidence that competitive advantages came from cost savings, many companies began to focus on core activities by reengineering and redesigning business processes and outsourcing all secondary activities, even products and services with higher value-added (Dolgui & Proth, 2013; Glaa et al., 2014). Since then, outsourcing has evolved from a cost reduction strategy to strategic outsourcing of activities, meaning that a company has no need for special capabilities. Nowadays, it is characterised by "transformational outsourcing", a flexible and adaptive organisation thanks to the surrounding network of suppliers (Dolgui & Proth, 2013; Glaa et al., 2014). From a resource-based perspective, outsourcing means acquiring specialized resources from a vendor and using capabilities and resources without having to own them (Mudambi & Tallman, 2010). This interpretation is in line with RBV's modern perspective, suggesting that the company does not need to own the resources, as it is the services themselves that matter and not the ownership of resources (Choi et al., 2018; Espino-Rodríguez & Ramírez-Fierro, 2018; Munjal et al., 2018).

However, academic research in this field is still under development. Several researchers present different scenarios in the relationship between outsourcing and performance outsourcing (Munjal et al., 2018). For Choi et al. (Choi et al., 2018), the value of outsourcing is higher under more uncertain conditions. Those in favour of outsourcing emphasise, from a buyer's perspective, improved performance as a result of increased strategic focus, valuable flexibility to scale or retreat in adverse

scenarios with limited cost, shared risk, lower outsourcing production costs through lower cost suppliers and bureaucratic cost savings or relational incomes (Choi et al., 2018; D, Lopesa Costa & António, 2011; Jeronimo et al., 2019; Mella & Pellicelli, 2012). Also noteworthy are some weaknesses that may arise from this type of service, opportunistic supplier behaviour, increased transaction and coordination costs, loss of core competencies, risk of intellectual capital leakage, loss of quality and differences in traditions, culture and values (Choi et al., 2018; Modak et al., 2019; Munjal et al., 2018; Stanko & Olleros, 2013). In an outsourcing case with external decision-makers, Galli & Battiloro (2019) refer that there are some risks because they only work with the information that the company provides them, which in most circumstances may not be all the information the company has in its power. Munjal et al. (2018) further state that outsourcing may be substitution based; the company no longer wants to perform this function internally, or it is based on abstentions, in this case, when a company buys necessary goods or services but has never produced domestically in the past.

Much is said about buyers but little about sellers, with the exception of Alexandrova (2015), Currie, Michell, & Abanishe (2008), Hartshorne (2015), S. Liu, Wang, & Huang (2017), Zheng, Liu, Li, & Wang (2018). The outsourcing relationship between a company and a supplier involves potential conflict because the company wants to get a quality, flexible and low-cost product or service while the supplier wants to make a profit (Baatartogtokh et al., 2018). As outsourcing services are unique and dependent on the context and on the individual's characteristics, as well as other capabilities, standardisation only exists with delivery formats such as delivery design and approach. For this reason, providers develop their own delivery and service approaches but are always dependent on the customer's context, requirement and expertise. Only generic, process-oriented information that is transferable can be documented and shared on internal knowledge platforms, enabling the service business to grow in specific knowledge (Brandl et al., 2018). Contrary to outsourcing practices, the term "Insourcing" is referred to by some authors (Dahlgrün & Bausch, 2018; Modak et al., 2019; Pellicelli et al., 2012; Perdikaki et al., 2015). Characterised as a possible strategic option, it involves maintaining activities within organisational boundaries, or represents, if necessary and advantageous, terminating existing service contracts and performing these activities internally. Law (2018) refers to the same concept, but with the name of "backsourcing".

Regarding the resource transaction, it is worth mentioning the study by Fisher et al. (2008), which indicates that despite the specificity of labour relations in outsourcing, the literature regarding contingent workers should also be applied in this context. The same author also points out five determining factors in the employment relationship of outsourced employees, physical location, relationship duration, client exclusivity, voluntarism and performance enhancement.

2.3 Text Mining

Before discussing the definition of text mining, it is necessary to understand the purpose of its presence in this work. Any scholarly work of yesterday, today, and probably tomorrow will depend on the evolution of knowledge, which is mostly embodied in the scientific literature. No wonder statistics from the SCImago Journal & Country Rank[3] show that the number of articles has grown strikingly over the past 12 years and in Asia there is a current average "production" of about one million articles per year.

In contrast to the ad hoc or conventional literature review process, many directions point to the concept of systematic literature review (SLR), a recognised research method used to integrate the best available empirical data from systematic research (Feng et al., 2018). SLR uses a sequenced approach to aggregate, evaluate, and interpret specific research questions while allowing reviewers to determine current effects and phenomena in areas where studies are difficult to control or replicate (Feng et al., 2018). Even using the SLR method that normalises review, it is virtually impossible at the human level to be able to read and track the amount and speed of knowledge growth. There is, therefore, a need for automated and effective processing that enables scientists to evaluate, synthesise and group scientific evidence in order to help consolidate and answer research questions. This is where the

need and context of text mining arise explicitly in this paper, but it is useful in any scientific work. Text mining is characterised as being the extraction of relevant information from a set of documents and the providing of methods of classification, grouping, text compression, and topic identification (Allahyari et al., 2017; Kumar & Ravi, 2016; Müller, 2016; Sohrabi et al., 2018).

2.3.1 Definition

According to some authors, the concept of text mining was started in the 1960s (Kumar & Ravi, 2016). However, the idea began to become popular only in the 1990s when machine learning algorithms were introduced that ensured word preprocessing and knowledge extraction, dramatically reducing human intervention and the amount of time required to process text (Abrahams et al., 2015; Kumar & Ravi, 2016). Due to the growing amount of data and the need to organise it, text mining has gained prominence in recent years and is now recognised as an essential area of knowledge discovery in unstructured data. Widely used in knowledge-oriented organisations, text mining aims to transform data extracted from texts to address knowledge capable of solving real-world problems (Abrahams et al., 2015; Khadjeh Nassirtoussi et al., 2014; Kumar & Ravi, 2016; Nave et al., 2018). The success of the technique is mostly due to the possibility of automatically extracting previously unknown and potentially useful implicit knowledge from large amounts of scalable and repeatable unstructured textual data (Müller, 2016). Text mining employs a variety of text processing methodologies, of which natural language processing (NPL) is one of the best known; the steps are mainly about data analysis and take into account interactive, iterative, cognitive and exploratory processes. In the context of this study, text mining offers an interesting and complementary strategy for research; Müller (2016) reinforces that this automation, besides allowing researchers to overcome manual limitations, allows the generation of insights that otherwise could not be found.

2.3.2 Text Mining Steps

In general, the text mining framework can be divided into preprocessing, text mining operations and post-processing. The common goal of these transformations is to remove noise and gradually transform qualitative textual data into a numerical representation capable of being statistically analysed (Abbas et al., 2014; Allahyari et al., 2017; Kumar & Ravi, 2016).

Müller (2016) clarifies that there is no easy recipe for selecting the appropriate combination of natural language preprocessing steps, but these are paramount and time-consuming (Allahyari et al., 2017; Müller, 2016). Phase 1, preprocessing, is broken into a series of steps to ensure collection, cleaning and transformation from data. In the first stage, a high level exploratory data analysis (exploratory data analysis) should be performed in order to identify possible problems in making a first validation of the data quality; the more documents and text, usually the more complex the analysis will be (see e.g., Allahyari et al., 2017; Lieng, 2016; Müller, 2016). The cleaning sub-step typically aggregates tokenisation, filtering, lemmatisation and stemming tasks. Tokenisation aims to split documents into phrases and, in turn, sentences into words called tokens, while at the same time excluding certain characters such as punctuation marks, extra blanks, etc. After tokenisation, it is necessary to filter or remove some of the words that may not make sense, a concept is also known and used in this work as stop-words. The lemmatisation step is also usual, a task that considers the morphological analysis of words, i.e. reducing a word in its dictionary form, e.g. plural to singular for nouns, verbs to simple present tense. Finally, the stemming technique, referred to by many authors, to obtain the root of derived words. For more details on preprocessing techniques see Allahyari et al. (2017), Feng et al. (2018), Khadjeh Nassirtoussi et al. (2014), Kumar & Ravi (2016), Lieng (2016), Loureiro, Guerreiro, Eloy, Langaro, & Panchapakesan (2019), Müller (2016), Sohrabi et al. (2018), Sunikka & Bragge (2012).

After cleaning, documents need to be transformed into structured data that is suitable for analytical models, yet, as noted earlier, most statistical and machine learning analyses focus on numerical data, so they are not appropriate for textual documents (Sohrabi et al., 2018). There are currently several

ways of converting textual data, typically through a bag of words (BOW), which considers the number of occurrences of each sentence or word, despite ignoring the order. This structure allows for a vector representation that can be analysed with scaling and statistical algorithms (Allahyari et al., 2017; Müller, 2016; Sohrabi et al., 2018). If a semantic analysis between words is required, the n-gram representation method may be used, where the objective is to represent a sequence of terms in a text based on the value of n, i.e. unigram (n is 1), bigram (n is 2), trigram (n is 3), etc, (Hagenau et al., 2013; Kumar & Ravi, 2016).

The so-called text mining operations should be initiated after the text is transformed. Steps such as clustering and topic modelling are required before generating the final results. Clustering can be exemplified as document segmentation in a set of partitions similar to each other, and is one of the most popular data mining algorithms, studied extensively in the context of text analysis (Allahyari et al., 2017). In the context of text data, many clustering algorithms can be used. Allahyari (2017) distinguishes several different types, pointing to k-means clustering as one of the partitioning algorithms that is widely used in data mining. The optimal number of clusters discovered can be used in a topic model, such as the Latent Dirichlet Allocation (LDA) generative statistical model, where the observable variables are the terms of each document and the unobservable variables are the topic distributions or collections (Blei, 2012; Campbell et al., 2015). Topics estimation can be done through sampling or optimisation approaches, for example, Gibbs sampling and Variational Bayes, respectively (Allahyari et al., 2017).

3 DATA COLLECTION

In order to enhance a rigorous, impartial and comprehensive literature review, an SLR process was followed. The entire review process has been documented transparently in order to be reproducible. After formulating the research question, in this case a literature review, defining the required characteristics of primary studies, as suggested by Durach et al. (2017), the selection of the literature began with the first consultation in multiple content providers (Business Source Complete, ScienceDirect, Academic Search Complete, Scopus®, Directory of Open Access Journals, IEEE Xplore Digital Library, Library, Information Science & Technology Abstracts, SciELO, ERIC, Digital Access to Scholarship at Harvard (DASH), Gale In Context: Science), with the term "outsourcing" resulting in 416,074 articles. However, the objective of this paper is to look specifically at the topic of outsourcing business models through the transaction of specialised resources. The search criteria of the subject were chosen with the intention of being able to capture issues related to outsourcing service providers and exclude irrelevant studies. According to an analysis among the researchers, it was also decided to select the most commonly used terms, "vendor" and "provider", which are synonyms used in the intended scope. These are a direct link to "staff", as the transaction product being studied is not just a service, but precisely a specialised workforce transaction or lease. Some of the words have been followed by a wildcard to ensure that possible variations of the term are recovered, as is the example of "staff", which may result, for example in words "staffing" or "outstaffing" (see Fig. 1).

Figure 1. Staff outsourcing research query

((TI outsourc* OR TI subcontract* OR TI sub-contract*) AND (SU *staff* OR SU employee OR SU body OR SU vendor OR SU leasing OR SU provider)) OR ((TI *staff* OR TI body OR TI employee) AND (SU vendor OR SU provider OR SU outsource* OR SU subcontract* OR SU sub-contract*))

The results of the consultation were filtered for the last full decade, from 2008 to 2018; only the business and management disciplines were selected, the English language was selected, and peer-reviewed journals were selected, obtaining a total of 260 articles. A first glance at the dispersion of the articles, according to a systematic literature review of many different journals, shows that while the query was heavily focused on outsourcing and within the intended context, unfocused results were obtained. Many of these only addressed information systems or a specific industry. For example, the articles "Learning Model of Information Technology outsourcing: Normative Implications" and "Modelling strategic semiconductor assembly outsourcing decisions based on empirical settings" have been deleted along with others with the same characteristics. Knowing that the process of obtaining a final list of primary studies is subject to various biases, such as inclusion criteria bias and selection bias, during the process, two of the researchers independently identified potentially relevant articles. The analysis went beyond what is stated in the title and the abstract in order to determine its relevance and refine the theoretical framework. Conflicts between investigators were further debated by classifying three categories: reliability, credibility and validity (see e.g., Durach et al., 2017; Higgins & Green, 2008; Moher et al., 2009), with results of agreement > 0,8 (Cohen's Kappa coefficient). In the end, after duplication was removed, 186 final articles were selected for further content analysis.

Fig. 2 shows the number of articles published per year and Fig. 3 the top 10 journals with the most items in the sample. It can be observed that every year is represented in terms of publications and 2011 stands out with 23 of the selected articles.

Figure 2. Total of papers by year
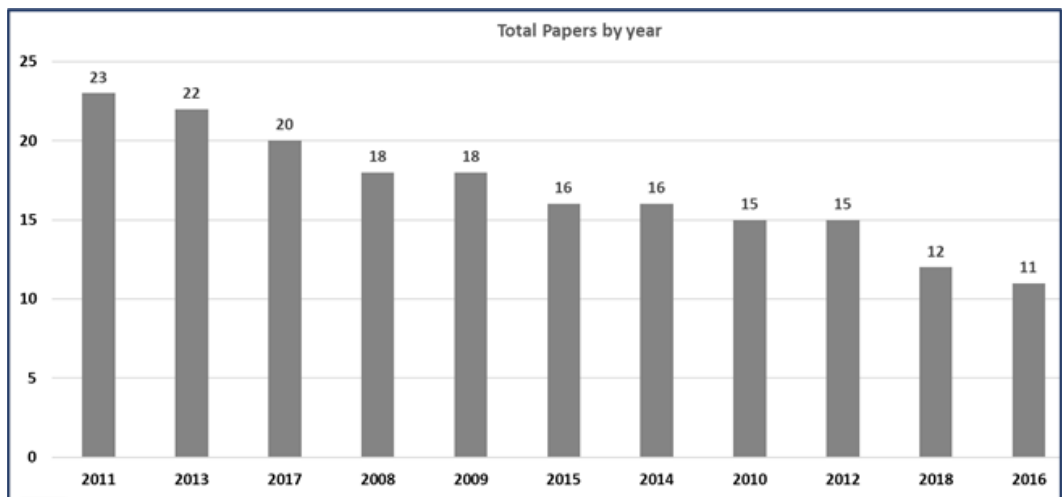
4 EXPLORATORY ANALYSIS

In Fig. 4, it is possible to note the systematic research with a text mining approach that ends in the interpretation of the topics obtained through the LDA algorithm. All preprocessing and processing work was done with the aid of the Jupyter[4] tool in Python programming language. After converting the articles to an editable format, the corpus was cleaned through tokenisation techniques and stopwords removed. Stopwords listed by NLTK package in Python were used in this study as the source for stopwords removal and words like "outsourcing" and "provider" were added so as to be removed from the text. According to Guerreiro, Rita, and Trigueiros (2016), these primary and frequent terms in the text may compromise data cohesion.
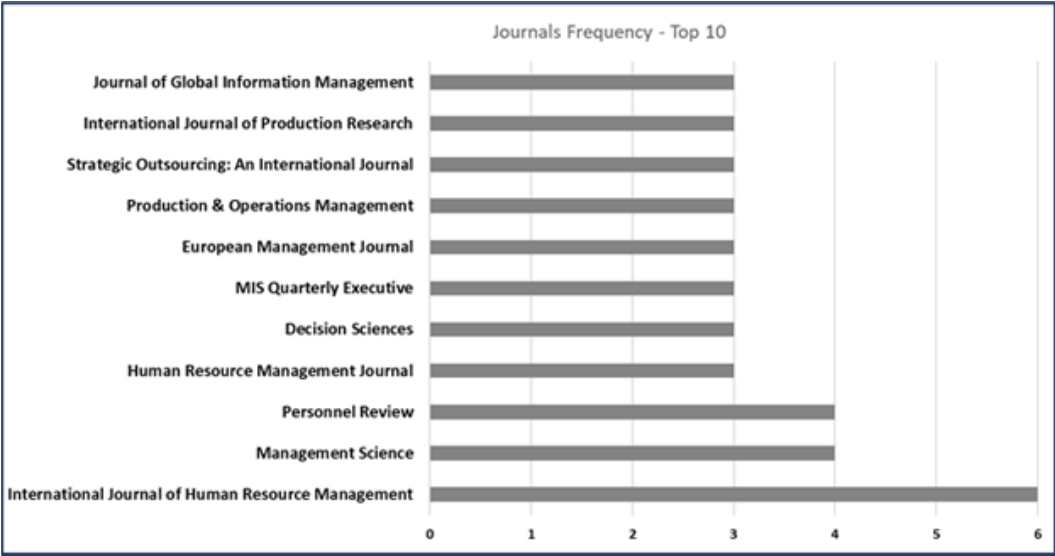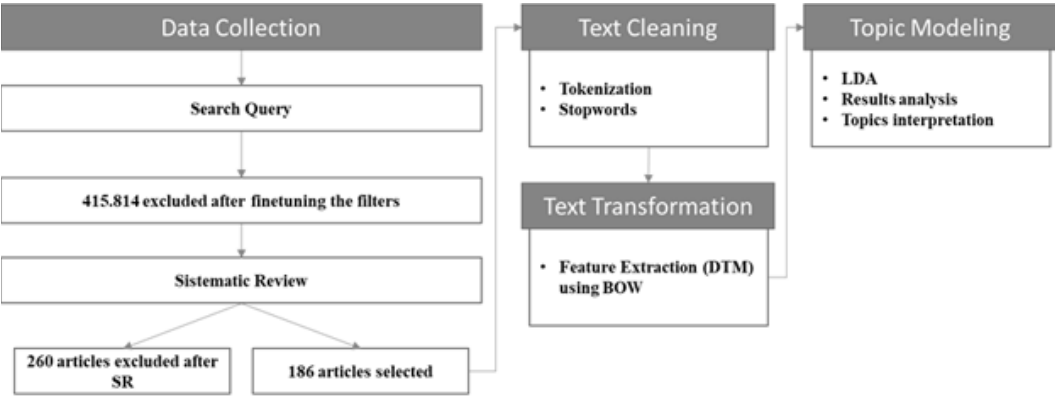
Figure 3. Journals frequency – Top10

Figure *4*. Systematic research with text mining approach

After cleaning the text, the documents were converted to a simple vector representation. Each entry of a document vector will correspond to the number of times a word has occurred in the document (bag-of-words representation). As a validation test of the mapped data, a word cloud image was elaborated on the information under analysis, which helps in a visual representation of the most common words. N-grams of two and three terms were also selected for the study. The results showed some non-fitting words such as parts of publications titles that were removed through the stopwords list in a set of iterations until the images represented in Fig. 5 and Fig. 6 were obtained.

To group the latent topics discussed in the literature according to word co-occurrence, we used the Dirichlet latent allocation topic (LDA) model, using the Gibbs sampling method (Cao et al., 2009). The LDA model was chosen over other possible algorithms for two reasons: the existence of libraries in the Python language and the ability to extract semantically meaningful topics from texts and their categorisation as validated in empirical studies (Lau et al., 2014). Although the LDA model is widely used, selecting the optimum number of topics for a corpus that was purchased through the

literature is very challenging as there is no single automatic method for determining the exact amount of topics for a document collection (Griffiths & Steyvers, 2004). To analyse the optimal number of topics based on cluster quality, we considered the Silhouette Score and Calinski-Harabaz Score (Baarsch & Celebi, 2012), according to Fig. 7.

Fig*ure* 5. Word Cloud representation for all docs

Fig*ure* 6. Word frequency distribution for all docs

According to K-means analysis, six topics were selected. Selecting less than six topics would reduce the variability explained sharply, just as one more K could add little to the explained variability. The topics found are visible in Fig. 8.

Fig. 9 shows Intertopic Distance Map graph for six topics, via multidimensional scaling, and the distribution of the marginal topic with other topics. The bars represent the frequency of a term throughout the corpus.

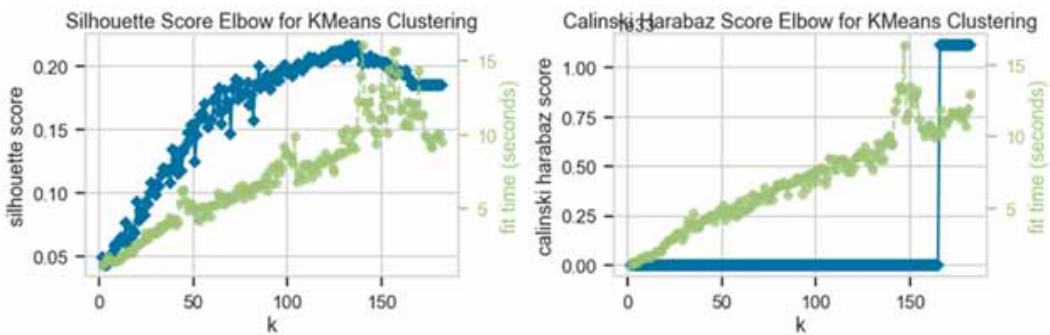Fig*u*re 7. Silhouette Score and Calinski-Harabaz Score Graph

Fig*u*re 8. Relevant topics for Staff Outsourcing


```
# Important words for topics
def selected_topics(model, vectorizer, top_n=10):
    for idx, topic in enumerate(model.components_):
        print("Topic %d:" % (idx))
        print([(vectorizer.get_feature_names()[i], topic[i])
                        for i in topic.argsort()[:-top_n-1:-1]])

selected_topics(lda, vectorizer)
```
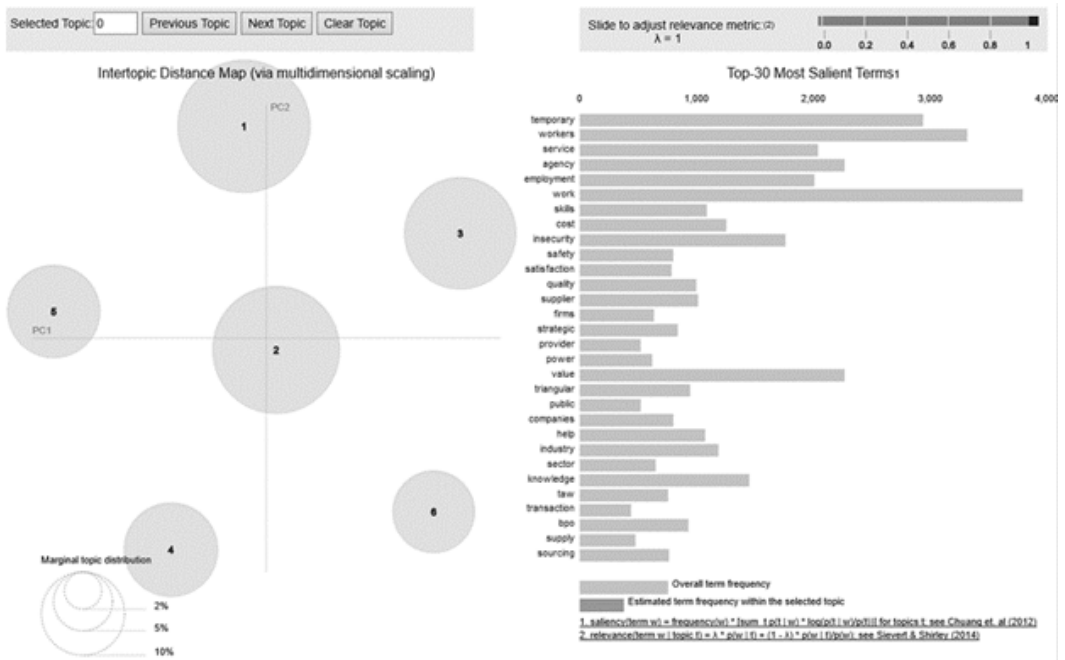
Topic 0:
[('satisfaction', 753.8563556770229), ('value', 723.3226958811437), ('help', 631.3517178278039), (' injury', 524.746897816093), ('sourcing',
484.5661908364137), ('pp', 458.4806553459037), ('decision', 400.9526395039714), ('contract', 392.75587664291095), ('activities',
385.22381915724714), ('occupational', 360.2484682760949)]
Topic 1:
[(' insecurity', 925.7867299346135), (' safety', 651.7811183727239), ('firms', 530.9083979238346), (' social', 431.72629001498495), ('public',
406.66567789361028), ('activities', 355.2099653245253), ('human', 344.39349515350443), ('resource', 325.12284852660673), ('sector',
315.8452519938692), ('service', 270.3588732630474)]
Topic 2:
[('service', 1385.164948744453), ('cost', 708.2580999296727), ('quality', 556.71269939903), ('strategic', 464.93207679357783), ('provider',
344.81427012986137), ('power', 318.20071334438546), ('bpo', 289.542950804287), ('time', 284.4491203110051), ('supply', 272.2468298736331),
('customer', 260.16561324706186)]
Topic 3:
[('knowledge', 1012.9621539789699), ('value', 957.0226877417936), ('client', 748.6456659589251), ('supplier', 729.319554729616), ('performance',
581.3007894009323), ('control', 548.5646156942832), ('project', 527.006591702705), ('market', 495.67077677480404), ('contract',
468.79611699135637), ('relationships', 432.3192802954604)]
Topic 4:
[('workers', 3040.646840662957), ('work', 2959.2694161974264), ('temporary', 2918.6688333629704), ('agency', 2212.2336484910084), ('employment',
1826.3810059347284), (' triangular', 807.1407498950995), ('employees', 717.3338096089648), ('taw', 656.691260445186), ('tae',
440.83732667643187), ('value', 434.39788466947965)]
Topic 5:
[('skills', 960.1770551658926), ('industry', 554.156482441697), ('companies', 479.8013058460139), (' relational', 444.7889751868773), ('global',
359.85437506430597), ('market', 346.6433570099034), (' transaction', 344.70844268787306), ('work', 292.98052024189667), ('time',
291.52752939425847), ('workers', 279.0510979877674)]

5 DATA ANALYSIS

After global analysis and topic generation through the LDA model, articles were analysed and information collected in order to summarise the critical points per topic described in the literature in the last decade as well as to understand if the trend suggested by the topic characterisation is aligned with the publications. After reviewing the selected topics, two of the researchers independently identified potentially relevant articles, analysing their full content. All the researchers' choices resulted in the selection of a total of 76 publications from a sample of 186. Just for the sake of organisation and ease of reading, the following topics are not ordered numerically. Otherwise, for example, the definition of Staff Outsourcing would only appear and be detailed in fifth place.

Fig*ure* 9. Intertopic distance Map for six topics

5.1 Staff Outsourcing Definition (Topic Five)

Contrary to many of the definitions of outsourcing that generally refer to outsourcing activities, the articles analysed above all describe the need for companies to obtain specialised and unique skills through the use of "leased" resources in-house. This trend has been spurring a real revolution in outsourcing services and employee utilisation, through a model of achieving competitive advantage in global markets (Veleva & Antonova, 2017). However, the concept of pure outsourcing of staffing is tricky to benchmark in the literature and it is hard to find a clear and sufficient definition (Claus Wehner et al., 2015; Riadinska et al., 2018; Veleva & Antonova, 2017).

The relationship in the staffing industry can be described as triangular between three different actors, as shown in Fig. 10, between employee and staff agency there is an employee/employer employment relationship and with a defined contract, staff agency employees are employed and the staff agency takes employer responsibility (Arsdale, 2013; Hopp et al., 2016; Imhof & Andresen, 2018; Lopes & Chambel, 2014). Between the staff agency employee and the client company, there is an operational working relationship. The connection between the staff agency and the client company is a business agreement stating that the client company takes advantage of staff agency labour for an agreed period, upon payment. In this case, the client company assumes responsibility for the operational management of employees and the work environment must be a shared responsibility between the staff agency and the client company. The triangulation referred to may also vary according to the type of contract used. Typically, when we are not dealing with a full-time contract, the relationship fits into temporary work and the employee is renamed "temporary agency employee" (TAE), and the staff agency renamed "temporary agency work" (TAW) (Ferreira, 2017; Hintikka, 2011; Hopp et al., 2016; C. T. Liu et al., 2010; Winkler & Mahmood, 2015). It is important to distinguish these relationships in order to facilitate possible discussion of the work environment.

Figure 10. Staff Outsourcing actors relationship. Source: Author's elaboration, based on data from (Arsdale, 2013; Hakansson K, Isidorsson T, 2013; Hopp et al., 2016; Imhof & Andresen, 2018; Lopes & Chambel, 2014)
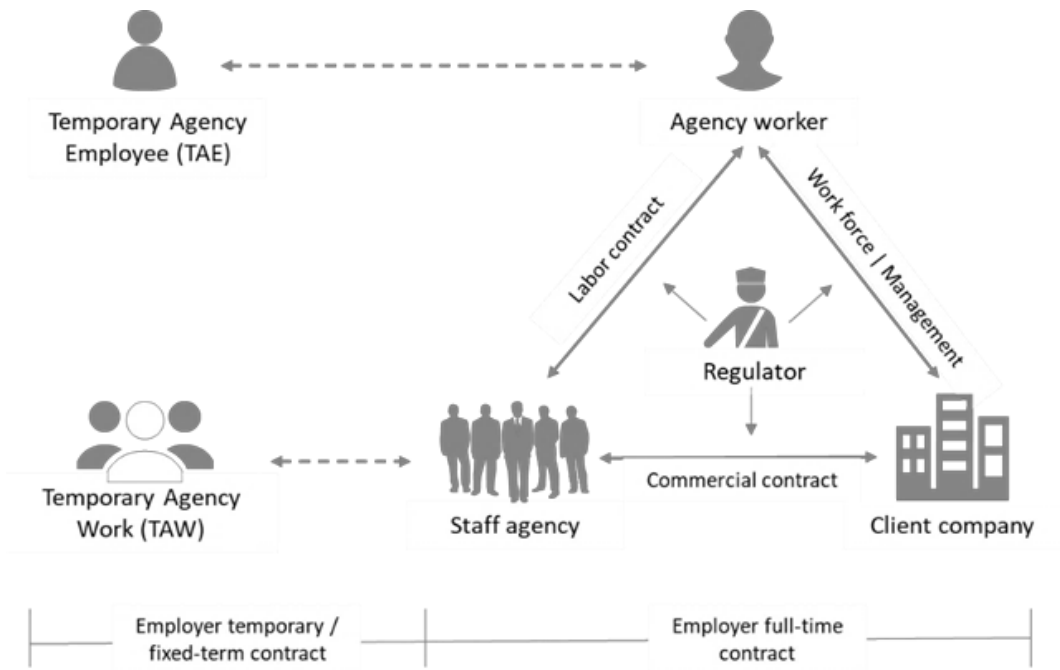
5.1.1 (Employee / Staff / Worker / Personal / Labor) Leasing

Recent literature regarding employee leasing focuses on explaining that different names overlap (Lawson, 2016; Veleva & Antonova, 2017). Personnel leasing, employee leasing, staff leasing, worker or labour leasing means leasing of personnel from an organisation that handles the paperwork and administers benefits for those employees (Hopp et al., 2016; Veleva & Antonova, 2017). A differentiating detail in employee leasing is that the employee leasing company is only a hypothetically theoretical employer for the final client company employees, as it only deals with regulatory paperwork and manages benefits for those employees without any additional interference in the day to day work of the employee. Employee leasing appears in response to the tendency to "export" non-core activities, which is not new. The authors Veleva & Katya Antonova (2017) recall that by the middle of the last century William Russell Kelly, known as the founder of temporary work, had already started hiring people and renting them to other companies. According to the same authors, there may be different models of employee leasing, of which three stand out: the Professional Employer Organisation (PEO) (Lawson, 2016; Seth & Sethi, 2011), a company that puts their employees on Staff and permanently leases them to other employers, the Administrative Services Organisation (ASO) where employee leasing performs services that would otherwise be carried out by the client company, and finally, and the best known, a (HRO) model in which the employee leasing service performs the client company's HR functions and frees them to perform other functions. This includes hiring administration, training and legal expertise, planning health benefits, retirement plans and workers' compensation insurance (Karthikeyan et al., 2013; Parashkevova, 2011; Seth & Sethi, 2011). Terms are not standardised, by referring to the National Association of Professional Employer Organizations (NAPEO)[5] website, we find that the definition of PEO takes on a slightly different meaning from the above, "PEOs provide payroll, benefits, regulatory compliance assistance, and other HR services to small and mid-sized companies".

5.1.2 Temporary (staff / employment)

The concept of temporary Staff is very detailed in the literature, with various points of view which show that it is a relevant and continuously updated theme. For Parashkevova (2011), the concept is similar to the concept of staff leasing but is distinguished by its relatively shorter period and the initial orientation for temporary employment. Davis-Blake and Broschak (2009) are two of the few authors who link the concept of outsourcing to staffing and temporary work practices. In their description of temporary work, they highlight that temporary workers perform more routine, unqualified tasks and present a higher risk of an accident. On the other hand, the client company that uses temporary resources is also harmed because their workers may be less committed, which could lower their confidence when working with temporary workers. Dey et al. (2012) point out that temporary work is useful to client companies by reducing costs, risk of lawsuits brought by laid-off workers and mitigating adverse morale and productivity effects associated with layoffs. Temporary workers receiving the minimum wage or slightly higher, with lower levels of dissatisfaction and less training than permanent workers, and still only earning for hours they actually work for their clients, are warning points by Van Arsdale (2013). Many other authors talk about the subject (see more information: Allen et al., 2017; Flickinger et al., 2016; Hopp et al., 2016; Imhof & Andresen, 2018; Inanc, 2018; Kuroki, 2012; C. T. Liu et al., 2010; Lopes & Chambel, 2014; Underhill & Quinlan, 2011; Veleva & Antonova, 2017; Winkler & Mahmood, 2015).

5.1.3 Body Shopping

The author Maitra (2015) defines Body Shopping as being staffing, using as an example India-based IT recruitment staff in India, who buy (Shopping) qualified people (Body), i.e., recruit people for short term projects. Other authors (Majumdar et al., 2011; Sharma, 2014) define the term similarly but fully associated with IT companies in India, "supplier of low-cost coders and programmers for onsite work". Majumdar, Simons, and Nag (2011) specify in their study that larger suppliers, incorporated, public and owned by foreign subsidiaries more often provide body shopping practices in their international services, notably for technology purchase and system maintenance.

The authors Bhattacharjee & Chakrabarti (Bhattacharjee & Chakrabarti, 2015) highlight the current ridicule of the concept of Body Shopping regarding offshore practices, in which Indian software professionals were taken to the client's site to execute the project, that is, abroad, in the country. However, he admits that this practice was positive for India, exposing Indian software professionals internationally. As main topics, Maitra (2015) notes that with the strong demand for IT capabilities globally, we see the proliferation of TAWs that serve as crucial channels to facilitate global circulation and just-in-time workers to meet customers' requirements. For Sharma (2014), this monopoly of India will end because China is already a strong competitor and countries like the Philippines, Romania, Poland and Brazil are rapidly acquiring and matching the same capabilities. Bhattacharjee & Chakrabarti (Bhattacharjee & Chakrabarti, 2015), on the contrary, believe that India will maintain its undisputed leadership in IT outsourcing.

5.1.4 Other Definitions

Several concepts sometimes overlap with the concepts covered in this work, so we want to discuss some of them briefly here, such as "co-employment", "Staff Augmentation", "Contracting-out" and "Outstaffing".

Veleva et al. (2017) show that NAPEO[5] defines co-employment as the "contractual allocation and sharing of employer responsibilities between a Professional Employer Organization (PEO) and its client". In an employment cooperation agreement, employees are technically employed by two separate companies: the client, who controls their daily duties and key job assignments, and the PEO / contractor, who handles personnel-related duties. Co-employers basically provide services and benefits to a client through their existing workforce. The term "Staff Augmentation", according to the literature reviewed, is used by several authors who investigate outsourcing, specifically IT. It

is described as the name implies; capacity enhancement through external people provided by staff agencies, and is associated with offshore services and help-desk (Bloch et al., 2010; Nevo & Kotlarsky, 2014; Schwarz, 2014). Another of the similar terms is "contracting out", the difference between outsourcing and contracting is rather subtle. However, in the articles analysed the terms "contracting out" and derivatives were used only as a synonym for outsourcing, see examples from Currie et al. (2008), Dutta, Gwebu, & Wang (2011), Mudambi & Tallman (2010), without any reference to another meaning or distinction, such as Parashkevova's (2011) phrase "outsourcing, i.e. contracting out services". Parashkevova (2011) is the only author to speak of the definition of "Outstaffing", referring to the "exclusion" of internal employees from the organisation through the transfer of civil and legal relationship to a company that provides staffing services.

5.2 Employee conditions (Topic One)

What makes the triangular relationship of service "flexible" is that working conditions, working time, and employee compensation are negotiated by the other two parties without their direct contribution. TAE, without any union power, has only the limited control to be able to refuse employment or the ability to leave at any time even after it has started, but can influence the likelihood of being picked for future opportunities. "Flexibility" increases for TAW as well as profit whenever there is a high temporary workforce to choose from. Van Arsdale (2013) points out that for TAW this is one of the positive consequences of high unemployment and poverty in this era of outsourcing: the more unemployment, the more temporary workers; the more temporary workers, the higher the power of companies to hire labour more flexibly and cheaply, as shown in Fig. 11.

Fig*ure* 11. Adaptation by Van Arsdale's (2013) premise of the work impact chain. Source: Author's elaboration
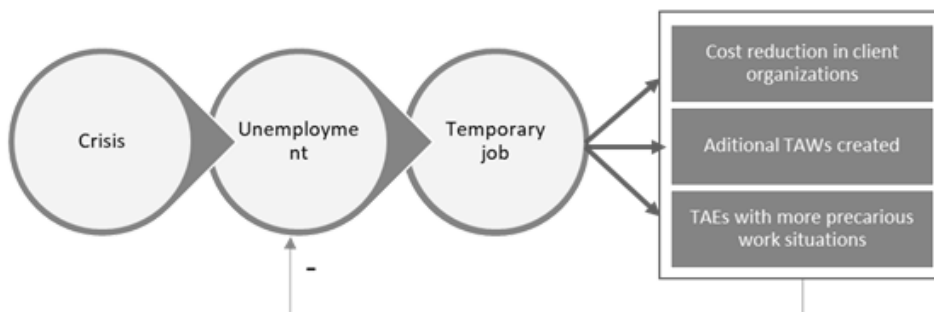
This situation causes most employees to receive a minimum or below average hourly wage by discounting any waiting time between jobs, which means unemployment within a full-time job and subsequent part-time employment that promotes meagre satisfaction rates. Many authors state that all working time that benefits employers should be paid (Arsdale, 2013; Inanc, 2018; Kim et al., 2017). In fact, TAEs are on average less affluent than permanent workers in terms of pay, have less access to training, less job satisfaction and job security (Hintikka, 2011; Hopp et al., 2016; Kuroki, 2012; Roquelaure et al., 2012; Underhill & Quinlan, 2011; Vlandas, 2013) so it is doubtful why so many employees are under these conditions and why the model has been successful (Hopp et al., 2016; Inanc, 2018; Kim et al., 2017; Lopes & Chambel, 2014). Underhill (2011) reinforces this unbalanced message by showing through his study that temporary workers experience different and more acute risks than direct hires or permanent workers. Often employee reasons for such choices have been portrayed as a voluntary versus involuntary dichotomy (Lopes & Chambel, 2014; Winkler & Mahmood,

2015). Voluntary TAEs tend to underline reasons such as flexibility, freedom and diversity offered by temporary employment, while involuntary TAEs select these temporary work arrangements because they feel "obliged" to do so as they need a job and cannot get one another way. As a reinforcement of this type of "obligation" Hopp (2016) alludes to the fact that some studies show that over 50% of TAEs have previously been unemployed for an extended period. In terms of the psychosocial work environment, the literature review also shows that job insecurity is a significant stressor for psychosocial health (Hakansson K, Isidorsson T, 2013). Hintikka (2011), in his article, focuses on the frequency of workplace accidents and concludes that it appears to be consistently higher in TAWs and should be accompanied with preventive actions in more detail, to avoid the worsening of some TAEs' work conditions. Most TAEs around the world prefer to have a permanent employment contract and aspire to be hired by the company they work for (Lopes & Chambel, 2014), see temporary work as a way to more easily achieve permanent employment and do their best to demonstrate that they will be good workers and should be hired by the client company (Anagnostopoulos & Siebert, 2015; Hopp et al., 2016; Kuroki, 2012; Lopes & Chambel, 2014; Winkler & Mahmood, 2015). Another highlight is the study by Mahmood (2015) regarding the temporary experience of temporary workers as borderline subjects in flexible organisations, which concludes that TAW workers are not employees of the client company even if they are doing the work there, but at the same time they do not have employee status at TAW despite being an employee there, i.e. neither full insiders nor full outsiders, resulting in the ambiguous question of where they really belong, who they are and how they should respond to their employment situation. Lacking the structural link, employees find it challenging to develop a sense of belonging and loyalty to the client company, as they are continually denied this status internally, experience various situations in which they feel marginalised and disadvantaged compared to regular employees, for example something as simple as being unable to attend the Christmas party (Winkler & Mahmood, 2015). Still in this context, Flickinger (2016) addresses issues such as differences in the relationship between job satisfaction and turnover intentions of temporary and permanent employees. These are related to the differences in social relations that employees form with their supervisors. As the temporary work setup does not allow TAE to build high-quality relationships with their client company superiors in the same way as their permanent colleagues, so it follows that satisfaction can never be at its maximum and turnover is at stake. From another angle, Van Arsdale (2013) states that there is a minority of temporary workers with an active voice in defining and evolving their working conditions, particularly in specialised fields such as technology and medicine. These TAEs are commonly referred to as subcontractors, although their origin is the same as non-professional temporary workers. The skills of professional temporary workers are in lower supply and higher demand compared to the average temporary worker.

In the literature, not everything is unfavourable, it is mentioned that professionals with high skills who have scarce skill sets are changing and shaping the market by taking advantage of the wave of temporary work. Temporary work is nowadays seen by many TAE as a "free will perspective", having the chance to choose interesting tasks and projects but also allowing some freedom to decide where and when to work (Hopp et al., 2016; Winkler & Mahmood, 2015). Given the support of some TAWs in matching jobs and paying health and pension provisions, TAEs with a scarce skill set can leverage their market power to negotiate better working conditions and may be better off as TAE permanent than as a comparable permanent employee (Hopp et al., 2016), thus contradicting the concept of some authors (Arsdale, 2013; Inanc, 2018; Lopes da Costa et al., 2014) that "safe" employment" is usually contractual, either through collective agreements or from employee to employer. McKinsey reinforces this idea in its study (McKinsey Global Institute, 2018) revealing that today, more than 70% of people are self-employed by choice and more than half of the workforce will be self-employed by 2027.

All these trends and changes need adaptation by TAW and client companies, for example, client companies need to create appropriate HR activities for temporary workers who may hold key positions in the organization (Imhof & Andresen, 2018; Kuroki, 2012). In general, organisations are giving higher priority to the well-being of permanent and temporary employees as an indicator

of their organisational success (Anjum et al., 2019; Baporikar, 2017; Galli, 2019, 2020; Imhof & Andresen, 2018; Mason, 2018).

5.3 Regulation of Non-traditional Work (Topic Two)

In 1982, the Member States of the European Union[6] clearly defined the concept of temporary work as a tripartite working relationship, based on a "triangular employment relationship" between a TAW, a TAE and a client company (Arsdale, 2013; Hopp et al., 2016; Imhof & Andresen, 2018; Lopes & Chambel, 2014; Vosko, 2010). One of the most discussed topics in the literature in recent years on this topic points to the regulation of professions. The protection of TAE is a particular challenge for governments in terms of regulation, a hotly debated topic, for example at EU and Member State level but also in other countries. Maitra (2015) exemplifies the case of India whereby each agent in the chain withdraws part of the worker's monthly salary as part of the agreement and workers accept below-average conditions to avoid unemployment and survive in a neoliberal, racialized labour market, lacking "stability and predictability". The same author also points out that both host countries, staff agencies and Indian TAWs are complicit in this kind of precarious treatment and that no one is refraining from using these practices with workers. For many authors, it all boils down to the fact that the current structures and functions of employment practices in the hiring industry allow for, in many cases, the clear violation of laws (Anagnostopoulos & Siebert, 2015; Arsdale, 2013; Hintikka, 2011; C. T. Liu et al., 2010; Veleva & Antonova, 2017).

Temporary work is influenced by labour market systems, governments and rules governing trust and authority and financial systems (Allen et al., 2017; Vosko, 2010). However, most legislation is incipient, limited to the regulation of topics such as renting durations, employment contract rules, discrimination penalties and the possibilities of employing a former regular employee like TAE (Hopp et al., 2016; Vosko, 2010). Vosko (2010) reinforces this message by indicating that precariousness in triangular labour relations is not inevitable, but those responsible cannot establish future directions. Still in this line of thought, several authors report that there is a growing realisation that temporary work is becoming the great stabiliser of modern capitalism, as in many cases it is the result of governments' political choices to create flexibility in the generation of employment (Anagnostopoulos & Siebert, 2015; Arsdale, 2013; Vlandas, 2013). However, the prescriptions of neoliberal policy are not always appropriate and invariably do not lead to superior outcomes for employees and employers (Allen et al., 2017). This form of temporary, non-union, low-wage and unpredictable wage employment does not solve the problem of growing poverty in this age, as ethical companies that offer excellent conditions to employees, such as fixed contracts, health insurance and better wages find it difficult to cope, compete and ultimately survive in a market where competition has the option of using temporary Staff. The ethical business community, trade unions, workers' rights organisations, citizens and workers must come together to pressure responsible governments to acknowledge this situation and act (Allen et al., 2017; Arsdale, 2013; Vosko, 2010). Although there have been examples of deregulation in recent years, the general trend is that legislation and regulations are increasingly targeting the reduction of social dumping, one example being the EU Directive 2008/104 / EC (Hakansson K, Isidorsson T, 2013; Vosko, 2010).

5.4 TAW and Relations with Stakeholders (Topic Six)

Despite the advantages reported due to decreasing economic instability and recession, employers become shy about hiring full-time or contractual employees. It is challenging to hire a long-term worker when you are not sure if there will be revenue to sustain employment when the economy shrinks, or when production needs to decline.

McKinsey (McKinsey Global Institute, 2018) reveals in its discussion paper based on a survey of 3000 business leaders, Skill Shift: Automation and the future of the workforce, that "companies of all sizes plan to use temporary employees and external contractors more than outsourcing agencies". It is also revealed that up to 30% of working-age workers in the US and Europe receive salaries through

independent employment contracts, including, temporary workers placed by human resources staff agencies and participants in the online gig economy. Although organisations may pursue many paths, one that is frequently not recognized is investing in human resource (Anjum et al., 2019).Temporary workers are easily eliminated, redundancy and unemployment benefits are avoided, flexibility and cost savings are gained, and the core competencies of the company and its investments in specific training in key employees are protected. But other views are listed in the literature as advantages for TAWs and client companies, an essential aspect of the hiring and selection process is the true unobservable capacity of the potential employee (Hopp et al., 2016). Employees may claim to have the necessary capacity to perform a particular job, but the true nature of this statement remains unobservable from the start. A way to overcome this information asymmetry is the demonstration of capacity, so the longer the time (ceteris paribus), the more the employer will be able to reduce the asymmetry of information about the TAE and infer valuable signals about skill, talent and motivation in order to make an informed hiring decision (Arsdale, 2013; Hopp et al., 2016). Flickinger (2016) notes, however, that there may also be disadvantages to this type of approach for client companies; the loss of a highly qualified TAE due to an unexpected turnover can be as damaging to an organisation as the loss of a permanent employee. Although this type of work is commonly called "flexible employment", Van Arsdale (2013) describes it as another method of controlling the workforce through a modern usurpation of workers' working time. Also, Liu at al. (2010) indicates that it is important to measure the quality of TAW service offered to the temporary workers; this quality can be defined by five dimensions: tangibles, reliability, interpersonal supportiveness, service supportiveness, and service convenience.

5.5 Types of Outsourcing Arrangements (Topic Three)

An important observation arising from the research on outsourcing is that there is an enormous variation in how companies get involved in outsourcing agreements (Davis-Blake & Broschak, 2009). In fact, the same type of supplier can operate under different outsourcing agreements, based on the preferences of the client companies that structure these arrangements (Currie et al., 2008; Davis-Blake & Broschak, 2009; Mudambi & Tallman, 2010). While the general concept is relatively normalised, the different arrangements or typifications show differences in explanation among authors. While for many authors, the concept of outsourcing is "dismantled" into geographical arrangements, others discriminate arrangements through types of contracts, and there are still several subtopics that are not as detailed and that are important to mention.

5.5.1 Arrangements by Type of Contract or Job

A literature review of recent years suggests that there have so far been three significant trends in outsourcing industry arrangements (Plesa et al., 2018): Business Process Outsourcing (BPO), Information Technology outsourcing (ITO) and Knowledge Process Outsourcing (KPO). However, and as indicated by the authors, most of the available research seems to focus only on the first two types.

Several authors (S. Liu et al., 2017; Zhang et al., 2018) describe BPO as activities or projects where service providers accept, manage and control business processes that a customer trusts and selects. Munjal, Requejo, and Kundu (2018) also include specialised services and knowledge-intensive activities, such as R&D, which overlaps with the concept of KPO, for other authors. Some less positive points mentioned are highlighted; although BPO can reduce costs and increase the competitiveness of companies, the implementation of BPO projects is unsatisfactory and subject to immense risks (Choi et al., 2018; Zhang et al., 2018). Davis-Blake and Broschak (2009) do not use the term BPO but similarly describe a category of outsourcing that involves the localisation of parts of business processes or the manufacture of components of complex products or services, beyond the limits of the leading companies.

The term ITO is described as external services specifically related to IT tasks and is distinguished from BPO because it involves, above all, the handling or production of hardware and software

(Alexandrova, 2015; Dutta et al., 2011). According to Han et al. (2013), economic benefits are possible if companies use OTI, i.e. the use of specialised knowledge and the economies of scale of the human and technological resources of the service provider. The same authors also reinforce that success can only be achieved if there is alignment between the IT resources of the client and the supplier in terms of specific routines, processes, skills and organisational resources. Several authors justify the study of the theme on a larger scale compared to other ITO data being more standardised because most purchasing companies use the same equipment (Dahlgrün & Bausch, 2018). Other authors (Alexandrova, 2015; Dutta et al., 2011) highlight the risks associated with ITO for client companies: complete loss of organisational skills and the possible exploitation by suppliers. It is also mentioned that the IT area cannot be seen as a commodity.

Banerjee, Chhaya, and Royer-Scheible (2011) indicate that KPO is an extension of BPO but unlike BPO, where an entire process can be outsourced, in KPO only a part of a larger process is outsourced, for example, market research and data analysis, financial analysis, analysis and work related to intellectual property and others (Plesa et al., 2018). So-called modern organisations have evolved the outsourcing of business processes into the outsourcing of high-value processes as a way to adapt to the reality of a rapid change from an industrial economy to a knowledge-based economy. It no longer counts only the labour force, but intellectual "labour" (Plesa et al., 2018; Sachdeva et al., 2009). This led to the emergence of a new trend in the process of outsourcing knowledge, through KPO's. Nowadays, many authors believe that transferring activities impacts heavily on company performance and involve a much higher degree of complexity (Currie et al., 2008). Currie et al., (2008) opportunely question the naturalness of the KPO concept "An important question about KPO is that: If knowledge is so important to competitive advantage, why are firms outsourcing it? Is it a myth or are we referring to other kinds or variants of knowledge?". The authors indicate that knowledge should be contextualised because it is likely that the definitions of KPO depend on the different characteristics of companies and industries. In this modus operandi, grounded in knowledge, with requirements of higher analytical and technical skills, as well as decisive judgment, the providers of such services then have to adapt their employees or start to hire looking more for analytical skills, advanced techniques and a high degree of specialisation (Kaoud, 2017; Plesa et al., 2018; Sachdeva et al., 2009). Plesa et al., (2018) further highlight that the benefits of KPO are more challenging to quantify than for example in BPO, but that companies can benefit significantly in terms of revenue or improve competitive advantage, in addition to cost reduction and flexibility, that are always the points of reference. Not being faced with a typical labour scenario, it is possible to use other countries with the same skills, but where resources are cheaper, and it is possible to work in continuous flow scenarios if there are time differences.

5.5.2 Arrangements by Type of Location

In terms of standardisation of concepts, the arrangements by type of location are coherently defined in the literature. The division mainly involves three types: offshore or international sourcing, nearshore and onshore. Dekker, Kawai, and Sakaguchi (2018) indicate that the complexity of the outsourcing contract does not differ if it is done between companies from the same country or with companies from different countries. However, contracts between different countries have a shorter duration, more renewal provisions, less flexibility, and contracting costs.

Offshore outsourcing distinguishes itself from outsourcing, since in the concept of offshoring the company providing the service is subsidised by a company located in another country, in other words, what differentiates outsourcing from offshore outsourcing is the location of the seller (Chakravarty et al., 2014; Dolgui & Proth, 2013; Kotlarsky & Oshri, 2008). This specific arrangement of geography has received considerable attention due to its preponderance in international trade and its implications for employment and economic growth (Choi et al., 2018; Pongelli et al., 2018). Choi et al. (Choi et al., 2018) highlight that the more global (offshore) the network of sourcing suppliers, the higher the availability of lower-cost or better quality suppliers. Some authors point out that empirical work on

the value of offshore outsourcing at the company level has been limited and inconclusive (Choi et al., 2018; Mukherjee et al., 2013) and that there are some problems with this type of arrangement such as different languages and time zones, loss in innovation (Choi et al., 2018), although lower costs still make it a valid option. It is also important to mention the work of Williams and Durst (2018), which indicates that for a higher probability of success, the knowledge of client companies has to pass to the supplier organisations. Munjal, Requejo, and Kundu (2018) also add to the debate about offshore, regarding how a company's home country and its size is relevant in the outsourcing decision. The example is used that unlike Western multinationals, small companies in emerging economies, given the lack of advanced specialised resources, should use offshore outsourcing and strive to reduce internal costs as well as increase their borders.

Nearshore outsourcing means that the developing company is in an adjacent or very near country. This concept is similar to offshore outsourcing with the only difference that the company providing the service is located in a country relatively close to the buyer and is in the same time zone. Note that the word "nearshore" appears dozens of times throughout the analysed articles yet none of the authors explains in detail its meaning.

The concept of onshore shows unanimity in recent literature. The concept is described as the exchange of services between the vendor in the same country as the client (Chakravarty et al., 2014; Jain et al., 2011) and is associated with critical activities that may require closer proximity and control (Currie et al., 2008; Dutta et al., 2011). Niazi et al (2013) indicate, however, that onshore IT activities generally cost one-third more than offshore.

5.5.3 Other Arrangements

Other authors refer to types of parallel or complementary arrangements to the terms previously characterised, and there is a confusion of concepts (Dolgui & Proth, 2013).

Referred to several times in the literature, the term subcontracting is described in various ways, but also superfluously. Dolgui and Proth (2013) even state that, sometimes, managers confuse "outsourcing" and "subcontracting", explaining the term as part of the work transferred to another company that has special skills or resources that allow it to perform specified tasks under better conditions. Other authors (Anagnostopoulos & Siebert, 2015; Currie et al., 2008; Grimshaw & Miozzo, 2009) define subcontracting as a common practice in large outsourcing contracts, where the main supplier brings together other suppliers to meet the terms and conditions of the contract. Currie et al. (2008) give an example that "...a large IT supplier, having won a major outsourcing contract, may sub-contract programming work to a smaller IT supplier.". Interestingly, other authors use the term outsourcing and subcontracting as if it were the same, or call subcontractors "outsource service providers", with no distinction made (Mehta & Mehta, 2017; Mokhtari & Abadi, 2013; Perdikaki et al., 2015). Baatartogtokh, Dunbar, and van Zyl (2018) state that contracting out and subcontracting are the same thing, explaining that it is work assigned to an external supplier on a work-to-work basis, usually involving an additional cost arrangement. Oke and Onwuegbuzie (2013) use the concept of "subcontracting-in" defining it as a situation in which a company undertakes activities on behalf of a client, thus allowing the company to leverage its internal capabilities.

Davis-Blake and Broschak (2009) do not mention the term body shopping but indicate alike that outsourcing can involve the acquisition of human resources by way of labour market intermediaries through different channels, such as temporary employment agencies, professional organisations of employers and executive search firms.

There is also the term "strategic alliance", used as a possible outsourcing arrangement. The main difference between the strategic alliance is that the relationship is seen as a partnership between companies, in which their resources, capabilities and core competencies are combined to pursue mutual interests, typically the downgrading of direct and indirect costs related to labour, materials, machinery and overheads. In the strategic alliance, there is typically profit sharing, which is similar to a society (Dahlgrün & Bausch, 2018; Hansen & Rasmussen, 2013; Mehta & Mehta, 2017; Modak et al., 2019).

5.6 TAW and Temporary Work Business Models (Topic Four)

According to recent literature, TAWs generally do the same thing; search for, find, examine and hire a certain number of employees (TAE) to be assigned to client firms according to need for a given, usually short, period. The client company in these situations exercises the rights of an employer, despite not having an employment relationship with the employee (Arsdale, 2013; C. T. Liu et al., 2010; Veleva & Antonova, 2017). However, the discussion on this topic is centred on the working relationship outside the normal standards of fixed-term hiring, which strongly impacts on the relationship between people and their work and is certainly a striking aspect of the current economy. In the European Union, the list of types of work characterised as temporary work includes fixed-term contracts, seasonal work, contracts of limited duration, project contracts, training contracts and temporary employment contracts (Anagnostopoulos & Siebert, 2015; Hopp et al., 2016; Imhof & Andresen, 2018). Each type of temporary work can also take on two configurations: the final client companies that hire TAEs through specialised staff agencies (TAWs), or clients that directly establish fixed-term contracts with employees without interference from third parties, this last one not being the most typical configuration today (Lopes da Costa et al., 2014). The first configuration, which is the most normal and most commonly used is referred to by Lopes and Chambel (2014); the TAWs bring more advantages to the client company than permanent or temporary hiring, due to the specialisation of resources needed for the search and selection and also by the low cost of labour for selection and management, because also this service can be hired and paid for only when there is work to be done.

Few authors have studied and given focus to the internal management of a TAW (Goswami, 2018), however there are some studies of how the operation helps, or can help to develop the capabilities of the company. In this line, the work of Brandl (Brandl et al., 2018) is an extraordinary exception because it studies and concludes that, in an offshore outsourcing company, the development of capabilities of employees who are internal but who work outside, does not automatically translate into organisational capabilities since most of the tasks that are performed with the client are codified, sequential and, even if advanced, do not require decisions or judgments. The author also reinforces that, in this context, employees also lose out because they do not always evolve and may become demotivated. Larsen, Manning, and Pedersen (2013) reinforce the idea that it is necessary to do more research and define the organisational capabilities needed to offer these types of services, since the focus continues to be on the study of the advantages and disadvantages for client companies. Through an empirical study, Johansson and Siverbo (2018) indicate that the self-control of TAW at work is influenced by the existence of competition. When the latter is lower, the costs of controlling the client's company increase in order to compensate for a possible lack of self-control by the supplier.

6 DISCUSSION AND CONCLUSIONS

The outsourcing industry has progressed rapidly and has been accumulating diverse literature on the subject over the past 50 years. However, the continued expansion of the outsourcing field has begun to intersect with other areas such as staffing, temporary work and the renting of specialised resources, which makes it difficult for researchers to complete an overall assessment of the existing literature. This article makes several contributions to the outsourcing literature related to the transaction of specialised resources.

As a first contribution, we point out that it could be one of the first study, to depend on text mining and topic modelling analysis techniques to map the research field in question objectively. Compared to traditional reviews in this area, there are already some differences, such as the study by Liang (2016) based on citations, however most of them are mainly based on subjective interpretations by researchers. This review integrates an objective methodology through an analysis that brings together all the articles in an integral manner, i.e. the entire text, and not just titles, citations or abstracts, resulting in a set of topics that reflect the real state of the Staff Outsourcing field. The analysis carried out on 186 articles, which resulted in six topics, aimed to reduce possible human biases and provide a complementary perspective to the knowledge obtained from previous studies.

As a second contribution, we intend to enunciate possible gaps and conflicts between concepts after a detailed analysis of the literature and suggest future directions for research.

The results are reflected in a conceptual state of the art diagram that will serve as a basis to new discussions.

6.1 Staff Outsourcing Definition

The first topic is certainly one of the main topics that characterises much of this analysis. Given that the themes of staffing and outsourcing are so dispersed in the literature, it is essential to analyse that information exists individually, integrated and overlapping. Fisher et. al, (2008) reinforce this idea, indicating that "the human resource management implications of outsourcing have been relatively unexplored". One of the first points that stand out in the area of staffing are terms such as HRO and ASO, which, by definition, overlap with the concept of BPO in outsourcing. Some authors characterise ASO as used for small and medium enterprises, but it is difficult to find this type of characterisation of the dimension when talking about BPO. The concept of Bodyshopping is very similar to the concept of staffing, however in the literature of recent years the concept of offshore practices of people stands out, and there are only references to Bodyshopping practices in relation to India and the IT sector. Probably, "sub-contract" or "subcontract" is the most confusing term, with very different meanings. Van Arsdale (2013), in the framework of temporary work, refers to subcontracted employees if they possess higher specialisation, but in the context of outsourcing, the meaning is different, even incoherent, among several authors. Dolgui and Proth (2013), for example, explain the term as part of the work transferred to another company that possesses special skills or resources that allow it to perform clearly specified tasks under better conditions. Other authors define subcontracting as a secondary contracting to other suppliers, carried out by the main supplier who initially established the contract with the client. Interestingly, there are still other authors who use the terms "outsourcing" and "subcontracting" as if they were the same. Terms such as "Staff Augmentation", "Contracting Out" and "Co-employment" are used similarly, even given different meanings by some authors who study staffing. However, it should be noted that many authors use the concept of "outsourcing" and "contracting out" as if they were the same. The term "outstaffing", as described in the literature found, seems essential given the impact on the economy, but it is little talked about, and on the subject of staffing, a similar term is not found in the literature. The clarification and normalisation of these concepts become essential and will bring added value to the scientific community and to business stakeholders. This analysis leaves some unanswered questions that can be used for future empirical-based studies; for example, what is the base difference between staff outsourcing and staffing? More specifically, how do the concepts of staffing and outsourcing relate to the variables of type and duration of contract, specialisation of work, the relationship of employees with the client organisation and connection, or not, to the IT area?

6.2 Employees Conditions

Topic two is sparse from the perspective of outsourcing, as stated above, except for the term "body shopping", where the precariousness of jobs is highlighted with Indian workers being "traded" to other countries. Concerning staffing, the literature on this topic is extensive, but only when it comes to temporary work, namely Temporary Agency Employee (TAE). Several unanswered questions need further study; for example, it is not at all possible to conclude, after analysing the literature, if outsourcing service organisations also use temporary contracts with transacted employees. It is also not possible to determine whether the working conditions and treatment of employees in outsourcing companies differ, and in what way, from temporary employment and staffing companies. There are also doubts as to whether outsourcing service companies have more ease in recruiting, or not, as well as whether their transacted employees experience higher levels of satisfaction when compared to staffing and temporary work companies.

6.3 Regulation of Non-traditional Work

All the literature analysed in this theme refers to the concept of temporary work, with variations according to the location and type of policies per country. It is easy to understand that researchers are calling on the world to adapt laws in order to protect workers, but also to ensure more transparency in the demonstration of statistical employment data that influence the economy. More suggestions for models of how to change the current status quo on this matter need to be made, not just indications that the current regulations have problems and need to be improved.

6.4 TAW and Relationships with Stakeholders

Linked to various themes and including other topics as well, topic four validates the very latest research into the study of the relationships between TAW and its stakeholders. Despite the fact that there is some literature on the subject, the references are mostly made from the client's company perspective. Studies remain to be developed on how TAW can interact more with regulators and seek solutions, help improve legislation and better protect employees while maintaining the prosperity of their business. More empirical studies and relationship variables between employees and client companies can and should be investigated.

6.5 Types of Outsourcing Arrangements

Topic number five presents coherence in the literature. However, there are overlaps regarding the definition of BPO and KPO. Furthermore, some authors use the term "outsourcing" referring exclusively to the offshore arrangement. It is also evident that many authors point to the need for further studies to prove the value of outsourcing, particularly in offshore arrangements. Still, concerning offshore, the literature is moderate in the study of attributes and relationship variables necessary to support a successful relationship, as well as in the care to be taken by both related entities. No reference was found to offshore staffing, so there is a doubt as to whether the concept exists or not and is used.

6.6 TAW and Temporary Work Business Models

Regarding the last topic, it is essential to mention that few authors have studied and given focus to the internal management of a TAW or an outsourcing company, i.e., from the perspective of the supplier. Those who have studied this highlight that these companies currently do nothing more than trade human skills to respond to the business opportunities that the market provides. For this reason, it is natural that there are several questions in the literature that have not yet been answered or have been answered in an incipient manner regarding companies that trade resources. For example, it is not clear what organisational capabilities the various types of companies that trade resources need to have in order to be able to offer these types of services, what the retention and turnover rate is, if the quality and speed is viewed and prioritised in the same way, as well as if staffing companies are competitors of outsourcing companies and vice versa, and which of these is more successful. The determination of the variables of success in the relationship and business between customer and supplier is also a very relevant theme to be discussed more rigorously.

As a third contribution, and in order to consolidate many of the concepts learned in the literature review, a conceptual model was prepared, see Fig. 12, which should serve as a basis for discussion and future research. The flow of relationship between the vendor and the client is presented by type of contract and location with the emphasis that when it comes to transaction of specialised resources, the workplace is typically on-site. All the overlaps of concepts are also detailed in order to reflect the existing confusion and to appeal for further investigation and consequent normalisation of the theme.

7 LIMITATIONS OF THE STUDY

As a first limitation, it is essential to highlight that after extracting and analysing the articles from the databases, it was possible to verify that the number of articles related to outsourcing themes

was higher than those related to staffing. The LDA algorithm assumes that all documents in Corpus use the Dirichlet distribution, that is, they share the same distribution by topic-by-document ratio regardless of whether the documents are more directed to one theme than another. Given this scenario, by investigating LDA outputs between the two subjects, using regression analysis, we may obtain somewhat biased results.

Fig*u*re 12. Outsourcing including staffing services: a conceptual model.
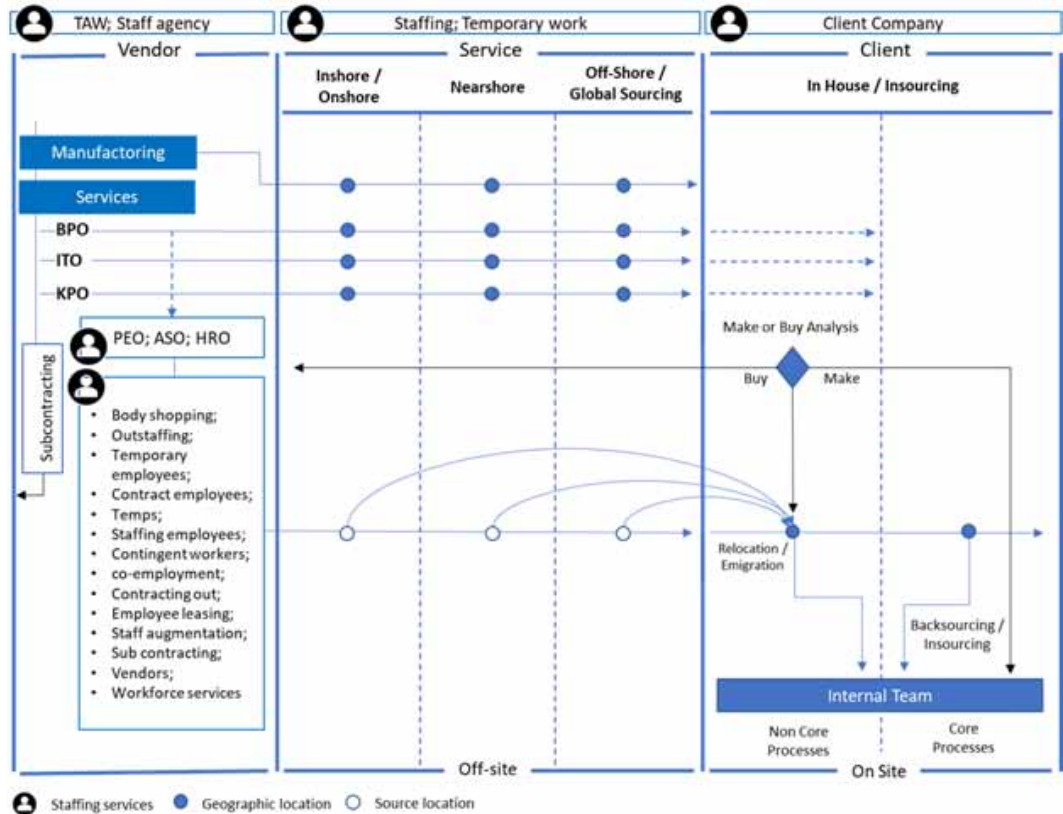
Text mining analysis may also imply some limitations; for example, several iterations have been made to improve the text, including all words with less than three characters being removed by adding some exceptions such as "IT", "HR", among other similar expressions. We cannot guarantee that all relevant exceptions have been registered despite thorough analysis, and following several recommendations in the literature. Still, according to the good practices of text mining, given the results obtained with too many reductions and hiding important words, it was decided not to use the stemming technique to clean the text.We assume that the articles extracted from the databases represent a significant sample of the research theme. However, given the inconsistency of several terms, it may be useful in future studies to use more extensively institutional support websites such as outsourcing and staffing associations.

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ENDNOTES

[1]   https://americanstaffing.net/
[2]   https://americanstaffing.net/publications/staffing-success-magazine/2019-special-issue/
[3]   https://www.scimagojr.com/worldreport.php
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