Received: 15 March 2021 | Revised: 22 October 2021 | Accepted: 24 October 2021

DOI: 10.1002/ffo2.109

ORIGINAL ARTICLE

WILEY

Tracing the progress of scenario research in business and management

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Funding information
None

Abstract

Business and management research on scenarios has been highly productive over the decades but led to a complex literature that is hard to oversee. To organize the field and identify distinguishable research clusters, we conducted a co-citation analysis focusing on the long-term history of research. We compare our findings with a previously published bibliographic coupling, focusing on the more recent research to trace its development over time. Our study revealed six research clusters: (1) Planning the Future with Scenarios, (2) Scenario Planning in Strategic Management, (3) Reinforcing the Scenario Technique, (4) Integration of Scenario Planning and MCDA, (5) Combination of Different Methods, and (6) Decision-making through Stochastic Programming, whereas the bibliographic coupling generated 11 clusters. Some former research clusters were divided into separate new clusters, while others were united. Additionally, completely new clusters emerged. Future research on scenarios is expected (1) to further differentiate into strategy and operations, (2) to be based on "behavioral futures" or "behavioral foresight" as a new research stream, (3) to advance the scenario technique methodically and include new specific scenario generation methods, and (4) to put forth new application areas.

KEYWORDS
bibliometric analysis, business research, co-citation analysis, management, scenario

1 | INTRODUCTION

A set of scenarios are descriptions of multiple possible and plausible (future) states (Spaniol & Rowland, 2019) and therefore widely used for both strategic and operational decision-making and planning in organizations (Bent & Van Hentenryck, 2004; Chermack, 2005, 2017; Eppen et al., 1989; Godet, 2000; Goodwin & Wright, 2001; Schoemaker, 1995; Tiberius et al., 2020; Tiberius, 2019; Wright & Goodwin, 2009). Scenario-based thinking can be traced back to the 19th century (Derbyshire, 2020). Due to scenarios' high practical relevance, they have been subject to a plethora of scholarly publications, which makes it a diverse and fragmented field that is difficult to oversee.

To systematize and map the complex literature landscape on scenarios, Tiberius et al. (2020) conducted a bibliometric analysis consisting of performance analyses and a bibliographic coupling, with a focus on the business and management literatures. Bibliographic couplings and co-citation analyses are the two main science mapping techniques, which map the literature on a research topic by statistically examining links between publications based on citations. The assumption of these methods is that citations indicate the relevance

[Correction added on 24 November 2021, after first online publication: A number of references have been updated in this version.]

of publications (Noyons et al., 1999; Smith, 1981; Zupic & Čater, 2015) and that publications with strong citation links form distinguishable research themes (Zupic & Čater, 2015). Therefore, such science mappings can help structure large research fields.

However, both methods differ in the direction of their causal and temporal citation logic: Bibliographic couplings look for links between publications that jointly cite another publication (Kessler, 1963). With this focus, bibliographic couplings tend to privilege younger research. In contrast, co-citation analysis looks for links between publications that are jointly cited in the reference lists of another publication (Osareh, 1996; Small, 1973). Therefore, this method has a more historical focus.

In this paper, we aim to map the scenario literature in such a longer-term historical perspective, thus identifying overarching research clusters, which we compare with the more recent findings by Tiberius et al. (2020). Based on this, we propose promising future research avenues for scenario research. This way, we further contribute to scenario research, particularly in business and management, by adding another science mapping.

2 | METHODOLOGY

To allow for a better comparison of both science mappings, we used the same data set as in Tiberius et al. (2020), that is, the publications were sourced from the *Web of Science* (WoS), which is seen as a highly comprehensive database for scholarly literature especially in the social sciences (Norris & Oppenheim, 2007). To avoid redundancies, we dispense with a more detailed formal description of the data set and the performance analyses of the literature, which can be found in Tiberius et al. (2020). The search string for the title search was "scenario*," covering the singular and plural as well as all conceivable word combinations.

The results were narrowed down by selecting only publications in the WoS categories "business" and "management." We also only included articles published in scholarly journals to focus on reviewed research. Whereas the search was conducted in January 2020 and yielded 712 articles, the co-citation analysis was performed in February 2021. Whereas the bibliographic coupling used the software *VOSviewer* version 1.6.15, we used the slightly newer version 1.6.16. To check if the two versions differed methodically, we repeated the bibliographic coupling and found no differences.

Science mappings usually use citation thresholds, that is, a minimum number of citations for an article to be included in the literature sample. The bibliographic coupling used a citation threshold of 10 to focus on the younger literature that is still well-cited, to generate a data set of 209 articles. Apart from ensuring the relevance of the analyzed literature, this narrowing down is also needed to be able to handle a manageable number of articles. For our co-citation analysis, we aimed to form a final data set of a comparable size. With a threshold of at least six citations, the data set comprises 183 articles.

We reviewed the articles in all clusters separately by coding the articles and abstracts. In several cases, the abstracts were not informative enough, so that the main notions from results and conclusion sections of the papers had to be derived. After collecting and unifying all codes, we searched for commonalities in the cluster-specific research themes. As bibliometric analyses, as statistical methods, are strictly quantitatively based on citations and not qualitatively on their content, the identified clusters usually are more or less fuzzy. In other words, jointly citing or jointly being cited does not guarantee that articles cover the same topic; a strong connection can only be interpreted as a high likelihood for common thematic ground. Naming and describing the research clusters found through bibliometrics is therefore an interpretative task.

3 | RESULTS

The co-citation analysis revealed six research clusters, which we named as follows: (1) Planning the Future with Scenarios, (2) Scenario Planning in Strategic Management, (3) Reinforcing the Scenario Technique, (4) Integration of Scenario Planning and MCDA (multi-criteria decision analysis), (5) Combination of Different Methods, and (6) Decision-making through Stochastic Programming. Figure 1 shows the complete co-citation map, whereas Figure 2 magnifies the main part on the left side. Figure 1 shows that two articles of Cluster 4 show little relatedness with the other articles and that Cluster 6 stands completely alone, not being connected with the other clusters.

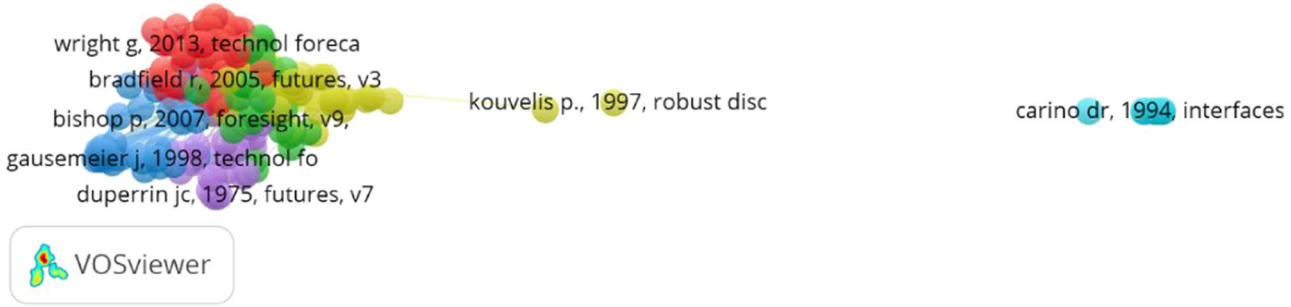

FIGURE 1 Complete cocitation map. *Source*: Own elaboration

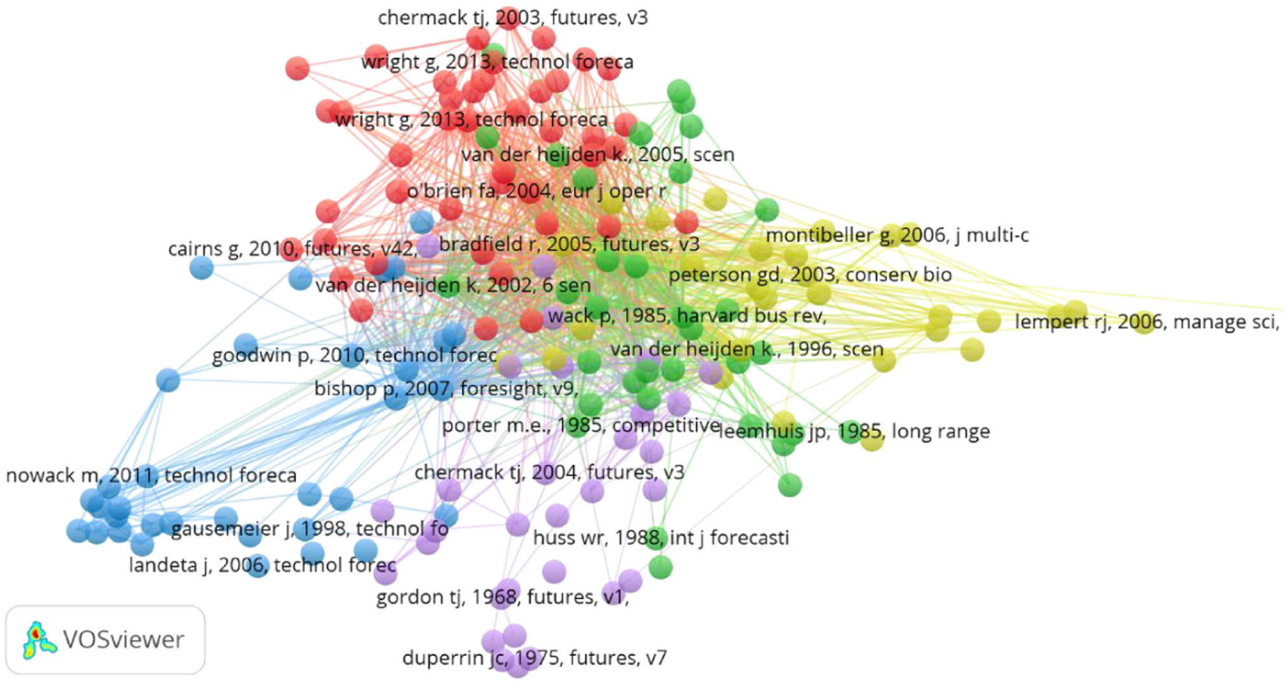

FIGURE 2 Main part of the cocitation map. *Source*: Own elaboration

Due to the high number of publications, the software shows only the highly cited articles. In the following, we describe the clusters.

Cluster 1 (red)—Planning the Future with Scenarios: This study cluster is the largest one with 41 clusters. Due to the high number of articles in this cluster, the common thread is rather general. The articles refer mainly to more general topics related to scenario planning, such as in a review (Chermack et al., 2001) or an introduction (O'Brien, 2004) to the general idea of scenario planning. Furthermore, they address how scenario analysis can be applied in organizations (Chermack, 2001), how they can be improved (Postma & Liebl, 2005), what their challenges (Bradfield, 2008) and issues (O'Brien, 2004) are in general, and why the scenario technique is helpful (Van der Heijden, 2000). Some articles report on individual companies' experiences with using or having applied the scenario technique, such as British Airways (Moyer, 1996). In comparison to the other clusters, this cluster has more titles that include the term "future" (Derbyshire & Wright, 2014; Ringland, 1997; Wright & Cairns, 2011) in the main headline. Except for three articles, all other articles were published in the period from 2000 to 2014, which is relatively recent literature comparing it, for example, to the literature in Cluster 2. Other than that, more than half of the literature was published in the journal *Technological Forecasting and Social Change* (Burt, 2007; Derbyshire & Wright, 2014; Meissner et al., 2017; Postma & Liebl, 2005; Ramírez et al., 2013; Von der Gracht & Stillings, 2013).

Cluster 2 (green)—Scenario Planning in Strategic Management: This cluster consists of 36 articles published mainly in the 1980s and 1990s. The articles address the topic of scenario planning in management as a tool for strategic planning (Leemhuis, 1985). They provide concrete step-by-step instructions on how to practice and implement scenario planning (Burt & Chermack, 2008; Schoemaker, 1995). Some of the articles in this cluster take up the well-known example of Royal Dutch Shell for scenarios in strategic planning (Schoemaker & van der Heijden, 1992; Wack, 1985). Similar to Cluster 1, some articles discuss disadvantages as well as advantages of the scenario technique (Mietzner & Reger, 2005). However, unlike Cluster 1, the disadvantages in the articles from this cluster only refer to scenario planning in strategic management, whereas Cluster 1 also includes disadvantages of its use in operational management. Cluster 2 also covers articles on how organizational learning can be reinforced in management in general (Schwartz, 1991) or top management in particular (Hodgkinson and Wright, 2002). Besides the business-related journals, there are also a few psychology-related journals. The psychology journals (Koriat et al., 1980; Tversky & Kahneman, 1983; Weick, 1979) make up a subcluster of this main cluster, as they do not have any content focus in common or do not fit thematically with the rest of the articles in this cluster. Nor does the subcluster have a common thread.

Cluster 3 (blue)—Reinforcing the Scenario Technique: The majority of the 34 papers included in this cluster were published in *Technological Forecasting and Social Change* or other journals publishing many futures- and foresight-related articles. The articles stem from the period between the years 2007 and 2013 and refer to extensions of the scenario technique. They especially and mainly refer to the Delphi method (Nowack et al., 2011), since the combination of these two foresight techniques is very well suited for enhancing decision-making (Mietzner & Reger, 2005). Other methods are also mentioned, as some articles deal with the comparison of different methods (Bishop et al., 2007; Goodwin & Wright, 2010), but the Delphi method stands out, as it is constantly mentioned in many

articles of the cluster. The Delphi method, besides other methods, serves to overcome limitations of the scenario technique (Goodwin & Wright, 2010). This cluster also contains papers concerning the scenario method in general (Ducot & Lubben, 1980), papers concerning the Delphi method in general (Linstone & Turoff, 1975), but also papers that discuss the integration of both methods (Nowack et al., 2011; Von der Gracht & Darkow, 2010). The older papers of this cluster deal with the methods separately, whereas the newer articles deal with a combination of the two methods.

Cluster 4 (yellow)—Integration of Scenario Planning and MCDA: This cluster with 31 papers is about the integration of scenario planning and the multiple criteria decision analysis (MCDA) (Wright & Goodwin, 1999; Montibeller et al., 2006; Stewart et al., 2013). Different case studies are discussed, which show how both approaches enrich each other both theoretically and practically (Montibeller et al., 2006). Most papers were published in the early 2000s.

Cluster 5 (purple)—Combination of Different Methods: This cluster with 31 articles deals with the use of multiple scenarios in general (Godet & Roubelat, 1996; Huss & Honton, 1987; Linneman & Klein, 1983), how they are generated (Schnaars, 1987), and what methods or models they can be combined with (Fontela & Gabus, 1974). The cluster includes articles that deal with cross-impact analysis as a stand-alone forecasting method (Gordon & Hayward, 1968) and articles that deal with combining scenarios and cross-impact analysis (Pagani, 2009; Strauss & Radnor, 2004). Furthermore, the combination of the qualitative Delphi method and the quantitative cross-impact analysis (Enzer, 1971), as well as the integration of scenarios into the road mapping method (Saritas & Aylen, 2010) are also discussed in this cluster. More than half of the articles were published in *Long Range Planning* and another large proportion is from *Technological Forecasting and Social Change*.

Cluster 6 (cyan)—Decision-making through Stochastic Programming: This 13-item cluster contains items that concentrate on stochastic programming and different stochastic programming models. It deals specifically with decision-making under risk and uncertainty and how it can be enhanced through models of stochastic programming, such as the scenario tree (Høyland & Wallace, 2001) or through value-at-risk (VAR) or conditional value-at-risk (CVAR) as standard risk measures in the financial sector (Rockafellar & Uryasev, 2000, 2002). Whereas neither VAR nor CVAR are genuinely scenario-related, portfolio optimization techniques can benefit from the inclusion of scenario-based methods (Bradley & Crane, 1972).

4 | DISCUSSION

4.1 | Co-Citation analysis

In Cluster 1, the articles create a broad overview on the topic of the scenario technique. The articles mainly explain the method and guide the readers rather than critically reflecting it. However, some weaknesses of the scenario technique are also mentioned, but not discussed in greater detail. Whereas the method was first applied in the 1970s (Cornelius et al., 2005) by Royal Dutch Shell (Wack, 1985) and only a few other companies (Mintzberg et al., 2003), it can now be considered a fully established method (Chermack, 2017).

While Cluster 2 focuses on the implementation of scenario planning and its advantages and disadvantages, Cluster 3 deals with the aspects in which scenario planning can support firms' strategic decision-making. Nevertheless, a combination of different methods is also used to achieve optimal solutions. Due to the size of this cluster and the high number of articles dealing with the Delphi method, it can be assumed that this method combined with scenarios was one of the most successful combinations at that time. At a first glance, the Delphi method seems to contradict scenario thinking, which always involves *multiple* scenarios, whereas the Delphi method focuses on only *one* scenario. However, within the range of possible scenarios, the Delphi technique can help identify the most likely scenario, according to an expert panel, also called "trend scenario." It can be assumed that (dis)advantages of this combination and approaches to improvement will be further discussed.

Similarly, Cluster 4 describes how scenario techniques and MCDA can both further support each other. This topic is more broadly continued in Cluster 5, where combinations of further methods with the scenario technique are presented. The focus is now not only on a single method or approach but around several quantitative as well as qualitative approaches. Based on the appearances of the individual articles, it can be concluded that scenarios based on cross-impact analyses have already had their peak in research around the 1970s, while scenarios based on roadmapping research peeked in the early 2000s. In fact, cross-impact analysis was developed in the 1960s (Weimer-Jehle, 2015) and roadmapping in 1997 (Garcia & Bray, 1997). Since articles on cross-impact analysis date to the early 2000s and roadmapping is a more recent method, it is likely that they will continue in future research, although not as present as 20 years ago. Presumably, scenarios will be increasingly mentioned and treated alongside other methods in future research.

Cluster 6 also contains articles mainly from the early 2000s. As already mentioned, this cluster stands out as it is not connected to the other clusters. This shows a clear separation between the application of scenarios in strategic and operative management. In this cluster, the majority of articles deals with how operative decision-making under uncertainty can be supported by using stochastic programs. Since this is the smallest cluster in this analysis, it can be assumed that this topic might become more relevant in the future, as computers in general are much more advanced than they were 20 years ago.

4.2 | Comparison with the bibliographic coupling by Tiberius et al. (2020)

The first thing that stands out when comparing the cocitation analysis with the bibliographic coupling is that the latter produced 13 clusters, whereas the cocitation analysis produced only six clusters. Two of the 13 clusters from the bibliographic coupling did not show commonalities; the remaining 11 were named as follows: (1) Exploring the Future, (2) Strategy Development, (3) Strategic Radar for Risk

Mitigation, (4) Scenario Technique in Practice, (5) Cognitive and Behavioral Aspects of the Scenario Technique, (6) Enhancing and Combining the Scenario Technique with other Methods, (7) Models and Simulations, (8) Scenarios for Stochastic Portfolio Optimization, (9) Scenarios for Energy and Sustainability, (10) Scenarios for Diverse Industries, and (11) Scenarios for HR Assessment and Training. Table 1 compares the clusters from both science mappings.

The higher number of clusters in the bibliographic coupling suggests that the older literature base was less differentiated than the more recent one. With the progress of a research field, finer nuances are a natural development.

First, former clusters can split up and form separate new clusters. This can be observed for Cluster 2 in the co-citation analysis, which covers the use of the scenario technique in strategic management. This later corresponds to three clusters in the bibliographic coupling which more specifically focus on strategy development, the use of scenarios to mitigate risks, and a practical view on the scenario method. The same is true for Cluster 6 of the co-citation analysis focusing on the quantitative use of scenarios in operative management, which it splits up into models and simulations as well as the stochastic portfolio optimization in the bibliographic coupling. This separation also shows that application fields may become so important that they form their own research cluster.

Second, interestingly, also the opposite can be observed, that is, the unification of formerly more differentiated clusters into a broader one. This is the case for Clusters 3 to 5 of the co-citation analysis, which are later unified in Cluster 6 of the bibliographic coupling, addressing how the scenario technique can be enhanced and combined with other methods. It also mentions the Delphi method and roadmapping, showing that these combinations still are sensible. However, other refinements are also mentioned, such as adding an evolutionary process, allowing participation, the use of computers, and the combination with bibliometrics (Tiberius et al., 2020). The unification of the formerly separated clusters might suggest that the search for an enhancement of the scenario method and its combination with other methods have become a highly established standard in the field. Formerly, methodological advancements might have needed a strong justification and specific methods, such as MCDA, were more predominant. In the co-citation analysis, Cluster 4 could also be seen as a thematic subtopic of Cluster 6, again showing the predominant role of this method such that it formed its own cluster.

Third, the emergence of completely new research themes and therefore bibliometric clusters can occur. This is the case for Clusters 5 and 9 to 11 of the bibliographic coupling. Cluster 5 focuses on cognitive and behavioral aspects when using the scenario method. Such aspects were rarely mentioned in the older literature and were mainly seen as disadvantages. The more recent literature sees this as a research topic that needs further inquiry. Clusters 9–11 again show that certain application fields have become so important that they form separate clusters. The stronger segmentation further shows a distinction between the application of the scenario technique in specific industries and in specific departments in a firm.

Fourth, it can be observed that no former cluster from the co-citation analysis vanished. This suggests that no older research theme can be considered as completely resolved.

4.3 | Implications for future research

Based on these findings, we see the following implications for the further development of scenario research and also, more generally, futures and foresight science.

TABLE 1 Comparison of the clusters from both science mappings. Source: Own elaboration

Co-citation analysis	Bibliographic coupling
(1) Planning the Future with Scenarios	(1) Exploring the Future
(2) Scenario Planning in Strategic Management	(2) Strategy Development
	(3) Strategic Radar for Risk Mitigation
	(4) Scenario Technique in Practice
	(5) Cognitive and Behavioral Aspects of the Scenario Technique
(3) Reinforcing the Scenario Technique	(6) Enhancing and Combining the Scenario Technique with Other Methods
(4) Integration of Scenario Planning and MCDA	
(5) Combination of Different Methods	
(6) Decision-making through Stochastic Programming	(7) Models and Simulations
	(8) Scenarios for Stochastic Portfolio Optimization
	(9) Scenarios for Energy and Sustainability
	(10) Scenarios for Diverse Industries
	(11) Scenarios for HR Assessment and Training

First, research on the use of scenarios in strategic and also operative management will probably further differentiate and the already perceivable separation into distinguishable research clusters may continue. It could almost be seen as unfortunate that the same term is used in both fields, as the fields do not relate closely to one another. However, we argue for the opposite and encourage futures and foresight scholars to immerse more closely in the refined mathematical and statistical methods operational researchers have developed. Whereas futurists and strategists still lean towards a narrative and, therefore, qualitative scenario approach, a more strictly quantitative approach can open new horizons to strategic planning. Apart from the quantitative methods mentioned earlier, we also see a strong potential in real options research, which also deals with the possibility of diverse future scenarios and resolves this uncertainty by making small investments and postponing the main decision to when more information is available (Ragozzino et al., 2016; Trigeorgis & Reuer, 2017).

Second, research on the cognitive and behavioral aspects of the scenario technique may become intensified. However, we expect such a view not only for the scenario method but for futures and foresight science in general. Several research fields have started to distinguish between a prescriptive and descriptive approach, that is, between what should be done and how it is really done. For example, this applies to finance research, where "behavioral finance" now forms an established subfield, which examines the actual, often seemingly biased cognitive processes and seemingly irrational behaviors of actors in financial markets (Fama, 1998; Shiller, 2003). Less established but also promising is the field of "behavioral strategy," which "aims to bring realistic assumptions about human cognition, emotions, and social behavior to the strategic management of organizations and, thereby, to enrich strategy theory, empirical research, and real-world practice" (Powell et al., 2011, p. 1371). A similar movement for futures and foresight science is slowly approaching. Tiberius (2019) uses the lens of the strategy-as-practice school to look at affordances of the scenario technique in strategic management. Wenzel (2021) applies practice theory on corporate foresight and argues that researchers should not only examine the ideal process of foresight but also "the specific ways in which actors produce and enact the future" (Wenzel et al., 2020, p. 1443). Both approaches are rooted in sociology. We believe that research rooted in cognitive and social psychology, on which also behavioral strategy builds (Powell et al., 2011), could be highly fruitful. Hence, we expect the emergence of "behavioral futures" or "behavioral foresight" research and encourage future researchers to immerse in this promising research branch.

Third, attempts to advance the scenario technique methodically and to combine it with other methods will probably further intensify. The scenario technique can actually be seen as a meta-methodology, which needs more specific methods to derive multiple scenarios. Generating a set of multiple scenarios does not need to use only one method alone but can also be based on diverse methods. Tiberius et al. (2020) mentioned prediction markets, crowdsourcing, and superforecasting as methods, which, similar to the Delphi method, can be specifically used to generate trend scenarios with high likelihoods. Big data approaches used for forecasting (Kim, 2016; Pan & Yang, 2017; Wang et al., 2016) can be added to this list. However, these are forecasting rather than foresight methods. Researchers and practitioners have to keep in mind that forecasting focuses on a single, that is, the most probable future, whereas scenarios comply with the paradigm of multiple futures. Apart from such a trend scenario, also other scenarios have to be generated. An interesting direction for future research could be methods that explicitly and systematically generate unlikely but highly impactful scenarios, that is, "black swans" (Faulkner et al., 2017; Hammond, 2016; Taleb, 2007) or wildcards (Mendonça et al., 2004; Saritas & Smith, 2011).

Fourth, both the co-citation analysis and bibliographic coupling have shown the application of scenarios in several industries and in several business areas. However, we do not see a good reason for only these exemplary applications. Rather, the application of scenarios in all industries and business areas can be expected. Many industries do not show much interest for the scenario method yet. This could change in the future, when also industries and sectors such as arts and culture, education, healthcare, and many others more clearly see the benefits of the scenario technique. Additionally, the merging of currently separate research clusters, such as for energy and sustainability issues, can be expected. More generally, scenario thinking and the application of scenario techniques can stimulate all fields of social and cultural reality.

4.4 | Limitations

As with all research, our study comes with several limitations. First, the general limitations of co-citation analysis have to be acknowledged. Such a science mapping can provide a first thematic orientation in a broad field, which has already produced a considerably large number of publications. However, it cannot replace a systematic literature review, which conducts an in-depth analysis of a smaller literature sample. Whereas it was our goal to provide a broad review on scenario research, we encourage future researchers to systematically analyze narrower parts of the scenario literature in greater detail. This can be done in several ways. For example, the focus could be on highly cited papers, on papers published in specific journals (selected by metrics or topics), or, what we find most promising, on papers within a specific research theme. For example, our analysis showed that large parts of scenario research do not address futures and foresight science. We recommend to remove these papers from the sample and to narrow down the focus on methodological aspects or the application of the scenario technique in specific areas.

Second, the algorithmically generated clusters appear quite fuzzy in both this co-citation analysis and the former bibliographic coupling, as several themes appear in one cluster and some themes even appear across clusters. This is a general problem of both science mapping methods as the clustering is solely based on citation patterns

and not on content. We focused on the predominant themes in each cluster rather than manually suggesting subclusters to allow for a better comparison with the former bibliographic coupling. Again, a narrower systematic literature review by future researchers will provide deeper insights. Related to this problem is that the term "scenario" has multiple meanings not limited to futures and foresight science. Rather, it can relate to different "situations" in general. Whereas our initial mapping also showed the range of potential understandings, we encourage future researchers to use more specific terms, such as "scenario planning," "scenario building," and so on, and combine them with the Boolean "OR" in the search string.

Third, the literature sample is not limited to business and management journals, as the WoS assigns journals not to one category exclusively but sometimes to several ones. Therefore, when selecting the categories "business" and "management," the sample also includes non-business- and non-management-related articles that where published in interdisciplinary journals such as *Technological Forecasting and Social Science*, which is also assigned to the category "business."

5 | CONCLUSION

The goal of this paper was to map research on scenarios in business and management based on a co-citation analysis and to compare the findings with the prior bibliographic coupling conducted by Tiberius et al. (2020). This way, we could examine the development of the research field and show a shift in content focus between the older and more recent literature regarding scenarios.

Our results revealed six research clusters: (1) Planning the Future with Scenarios, (2) Scenario Planning in Strategic Management, (3) Reinforcing the Scenario Technique, (4) Integration of Scenario Planning and MCDA, (5) Combination of Different Methods, and (6) Decision-making through Stochastic Programming. Comparing this to the 11 clusters from the bibliographic coupling, it can be concluded that research became more nuanced over time. Some former research clusters split up into separate new clusters. Conversely, some formerly separated clusters merged into a singular cluster. Finally, some completely new clusters emerged.

Based on these findings, we expect future research to show the following developments: First, scenario research in both strategic and operative management might form further, more differentiated research streams. Second, "behavioral futures" or "behavioral foresight" research may emerge and inform scenario research. Third, the scenario technique will advance methodically and will be combined with further methods, which provide single scenarios or sets of scenarios. Fourth, new streams of scenario research focusing on specific application areas might occur.

ACKNOWLEDGMENTS

We would like to thank the editor and the three anonymous reviewers for their constructive and valuable comments on a previous version of this article. Open Access funding enabled and organized by Projekt DEAL.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interests.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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How to cite this article: Jashari, A., Tiberius, V., & Dabić, M. (2022). Tracing the progress of scenario research in business and management. *Futures & Foresight Science*, 4, e109. https://doi.org/10.1002/ffo2.109