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The "research world café" as method of scientific enquiry: Combining rigor with relevance and speed

Holger Schiele [a,*], Stefan Krummaker [b], Petra Hoffmann [a], Rita Kowalski [c]

[a] University of Twente in Enschede, the Netherlands
[b] Queen Mary University London, UK
[c] Columbia University New York, USA

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ABSTRACT

Next to rigor and relevance, this paper addresses speed as a third challenge of joint academic practitioner inquiries. Practitioners seek fast and actionable knowledge. However, traditional academic research takes a long time to execute. We propose a data collection method - the world café - with the potential to reduce this clock-speed challenge and to close the knowledge production and transfer gap. However, the traditional world café needs some amendments in order to be fully applicable as academic data collection method. This paper has the following five objectives: 1) include "speed" in the discussion of rigor and relevance in management research, 2) suggest the world café method as a technique to accelerate data collection in academic practitioner collaborative research, 3) introduce the "research world café" as an academically rigorous data collection method, 4) illustrate the use of the world café method with a small example 5) compare it to alternative methods such as expert interviews, focus group or Delphi. Results of a survey on the speed of group research methods is presented, evidencing that world café research is able to present practitioner results twice as fast as conventional research methods.

1. Introduction: Differences in clock-speed as a problem in academic-practitioner interaction

The divide between management research and management practice by both scholars and practitioners has been discussed for decades. For instance, Rynes, Colbert, and Brown (2002) asked nearly 1000 human resource managers to rate the relevance of information sources. In their study, The Academy of Management Journal – arguably one of the most prestigious journals in management – only scored 1.11 on a scale from 1 (low) to 5 (high). Not surprisingly, in the same survey, respondents ranked academics as the least helpful source for managerial problem solving. Oesterle (2006) asked a sample of academic journals to be evaluated by practitioners. A highly significant negative correlation of −0.653 between academic ranking and awareness level with practitioners was detected. 93% of participants surveyed during an industrial marketing and purchasing group (IMP) conference claimed that their own current research had substantial value to managers, whereas respondents made the same claim about only 41% of their colleagues. Cross-checking these data with practitioners' judgment revealed an even larger gap (Brennan & Ankers, 2004).

The extant literature provides numerous attempt for explanations for the lack of practical relevance of academic research, ranging from the academic incentive and promotion system that in the majority of cases does not reward academics' contributions to practical knowledge advancement (e.g., Bennis and O'Toole (2005); Brennan and Ankers (2004)), the lack of a "market for knowledge" (Hamet & Michel, 2018), to the assumed "natural divide" between the academic and the practice systems with different underlying epistemological and ontological views (Kieser & Leiner, 2009). Every few years another review is added accounting for the numerous failed attempts to bridge the gap (De Frutos-Belizón, Martín-Alcázar, & Sánchez-Gardey, 2019; Hodgkinson, Herriot, & Anderson, 2001; Huff, 2000; Shani, Mohrman, Pasmore, Stymne, & Adler, 2007; Shapiro, Kirkman, & Courtney, 2007). The repetitive character of complaints about a rigor-relevance debate may not, however, conclusively help to overcome the academic practitioner divide. In this paper, we introduce a third dimension next to rigor and relevance, which may open a new understanding for the problem and pave the way to a potential solution: the speed in solution provision.

The slow pace of academic research and the delays in practitioner access to academic knowledge are an underlying – often indirect –

* Corresponding author.
E-mail address: h.schiele@utwente.nl (H. Schiele).

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thread in the discussions about relevance. For instance, Weick (2001) notes that practitioners prefer to run from "guru to guru" for inspiration and solutions because these practitioners believe that they cannot wait for suggestions from academia. Surprisingly, the previous literature examining the rigor-relevance debate or academic-practitioner collaborative research (e.g., Amabile et al. (2001); Bartunek (2008); Shani, David, and Willson (2004)) is largely silent about the role of speed. Although a few studies mention time and speed as important constraints in a joined academic-practitioner knowledge production process (Schiele & Krummaker, 2011) and recognize the gap between long term and short term knowledge (Hamet & Michel, 2018), there is a limited discussion how to address the speed problem in the academic literature, let alone, a solution. On the other hand, overcoming the speed hurdle could be a key to finally start closing the academic-practitioner gap. Based on the suggestion that the lack of timeliness of research and the criticality of long delays in academic feedback to practice are pivotal, it can be argued that research must not be rigorous and relevant, only, but also timely. Hence, the three elements rigor, relevance and speed constitute the requirement for significant research.

Typically, qualitative data collection, as first phase of research, takes place in form of interviews, often as part of case-studies. However, conducting sequential series of interviews by its very nature can be very time consuming. As alternative, several forms of group data collection techniques have been proposed. Group techniques address several respondents at one time, thus inherently promising quicker data collection. Examples of such methods comprise the consortium benchmarking (Schiele & Krummaker, 2011), Delphi studies (Kembro, Näslund, & Olhager, 2017) or focus groups (Kitzinger, 1995). In a way to overcome the shortcomings of these methods, more recently their combination in hybrid studies has been proposed (Aungsuroch et al., 2019; Gisbert-Trejo, Albizu, Landeta, & Fernández-Ferrín, 2020). While well executed data collected in this way are consider to fulfil the criteria of rigor and often – but not always – also relevance, speed still remains a problem, in particular in benchmarking and in Delphi studies, which rely on awarding participants sufficient time to give feedback on the fellow discussants. In this context, a novel method of enquiry has appeared in the last decade: the world café.

The 'World Café' can be defined as a method of explorative data collection as part of a qualitative research approach, gathering experts in a workshop, which share their knowledge by rotating between several discussion tables, which each are focusing on a particular aspect of the overall topic. Since its introduction more than a decade ago (Brown & Isaacs, 2005), 200 plus papers relying on the world café have appeared in Scopus-listed journals, though often in specialized areas such as nursing, but also in general business research. Ritch and Brennan (2010) and While et al. (While, Murgatroyd, Ullman, & Forbes, 2006) argue that the world café can be regarded as a special form of focus group research, more precisely a "circulating focus group". As opposed to a classical focus group, however, the world café has several amendments, particularly in its design, which distributes sub-research-questions to different tables, having participants randomly rotate between the tables and successively discuss each sub-question in small groups. This allows for the cross-pollination of ideas, leading to richer data collection (Fouché & Light, 2011). Moreover, the world café, which is normally organized as a one day workshop, has the advantage of speeding up research, compared to classical sequenced forms of qualitative enquiry such as expert interviews which are frequently stretched over many weeks or months. It has also been argued that the world café could be a method to bridge the academic practitioner gap (Silva & Guenther, 2018).

However, despite its growing popularity and benefits in speed and relevance, the world café method is still debated as a form of rigorous academic enquiry, as opposed to a method for practitioner workshops, only. For instance, in a traditional world café the participants of a discussion round are themselves supposed to take notes on a table cloth. Such procedure poses challenges in the analysis of the findings. Instead, we propose to install a trained moderator at each table and to tape the discussion, so that it can subsequently be analyzed with all available qualitative data analysis methods.

Concerning the use of new methodologies, it has been argued that "We encourage scholars using new genres to continue to find exemplars and templates to help ensure such rigor." (Bansal, Smith, & Vaara, 2018, p. 1193). From this background, our paper intents to reduce the literature research gap concerning the lack of a group data gathering method fulfilling rigor, relevance and speed criteria at the same time, by introducing the "research world café", describing its application and providing an empirical spotlight presenting the results of a survey among the recent users of the group data gathering methods.

This paper contributes fivefold to literature: First, it contributes to the academic-practitioner divide literature by introducing a new dimension of analysis, speed, that, together with rigor and relevance, forms a "triple hurdle", whose fulfilment might be a chance to close the academic-practitioner gap. Second, this research contributes to method development by introducing a way to accelerate the research process, in particular the data collection process through running world cafés. Third, we contribute to the world café literature by developing the method further so as to serve as a "research world café". We accomplish this by introducing a scoring model to the process, defining moderators and suggesting a transcript-based analysis. Fourth, this paper provides empirical evidence on the research acceleration aspect of the world café method, comparing it with other methods. Finally, this research contributes by providing a step-to-step process model on how to conduct a research world café, thus providing practical guidance for further research. In this way, eventually, the "research world café" may help to close the academic-practitioner divide by conducing speeded-up, yet rigorous research.

This paper is organized as follows: We will first describe "clock-speed" differences in academia and practice and discuss implications for management research. Then, we will suggest including "speed" alongside rigor and relevance as a basic requirement of high-quality, impactful research in fast clock-speed environments. Afterwards, we will introduce the "research world café," i.e., an academic-practitioner research approach with "world café" discussion workshops, as an academic-practitioner method that allows researchers to conduct rigorous, relevant, and timely research. We discuss similarities and differences to other methods of multi-respondent data collection and provide a discussion on the suitability of the world café for academic enquiries. We conclude that the classical world café has to be amended by some steps, in order to fully satisfy hightest academic requirements and be able to serve as a data collection tool for academic research. We will explain how to conduct a research world café project including using a good example out of several from our own research experience and, eventually, discuss some of the suggested method's limitations.

2. Theoretical background

2.1. Industry clock-speed and "speed challenges" in management research

Environmental velocity defines the "need for speed" for firms operating in their environment (McCarthy, Lawrence, Wixted, & Gordon, 2010). Researchers frequently refer to this speed as "clock-speed," that is, the speed of change in an industry (Fine, Vardan, Pethick, & El-Hout, 2002; Nadkarni & Narayanan, 2007), for instance the speed of innovation (Souza-Luz & Gavronski, 2019). Although different industries often operate at different clock-speeds (Kavin & Narasimhan, 2017; McCarthy et al., 2010; Souza, Bayus, & Wagner, 2004), high-velocity environment (Bourgeois III & Eisenhardt, 1988) and "fast clock-speed environment" (Fine et al., 2002) are terms used to describe the working context of the majority of firms. The "rapid and discontinuous change in demand, competitors, technology and/or regulation" (Bourgeois III & Eisenhardt, 1988, p. 816) characterizes such environments. This increase in clock-speed is driving demand for rapid responses to such changes (Fine

et al., 2002), particularly for companies operating in a business-to-business environment (Ganesh, Madanmohan, Jose, & Seshadri, 2004; Riolli-Saltzman & Luthans, 2001; Slater, 1993).

It is possible not only to identify different clock-speeds between different industries or subdimensions of a firm's environment but also between academia and practice (Nyden & Wiewel, 1992). Whereas the respective industry and the velocity of the environmental subsystems define the clock-speed of practice, the quality standards of academic research referred to as rigor primarily determine academic clock-speed (Zmud, 1996). Companies operating in fast clock-speed environments typically have challenges, questions, or issues that frequently require short-time-frame studies (Nyden & Wiewel, 1992). Conversely, to fulfil rigor requirements, academic knowledge production operates at a much slower and often "practice-incompatible" clock-speed. As a result, practitioners frequently feel that academic discussions regarding reactions to new practical challenges or questions arrive too late to matter if these discussions address relevant challenges or questions at all. The same applies to management practices, which follow a life-cycle (Daniel, Myers, & Dixon, 2012): at the moment, academic research has analyzed a practice, its life-cycle stage is already decline. As a consequence, few practitioners are interested in the findings, any longer. Thus, many practitioners refrain from discussing time-critical topics with academics altogether and instead choose to follow fads or gurus to find solutions for their current specific problems (Weick, 2001). The gurus' answers, however, may be a "laundry list" of solutions that, if at all, only has a low level of scientific grounding (Clark & Salaman, 1998). Even if those solutions appear promising at first sight, they often prove ineffective, or even misguided, once implemented.

The phenomenon of different clock-speeds in academia and practice provoke the question, "Do time-critical questions qualify for academic enquiry at all?" If not, academic research would have to leave a multitude of questions emerging in high-velocity environments for firm practitioners or consultants to answer. Moreover, it would limit academic research to "slow clock-speed industries," i.e. those industries that do not change very quickly (Nadkarni & Narayanan, 2007). Yet with clock-speed increasing in the majority of industries, this scenario would mean that academics would contribute to fewer practical challenges in the future, gradually receding from societal relevance.

Similarly, Hughes, Bence, Grisoni, O'regan, and Wornham (2011, p. 40) raised the question, "If exchanges are limited to a small proportion of the academic and practitioner communities, how are academics in general meant to keep in touch with the reality of business practice?" Avoiding the study of questions and phenomena in high-velocity environments would most likely widen the gap between academia and practice even further. Additionally, the willingness of governmental organizations and professional bodies to fund university research might decline if such research is regarded as having little impact and relevance.

With regard to relevant research in high-clock-speed environments, the challenge is to synchronize the speed of academic research with the need for speed in practice as much as possible. From an academic perspective, there is a need to either develop new research designs supporting faster inquiries or to analyze established methods for acceleration potential. For many researchers, the fundamental requirement of high-quality research is academic rigor; however, to address the issue of velocity or speed, the researcher must develop new designs or adapt established research designs and methodologies without sacrificing academic rigor (Vermeulen, 2005). Without ensuring a high level of academic rigor throughout the research process, the majority of academics would be unwilling to engage in research projects in high-clock-speed environments. Moreover, the results of a low-rigor project could have as little scientific grounding as the advice that "gurus" provide and would most likely create skepticism among reflective practitioners.

2.2. Integrating academic rigor, relevance, and speed in research

One definition of academic rigor is the soundness or exactness "in theoretical and conceptual development, its ological design and execution, its interpretation of findings, and its use of these findings in extending theory or developing new theory" (Zmud, 1996, p. xxxvii). For many, academic rigor is unquestionably fundamental to academic research (Hoon & Krummaker, 2009) as reflected in well-established quality indicators such as validity and reliability.

Van de Ven (2007) maintains that different criteria apply to knowledge for academia and practice because of different objectives, processes, and contexts. Although the academic perspective regards research as relevant when research contributes to existing knowledge, creates new insights, or challenges established theories or concepts (Bartunek, Rynes, & Ireland, 2006), the practice perspective generally perceives research as relevant when the results have concrete and immediate consequences for managers or address variables under managerial control (Shrivastava, 1987). However, some practitioners have a broader view and also regard knowledge as relevant that helps to understand more distant challenges (Brief & Dukerich, 1991). Generating knowledge without immediate application or with "only" a potential impact in the future does not contradict our understanding of generating practical knowledge in/for fast clock-speed environments. For example, such knowledge can help identify or interpret weak signals (Ansoff, 1975) or make more strategic choices (Hrebiniak & Joyce, 1985) and thus in the long run might contribute to strengthening a firm's responsiveness in a dynamic and volatile environment.

Pettigrew (1997); (2001) has used the metaphor of a "double hurdle" that must be climbed to illustrate the challenges of bridging rigor and relevance. Some academics indicate that bridging rigor and practical relevance is hardly possible or is even unnecessary because *academia and practice operate on different forms of knowledge* (Kieser & Leiner, 2012; Kieser & Nicolai, 2005). These academics understand academia and practice as two separate worlds with different aims and modes of operation and communication (Kieser & Nicolai, 2005), naturally producing distinct forms of knowledge. In this view, both worlds tend to be insular and self-referential and operate in closed loops (Hambrick, 1994; Weick, 2001), creating a wide, (nearly) unbridgeable gap between them. Following this strict interpretation, the aim of academic research is not to solve practitioners' problems but, rather, to provide generalizable knowledge that, if at all, only provides broad orientation for practical challenges and not specific and directly applicable knowledge.

Other academics suggest that the gap between academia and practice is a result of a *knowledge production problem (*Van de Ven & Johnson, 2006*)*. From this perspective, the academic-practitioner divide is less of a fundamental mismatch than an outgrowth of the scholarly knowledge production process, which occurs before knowledge is created (De Frutos-Belizón et al., 2019). Academics typically operate alone and do not integrate practitioners when defining research questions or interpreting findings (Van de Ven, 2007); this tendency creates a self-referential process of "theory talking to theory" (Siggelkow, 2007).

The key assumption of an academic-centered knowledge production process is that practical knowledge derives from academic knowledge. Van de Ven and Johnson (2006, p. 805) note that "many academics have been socialized in a 'trickle down' view of the knowledge supply chain: knowledge is created by and tested by academic researchers, taught to students by instructors, adopted and diffused by consultants, and practiced by practitioners." It takes considerable time for new concepts or theories to come into contact with practice and be translated into the practitioners' language. One example is the resource-based view of the firm; although researchers published the main portions of the theory in the mid-1980s, practice hardly noticed the theory for almost another decade, just to embrace it than as a key driving force in strategy making (Wernerfelt, 1995). A more current example refers to the fourth industrial revolution (I4.0), which started to be discussed in 2011 and reached a first practitioner hype around 2016, whereas academic management

publications only just started to grow from 2018 onwards (triplicating from the year before).

Although collaborative research has provided myriad examples regarding how to climb the double hurdle of rigor and relevance (for an overview, see Shani et al. (2007)) and maintains that academic-practitioner collaborations have the potential to advance both practical and academic knowledge (Van de Ven & Johnson, 2006), some researchers note that the joint academic-practitioner research process is very time-consuming and can take considerably more than one year (Schiele & Krummaker, 2011); this observation is particularly true when academics include practitioners in all stages of a research project (Jean Bartunek & Louis, 1996). Thus, for academic-practitioner collaborative research in fast clock-speed environments, the hurdle to climb is no longer the double hurdle of rigor and relevance but, rather, the triple hurdle of rigor, relevance, and speed.

One might argue that practitioners will not consider research to be relevant if research fails to transfer or if the translation into practice is untimely; in these cases, time is actually an aspect of relevance and not an independent dimension. From this perspective, practitioners would not even consider relevant knowledge that was created after a practical challenge or question has arisen; however, because the majority of managerial phenomena are persistent, practitioners could still perceive "tardy research" as beneficial even though knowledge created earlier would have had a stronger impact.

To summarize, we suggest that effective managerial research in fast clock-speed environments must be (1) relevant for practitioners and academics, (2) timely in terms of being conducted when a certain managerial challenge or question emerges, and (3) executed in a way that fulfills the requirements of academic rigor.

The existing literature suggests that there is a wide range of different research methods from the domain of qualitative research (for an overview, see Denzin and Lincoln (2011)) and mixed-methods research (Creswell & Clark, 2007) that is able to more strongly connect rigor and relevance; however, the majority, such as case study research (e.g., Yin (2009)) and observational research (e.g., Angrosino (2007)), are very time consuming, and if properly executed using multiple interviewees, different sources of evidence, or multiple codes, are also resource-intensive. Additionally, some researchers indicate a neglect of rigor in favor of relevance (Kieser & Nicolai, 2005) or lack analytical exactness (Gibbert & Ruigrok, 2010; Pratt, 2009). Here, the world café could provide an alternative.

3. The research world café: Designing and executing group data collection

3.1. The world café and the research world café as form of speeding up rigorous academic research

Developing a method of speedy academic enquiry, we suggest not to accelerate the key defining process of academic rigor, i.e. conducting a literature review and analyzing the collected data. Rushing the literature review could lead to a less deep and thorough analysis of existing knowledge. Similarly, accelerating the data analysis stage could not only weaken the analysis but also result in a less carefully executed investigation with the risk of questionable results. We suggest that the data collection stage has the strongest acceleration power in the research process without sacrificing rigor. Furthermore, this stage also allows to involve practitioners as co-researchers, thus, ensuring relevance.

In search of methods that had acceleration potential, we reviewed the literature on focus group research (Brennan & Ritch, 2010; While et al., 2006). As we expanded our search to other group processes that could be used for data collection, we identified the "world café" method – sometimes also referred to as "dialogic café" (Gibbs, Press, Wong, & Cumming, 2020) – which appeared to be a viable option for accelerating data collection (Brown & Isaacs, 2005). The world café is a flexible and time-efficient method for fostering collaborative conversations and sharing knowledge. The café is a large group process that harnesses the energy of small groups' discussions to develop insights and shared learning regarding a topic of interest. In a world café, which usually takes no more than one day, the moderators who design and conduct the session stimulate a series of parallel conversations around carefully crafted key questions that are important for the group. As part of the world café's design, Brown and Isaacs ensure that all participants understand the context of their work together; this understanding involves having the world café's facilitators clarify the café's purpose and broad parameters and share the issues that the group will discuss. They also stress the importance of encouraging all participants to contribute to the discussion and to "listen together for patterns, insights and deeper questions" (Brown & Isaacs, 2005). After the table discussions have finished, the facilitators lead a larger group discussion that collects discussion insights and often identifies areas for future action. The basic assumption of the world café method is that individuals attending the café collectively have the knowledge and skills to tackle the respective problem and, thus, don't need to rely on 'external' expert solutions (Lagrosen, 2017).

We found that the world café incorporates several distinctive characteristics that have the potential to accelerate the data collection stage while ensuring a high level of academic rigor and generating relevant findings for both academics and practitioners. The world café uses "intimate conversations at small café-style tables, or in small conversation clusters, [which] link, and build on each other as people move between groups, cross-pollinate ideas, and make new connections around questions that really matter to their life, work or community" (Tan & Brown, 2005, p. 85). Usually, not more than four to six people are seated at each table to make sure every participant is able to actively contribute to the conversations. As Fig. 1 shows, the participants change tables and form new discussion groups at each subsequent round.

First, as participants rotate between tables in the several discussion rounds, these participants build upon each other's ideas, knowledge, and experiences. Second, the world café uses a visual process in which participants record their ideas as rough notes and sketches on paper tablecloths (Brown & Isaacs, 2005), allowing the participants to see previous conversations and how specific ideas and themes emerged. As the tablecloths remain on the tables throughout the world café, the trail that evolves captures the changing conversation as participants add to and modify their ideas and illustrations. Third, each table has a volunteer host who remains at the table throughout the discussion rounds. The host helps the participants to focus on the discussed questions and encourages each person to speak and to use colored pens provided to capture their ideas on the tablecloths. The host also serves as a connector and linking pin for all discussion rounds; at the start of each new round, the host provides updates to the new arriving participants on the previous discussion and constantly reviews the tablecloth notes during the process. Fourth, the world café is a social process. Because the group composition changes through several rounds of conversation as participants deliberately move and join new table discussions, the participants meet new people and begin to build a network with people who share a common interest. Fifth, because conversations emerge and link to previous discussions, participants begin to notice emerging themes, patterns, and new questions triggered by the different experiences backgrounds of the people at the table. Finally, at the end of the world café, a large group discussion occurs in which the entire group makes "collective knowledge…visible and actionable" (Brown & Isaacs, 2005).

Encouraged by the world café's potential, we organized an academic-practitioner professional development workshop (PDW) that focused on academic-practitioner collaborative research at one of the Academy of Management's annual meetings. Approximately 40 academics and practitioners attended a three-and-a-half-hour workshop. Bringing academics and practitioners together in a world café not only allowed us to "pre-test" the method but also provided us with the opportunity to experience how quickly the method stimulates a diverse group to engage in rich discussions. The speed of engagement and the

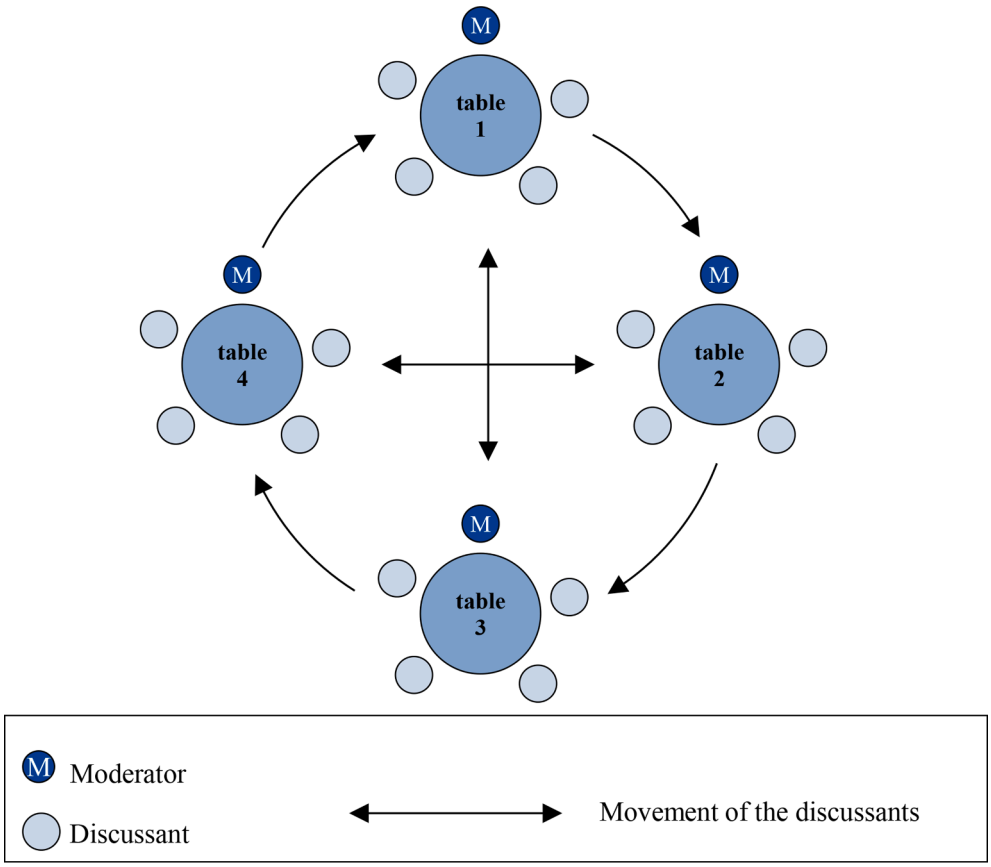

Fig. 1. The Setting of a World Café.

intensity of the discussions surprised us, as did the quality of the points raised and the questions developed. Similar to Latham (2008), we observed that our first world café had the potential to generate a wealth of questions for further enquiry.

In the meantime, the world café method has found wide applications in diverse settings. The method has been used to explore "unofficial" stories in an academic environment subject to profound changes (Churchman & King, 2009), to bring together very diverse stakeholders (Horng et al., 2017; While et al., 2006), to bridge hierarchical and generational levels in Singapore (Tan & Brown, 2005), to involve chief executive officers (CEOs) and the members of pressure groups in a constructive conversation (Steier, Gyllenpalm, Brown, & Bredemeier, 2008), in strategic management (Chang, 2017), integrating customers of a firm (Brennan & Ritch, 2010) or to create conversations in the work environment (Hess, Everett, Tuchmann, & Dossey, 2006). World café outcomes have been found to improve strategic planning results (Chang & Chen, 2015).

Academic researchers have also begun to use the world café method. For example, researchers have used this method to help develop future topics for research in areas such as bioinformatics (Fuller et al., 2013) and work transitions (Shaw et al., 2012). Researchers have also used the world café as part of their research design to collect data from disadvantaged neighborhoods for a community development project (Bertotti, Adams-Eaton, Sheridan, & Renton, 2012) and to deepen an understanding of survey data from elderly consumers of financial services (Brennan & Ritch, 2010). Further, researchers used the world café by employing affinity diagrams to test data collection for a project involving Swedish hotels (Lagrosen & Lagrosen, 2013). Several applications in purchasing and supply chain research have been added (Hüttinger, Schiele, & Schröer, 2014; Pumpe & Vallée, 2017) and, not surprisingly, innovation research (Kavin & Narasimhan, 2017). Given what we experienced and learned from our pilot and the literature review, we decided to incorporate a world café into our research, however modifying its traditional approach to satisfy not only the speed and relevance, but also the rigor criterion.

3.2. *A four step design of a research world café project: Problem definition, consortium building, workshop execution, analysis and validation*

Bartunek and Louis (1996) developed an insider/outsider research team concept suggesting that a joint research project does not necessarily advocate equal participation at each stage of the project. Rather, "for very good reasons" (Bartunek & Louis, 1996, p. 24), one group can be more involved than another group during different project stages as long as both groups have influence throughout the project. We have slightly adapted this suggestion not only to accelerate certain tasks in the research project, but also to better utilize the core competences of the academics and practitioners. For example, we suggest that academic researchers conduct the literature review to identify concepts, models, and ideas and bring them to the attention of practitioners. In addition, because practitioners rarely have knowledge of quantitative data analysis techniques or the time to spend on such analyzes, academic researchers should conduct the analysis. However, practitioners play an important role in analyzing qualitative data. In regard to interpreting results and connecting these results with practice, practitioners have a natural advantage because they understand the context in which the relevant issues occur. This provides another way to contextualize "academic evidence and practitioners' tacit understanding" in a space in which academics and practitioners can begin to engage in "dialogue" that is "nurtured and sustained," enabling knowledge integration between theory and practice, rigor and relevance (Marcos & Denyer, 2012, p. 455).

The research world café model includes the following four steps: (1)

define the problem, (2) identify participants, (3) conduct the world café and (4) analyze and validate the results. It could be argued that the second and third step belong to each other. However, the validity of the results of a world café depend to a substantial extent to the representative composition of the participating group. Therefore, step 2 the participants' identification is of pivotal importance and deserves special attention, expressed by defining it as an explicit step. Sometime, the quantitative validation of results could be considered as a fifth step. However, this step is optional, not necessarily inherent to the method and as such may not join the count of the four step approach proposed here.

More specifically:

Step 1: Define the Problem. Academics identify the phenomena, challenges, and/or questions relevant for both academics and practitioners based on new evidence found in literature and active engagement with practitioners during executive education programs and workshops, professional conferences, or consulting projects. As part of this process, academics should ideally discuss emerging topics with their academic peers and selected practitioners to assess the relevance of the topics under consideration. In particular with the definition of sub-questions practitioner input is embedded. The overall research question is broken down into three to four sub-questions, which, each, will be discussed at one table during the world café workshop. This process resembles a traditional world café preparation (Silva & Guenther, 2018), except for explicitly asking to rely on previous academic knowledge. Because traditional research approaches also involve time spent reviewing literature and identifying research topics, this step does not provide a way to accelerate the research process.

Step 2: Invite participants. The group of participants must include academic researchers who have knowledge of the existing literature and who also help to frame the research questions that the consortium will explore and practitioners with knowledge of the topic being explored. When inviting practitioners, researchers need to ensure that the practitioners have a deep understanding of the phenomena being studied. Additionally, the researchers should also consider both variety and homogeneity when composing the team (Hüttinger et al., 2014). The outcome of a research world café is very sensitive to team composition. The practitioners should come from a variety of organization to capture different perspectives and practices and to ensure the generalizability of the results. It has actually been argued to "including the co-option of critique" so as to prevent single-sided discussion results (Aldred, 2011). The practitioners must also have a connection with the issues; therefore, a certain level of group homogeneity is helpful because discussions are more likely to flourish if participants speak the same "language" and have a working knowledge of the issues that will be explored. In terms of rigor in research, the consortium building is of fundamental importance. The quality of the research outcome, for instance in terms of generalizability, is dependent upon a balanced and well-elaborated set of workshop participants.

Step 3: Conduct the World Café. The suggested process follows the basic stages of a world café that we previously described; however, several modifications are needed to enhance the rigor of the research data collection process.

In the research world café, the moderators ideally are academic researchers who have knowledge of the topic to be explored and of the standards required to collect research data in large group processes (Hüttinger et al., 2014). To lead a world café, the moderators benefit from knowledge of advanced group facilitation techniques, as people may be unaccustomed to these rapid cycles of discussions (Prewitt, 2011). Even with set questions and a defined process, a skilled moderator knows that "one can never tell once the questions have been brought to life in the room how participants will respond" (Prewitt, 2011, pp. 360-361). At the beginning of the world café, the academic researchers plenary introduce the topic, providing an overview of what is known, including frameworks and concepts (see Fig. 2). These researchers review the world café process with the participants and list the questions that are being discussed.

Then, in smaller compositions, participants move from table to table for each discussion round, which normally lasts 30 to 40 min. We recommend assigning one major question or a particular aspect of the research question for each table to address. Participants sit at a different table for every round ((Chang & Chen, 2015) provide an illustrative switching list). Thus, new groups form for each discussion round. When possible, depending on the group's size, we recommend having each participant visit every table to encourage the cross-pollination of ideas. Next to the moderators for each table, we recommend having one additional person as time-keeper, who organizes the switch of the participants between the tables at the scheduled time. For that, it is recommended that the discussion tables are not too far away from each other and close to the plenary room, so that not too much time is lost with rotating between the tables. At the same time, distance should be enough to prevent noise disturbance between the tables.

To help with this process and to take into account the participants' culture (Prewitt, 2011), we have made several modifications. For example, unlike the original world café, the moderator is not a volunteer; in our design, the table moderators are members of the organizing committee who are familiar with the topic and are briefed on the procedures to be used at their tables. The moderator ensures that participants move to different tables and that the groups respect the time limits set for discussions. When a new discussion round starts, the moderator reviews the ideas and concepts that arose during the previous discussion, and sets the table for the new members' discussion. The moderator then asks the members to add their individual experiences and insights. Introducing a "professional" moderator adds weight to the academic rigor, as will be discussed below. As opposed to facilitators who are supposed to "suggest ways of doing things" (Cambridge Dictionary), moderators explicitly do not suggest answers and thus do not bias the knowledge creating process by expressing their own opinion. "The facilitator controls the group: what it is doing, what members are talking about and when they talk about each subject, in a much tighter way than a moderator would do in a focus group discussion." (Boddy, 2005, p. 252) The moderator has two tasks: to keep the group within the boundaries of the topic and to encourage discussion, while *not* controlling and leading the group to a certain opinion (Saunders, Lewis, & Thornhill, 2009). To ensure academic rigor, it is important to take up a moderator and not facilitator role. Moderators need to be trained beforehand and are very critical for the success of a research world café. This is particularly of importance if, for instance, the hosting organization wants to show some exposure and provides one or two moderators, who may not yet have familiarized with the world café method before. Here, a training meeting before the world café is recommended, to ensure that everybody has the same understanding of the questions for each table (else there may be some overlap or the research objective is not accomplished). Further, the moderator - and only the moderator - takes notes and this is so because the notes on the flip chart have to be taken in a way that later the emerging concepts can clearly be distinguished from each other. Then, traces between the concepts can be made and this allows later participants to place their assessment stickers at the right place and without any ambiguity. This technique requires some attention. For instance, it might be advisable to better start a new flip chart, rather than filling one chart to the extent that hardly any space is left and terms are overlapping (as a good example compare the photo in Fig. 2, left with (Sankaran, Rowe, & Cady, 2017).

Brown and Isaacs (2005) recommend using paper tablecloths; however, we found flip chart paper to be easier to organize and handle and to be a better fit for an industrial or business setting and culture. As the moderators review the ideas and concepts that the previous group or groups raised, the moderators must only refer to the sketches and notes on the flip charts without adding their own perspective and ideas to the discussion. This approach is used to avoid bias. The discussion captured on the flip charts replaces the data collection stage in a traditional qualitative research or benchmarking project. To collect even richer

data, the researchers may also record the conversations or even capture the table discussions on video with the consent of all of the participants (Steier et al., 2008). Recording and transcribing the world café conversation has proven to be very supportive for analysis of the findings and help researchers to better understand the concepts put forward, as well as giving access to researchers who have not personally been present during the event. Videotaping may be the ideal form because some voices can be very similar. Using internet communication platforms when conducting the world café in a virtual environment greatly facilitates recording. Because the review process includes several rounds of comparing and abstracting, which are the two basic tactics in analytic induction (Punch, 2005), the findings receive a first validation through discussion.

Once all discussion rounds have elapsed, the entire group meets again in plenary. Moderators shortly summarize the findings from their table, so that all participants have an overview. To assess the importance of the findings, we suggest asking the participants to assign points or stickers to the results captured on the flip charts (dot voting). While this nominal voting technique has considered to be more "democratic" (Sankaran et al., 2017), it in particular can help to bring down the amount of generated ideas to a handleable minimum and increase the confidence of action by focusing on those factors generally considered to be the most important by the experts of the world café. By allowing the participants to rate the findings, the process incorporates the characteristics of a Delphi, although the goal is not necessarily consensus (Morgan, 1988). Unlike consortium benchmarking, which requires four to five two-day site visits to individual firms and subsequent follow-up discussions (Schiele & Krummaker, 2011) and classical interview based research, in which visit to 16 firms may take many months, a research world café requires one day, significantly reducing costs and the time spent on data collection, benefitting both the academics and the participating firms. By the end of the workshop, results are displayed and wrapped-up. In this way, participants leave with knowledge of the primary research results: a speedy process.

Step 4: Analyze and Validate Knowledge. After the workshop, the organisers prepare a documentation of the event and the findings and distribute them to the practitioners participating. Since the workshop as such already produced a prioritisation through dot voting, documented on flip-charts (or electronic boards) a participant feedback can be produced soon. Actually, one of the big advantages of a world café is that participants see the prioritised results immediately after the voting, thus as opposed to a lengthy process of coding and sorting as with interview based techniques, in a research world café with dot voting immediately a first analysis takes place. Recordings of the discussions are usually transcribed, so that in the results summary the full meaning of the factors emerging in the discussion is retained. It is not necessary to follow a classical inductive coding process, exactly because the relevant findings have already been extracted during the world café, annotated on the flip charts and, even more, voted upon. However, the recording and transcribing increases the rigor of subsequent analysis, ensuring that the context in which statements were taken is kept. To summarise, after a research world café the following documentation can be used for the analysis: (1.) the note on the flip charts / discussion boards, (2.) the verbal summaries of the table moderators presenting the discussion rounds in plenary before the voting, (3.) the results of the (dot) voting and (4.) the discussion transcripts.

The world café findings can serve as input for future research steps. For instance, depending on the overall aim of the collaborative research project, the academic researchers might seek to expand the explorative research design described in steps one through three and add a quantitative step to test the findings from the world café with practitioners who did not participate in the original session. As suggested for other qualitative inquiries such as focus group research (Morgan, 1988) and Delphi studies (Grisham, 2009), a survey can increase the validity of the qualitative enquiry (Aguinis et al., 2010; A. B. Shani et al., 2007). This is an optional part of research, not strictly being part of the world café method, but a complementary step.

If the researchers choose a survey to test the world café's findings

13:00 - 17:00			**Sample agenda research world café**	
start	end	duration		who
12:15	13:00	0:45	Walk-in with light lunch	all
13:00	13:45	0:45	Introduction to the topic (establishment of shared understanding/definition/method)	organizer
13:45	14:30	0:45	Round 1 - free discussion	moderators, participants
14:30	15:00	0:30	Round 2 - moderator ensures all issues are covered	moderators, participants
15:00	15:20	0:20	Round 3 - moderator ensures all issues are covered	moderators, participants
15:20	15:35	0:15	Round 4 - closing the last gaps	moderators, participants
15:35	15:50	0:15	Break	participants (moderators prepare plenary)
15:50	16:20	0:30	Plenary presentation of table results	moderators
16:20	16:40	0:20	Priority voting with stickers	participants
16:40	17:00	0:20	Wrap-up and closing	organizer
17:00	17:30	0:30	Drinks	all

Fig. 2. Sample agenda research world café.

and manage to conduct it not to long after the world café, we suggest eventually inviting all world café participants again, to discuss the survey's findings. Including the practitioners who participated in the world café not only adds a practical perspective to the interpretation of the results but also helps translate and diffuse the generated knowledge into practice, thus helping to reduce the knowledge production problem between academics and practitioners (Hambrick, 1994; Van de Ven & Johnson, 2006). Furthermore, discussing the survey's findings with the practitioners also reinforces their role as co-researchers, helps the practitioners better understand the research process and make them advocates of change in their own organizations, because they have developed the content themselves.

After completing these interactions with the practitioners, the involved academics will start organizing and analyzing data to begin contributing to scholarly research through conference presentations and publications. Although collaboration is possible, academics and practitioners rarely make joint scholarly contributions because academia has different criteria for knowledge (Van de Ven, 2007) and because practitioners lack the time and generally do not have the necessary academic writing skills (Kieser & Leiner, 2009). Hence, metaphorically speaking, at this point, practitioners and academics are plunging back into "their" respective clock-speeds and work with the generated knowledge according to their environmental velocity.

In the context of the restrictions to personal meetings due to epidemic occurrences, the question arouses, if virtual world cafés can be realized. This is possible without too many problems. The authors of been involved in about half a dozen virtual world cafés. For that, step 3 – the actual event – has to be put in cyberspace by the means of one of the many interaction software. Typically, a plenary room is installed and for each "table" one break-out room, to which the participants are allocated following the diverse rounds. The respective moderator takes notes. As opposed to the paper version, here even advantages arise, for instance by easier assigning colors to groups of remarks. After the discussion rounds, results are presented in the plenary room and the voting occurs, for which, again, most of the collaboration software suits offer tools. A virtual form even has benefits in documentation, for the process and results can easily be video-taped and downloaded. Another advantage of a virtual world café is that attendance tends to be higher, because participants do not have to move to the location and can even remain spread throughout the entire world (typically within a certain time zone). The only practical recommendation from participants feedback was that apparently the concentration in a virtual environment is somewhat reduced and less than 3 h of workshop are recommended, which benefits versions with just three instead of four tables. Obviously, another drawback is the lack of informal interaction which might take place in the walk-in and out phase of the presential form of a world café.

4. Method comparison and requirements check

4.1. Comparing the research world café with focus group research and other qualitative group methods

Several designs of qualitative research have been established, which can broadly be distinguished into case studies, ethnographic studies, grounded theory and more design oriented action research (Punch, 2005). These research designs rely on different methods of data collection, including surveys/questionnaires, (individual) interviews (structured, semi-structured, unstructured, expert interviews), observations (participatory, non-participatory) and group techniques (Howell, 2012), which, again, distinguish a series of methods, including Delphi, benchmarking, focus groups or world cafés.

The world café supporting diverse research designs

The world café is a novel method of data collection and can be used with most of the research designs. For *case studies*, which focus on the description of one (or few) particular situations, a world café can be used to collect information, typically supplementing individual interviews or observations. With *ethnographic studies*, characterised by the embedding of the researcher in the study object, other forms of data gathering are more adequate, such as participant observation. A world café is a purposefully created knowledge exchange space, violating the assumption of unmanipulative embedding typical for ethnographic studies. *Grounded theory*, on its turn, is a method of enquiry in which theory emerges from successive rounds of data collection, without proposing any upfront theory. For running a world café and defining the tables, a basic conceptual differentiation of the overall topic of enquiry needs to be known. Hence, in a grounded theory approach, a world café could only be used in a second research stage, once the first concepts have emerged. This is an important limitation: if the researcher knows virtually nothing about a subject, not even being able to structure it roughly and establish distinctive discussion tables, then a world café many not be the most appropriate method for data collection. *Action research*, finally, targets at solving practical problems. In this context, a world café can be used to analyze a situation and, in a special form (the design world café (Goldberg & Schiele, 2018)), also to design a solution.

The world café as one method of data collection compared to other group techniques

In terms of potentially substitutable data collection methods, we can distinguish between such methods with an individual approach, notably expert interviews, and those which involve the interaction among the study participants, including forms such as Delphi, benchmarking, focus group and the world café (see Fig. 3).

Expert interviews are a very traditional method used to collect data, characterised by conversations during researcher visits to selected experts (Bogner, Littig, & Menz, 2009). A conceptual difficulty consists in the clear definition who would actually classify as expert. At the same time, series of expert interviews are very time consuming, as they have to be scheduled successively. Further, the interaction and exchange only takes place between the interviewing researcher and the expert, but not among the divers experts directly.

The knowledge creating exchange, however, stands central to the Delphi method, which otherwise shares with the expert interview method the time asynchrony. In a *Delphi study*, the target is for a group of experts to reach consensus on a certain -often complex- subject through successive rounds of feedback (Landeta, Barrutia, & Lertxundi, 2011; Linstone & Turoff, 1975; Mitchell, 1991). Common applications are, among others, forecasting, scenario planning, idea generation, idea evaluation and decision making support (Landeta, 2006; Nowack, Endrikat, & Guenther, 2011; Okoli & Pawlowski, 2004). Being a formal process collecting written feedback and extending over several rounds, a Delphi study takes long to complete (Grisham, 2009; Okoli & Pawlowski, 2004), consequently being prone to the loss of panel-members from one round to the next (Grisham, 2009; Mitchell, 1991).

The same long process is observed with *consortium benchmarking*, in which a group of co-researchers jointly visits a set of best practice firms, in order to discuss and learn about their problem solutions (Schiele & Krummaker, 2011).

The world café, in turn, shares some characteristics with *focus group* research, sometimes being considered a special form of focus group (Brennan & Ritch, 2010; While et al., 2006). A focus group is a group interview in which the interaction of the participants leads to the development of knowledge (Kitzinger, 1995; Morgan, 1988; Myers, 2019). The researchers act as moderators, supplying a literature-based research topic to discuss. In general, researchers use focus groups as an exploratory technique in developing a new research area, as a source for generating hypotheses, or as a way to interpret previous studies' findings (Merton & Kendall, 1946). Effective focus groups require group homogeneity, allowing for discussion in a familiar and shared language (Morrison, 1998). Researchers may use focus groups with other data collection methods such as surveys or observations (Morgan, 1988), strongly recommended by Kidd and Parshall (2000) to enhance confidence in the research findings.

Although the world café also shares the focus group characteristics

described, there are several distinguishing differences. The practitioners are not interview objects but, rather, co-researchers contributing to the analysis, interpretation, and discussion of findings. Further, whereas the focus groups' ideal group size classically is recommended to be 4 to 8, sometimes up to 12 participants (Howell, 2013; Morrison, 1998; Saunders et al., 2009), the world café's method is more flexible. The café uses small discussion groups of approximately four to six participants seated at small tables; the organizer is able to adjust the number of tables. There is a minimum number of participants, because using fewer than a dozen participants may not be effective (three tables à four persons). Our ideal size was 16–20 participants, which included four tables with four to five discussants each, but also much larger world cafés have been reported. A focus group approach can be a fall back, in case the number of experts showing up at the scheduled date falls below the minimum threshold to have three discussion tables.

The world café's iterative process is another difference. Focus groups are usually one-time meetings, generating all data in one session lasting approximately two hours of active discussion; however, to increase data stability and reliability, a researcher sometimes may need to schedule reoccurring focus group sessions until saturation is reached and all contingencies have been discussed (Kidd & Parshall, 2000). Although a study may include discussions with the same group over time or with different groups at other sites, this process is time-consuming. If several sessions are held for the same group, the unavailability of participants to attend all of the sessions may cause problems. The world café method, however, embeds a strong iterative process in a one-time session, thus maintaining the beneficial characteristic of iteration and simultaneously avoiding the disadvantage of requiring multiple sessions. This iterative process has another valuable characteristic not found in traditional focus group research; the process requires the small groups' composition

	Expert interviews	Delphi	Consortium benchmarking	Focus Group	Practice World Café	Research World Café
Overall Objective	Generation or refinement of theoretical knowledge	Refinement, and "testing" of knowledge	Generation, refinement, and "testing" of knowledge relevant for academics and practitioners	Understanding/ interpreting theoretical knowledge in a new/different context	Fostering collaborative conversations and sharing practical knowledge	Generation, refinement, and "testing" of knowledge relevant for academics and practitioners
Character	Researchers visit experts and conduct interviews	Iterative process over multiple days. Experts are successively confronted with other experts' view	Researcher-expert team conducts benchmarking visits in multiple days.	Experts come together in one meeting for a discussion guided by a researcher	Iterative process in one day. Practitioners discuss and rotate among self-organized tables	Iterative process in one day. Practitioners and academics discuss at moderated tables, rotating among tables and validating findings afterward in a plenary session
Role of Academics	Researchers	Researchers (moderators)	Co-researchers	Researchers (moderators)	Observers (researchers)	Co-researchers
Role of Practitioners	Objects being studied	Experts	Co-researchers	Experts	Discussants (stakeholders)	Co-researchers (experts)
Organizer	Researcher	Researcher	Researcher	Researcher	Practitioner	Research team
Documentation	Tape, transcripts, interview notes	Written comments by participant experts	Benchmarking visit protocol	Tape, transcripts	Notes on tablecloth	Tape, transcripts, flip chart notes with participants' stickers, review sheet
Validation of Results	By the researchers in a series of interviews	Expert feedback	By the researchers – partly by the group members in the discussions	By the researchers – partly by the group members in the discussions	Not a formal design element	Joint validation through stickers/voting (exposure to all findings) at the end of the session. Researcher bias prevented through

Fig. 3. Method comparison.

to change, which allows for the cross-pollination of ideas and enables researchers to collect richer data (Fouché & Light, 2011). The iterative process also allows to more thoroughly explore opposing views, should they occur.

The table below provides an overview of how a "research world café" differs not only from the traditional design of a world café but also from focus group research and interview studies.

It is worth to remark that with the world café, like in group techniques, knowledge is not only created by the researcher who combines elements, but at the same time can emerge out of the interaction among the research participants. Finally, the research methods are not necessarily excluding each other; instead, combinations can be meaningful according to the respective strengths of the methods, like, for instance, using the world café to identify key factors and then discussing their nature and their relations in a subsequent Delphi.

4.2. Methodological rigor research world café

The world café results in a weighted list of explanatory factors on the respective subject. Taping and transcribing the discussion, in addition, delivers a rich set of understanding on the motives and rationales for the factors. Such as with other forms of (semi-)qualitative data collection these information serve as input for further theory building, such as analysing the links between the factors and eventually quantitative testing. The question is on the quality of the data gained in a world café. Based on the approach explained before, we will concentrate on the world café in the above modified form (academic-practitioner co-creation, moderators, voting technique, transcription) as a means for scientific enquiry and discuss its rigor:

1. *Construct validity* refers to the extent to which an enquiry investigates what it claims to investigate (Maxwell, 1992). In qualitative research, construct validity is achieved through triangulation (Patton, 2002) and the development of clear chains of arguments (Yin, 2009). The world café design incorporates several tactics to achieve a high level of construct validity. First, as participants change from one table to another, emerging constructs are challenged and refined from different angles, thus establishing what Denzin (1973) refers to as investigator triangulation. The world café's structure and the use of table moderators form the basis for achieving clear and precise chains of arguments. After each round, the moderator summarizes the findings from the previous table discussions for the new participants who join the table. This technique creates an inspirational springboard to challenge, connect, and/or strengthen ideas and arguments for the next round. In this iterative process, emerging themes and constructs become increasingly precise, eventually leading to a logical chain of evidence. To further strengthen construct validity, Yin (2009) suggests having key informants review the results. Our proposed design includes a final review at the workshop's end during which all participants rank the findings that emerged from the table discussions.
2. *Internal validity* refers to causal relationships between phenomena and/or constructs in a study (e.g., Cook, Campbell, and Day (1979)); therefore, establishing internal validity only applies to explanatory or causal studies and to descriptive or explorative studies (Yin, 2009). Although most of the research world café projects that we have conducted so far have had an exploratory character, the world café's suggested design also supports explanatory research and contributes to a high level of internal validity. The world café's iterative design not only allows participants to recognize patterns and linkages between emerging themes and constructs (Steier et al., 2008) but also to "test" the consistencies or inconsistencies of potential connections as participants move through several rounds of table discussions. Consistencies or recurring linkages can be interpreted as corroborating patterns (Eisenhardt, 1989), whereas inconsistencies indicate rival explanations that require further investigation (Miles & Huberman, 1994). The set-up with multiple subsequent discussion rounds allows to explore those opposing views and explanations. Researchers may also increase internal validity in an ex-post qualitative analytic stage in which they develop logic models (Yin, 2009) using coding techniques from the transcribed discussions at the tables and the notes, sketches, and figures captured on the tablecloths/flipcharts. Working with transcripts also allows researchers to identify undesired interventions that the moderators may have caused and dominant participants who might have biased the results.
3. *External validity* refers to the generalizability of a study's results (Cook et al., 1979). Including participants from different industries with diverse perspectives in an iterative discussion process contributes to what (Yin, 2009, p. 43) terms "analytical generalization." The aim of analytical generalization is to generalize findings to broader theories, concepts, or frameworks, e.g., in our practical example, a framework of supplier risk sources, indicators, measures, and their effect on performance. Researchers may also achieve analytical generalization through the replication of findings (Yin, 2009). Because world café participants also capture their discussions on flip charts and because the table moderators summarize for new participants the themes and constructs that emerged during the earlier discussion, subsequent table discussions make visible and test these emerging themes, ideas, and concepts, therefore validating them. The final assessment round giving all workshop participants the chance to select most important findings further ensures the generalizability of the findings, as it ensures capturing the consensus perception of the participants and filters out individual or minority opinions (which can be interesting input to research, but add less to external validity).
4. *Reliability* in quality research refers to demonstrating that other researchers seeking to repeat the study will arrive at the same findings (Silverman, 2013). If a similar sample of participants would be gathered, the method must ensure that similar findings emerge and / or that not-participating researchers can fully understand how the results emerged and could reach the same conclusions based on the available material. Thus, researchers must provide documentation regarding the research procedure and the results by using protocols and developing databases for qualitative material (Yin, 2009). Researchers are able to collate in a study database the "field notes" generated during a world café; these notes include the discussions captured on the flip charts, the easel sheets summarizing the findings, and the participants' joint review/evaluation of the results. This database makes it possible to trace the results for potential external evaluation. In addition, recordings and transcriptions of the table conversations add further documentation to the database. Thus, the researchers are not only able to capture the results but also to capture the process used to generate these results, providing a method with which to critique the process and improve its future use.

In conclusion, it might be fair to summarise that with the research world café a method of data collection is available that can combine rigor, relevance and speed. The question, then, would be how to use the method.

5. Example and empirics

5.1. Illustrative application example: Developing a tool to identify the antecedents of supplier failure in a cyclical downturn

We present here a "real life" research project to identify the antecedents of supply risk management performance in an industrial environment, illustrating the method's application. We have conducted more than 20 world cafés since then, about a third leading to a publication in a Scopus-listed journal, but this is the original case which lead to the development of the method of the research world café.

Background to the illustrative example: supply risk management

In the case of the illustrative example the situation was such that this project took place during a cyclical economic downturn, the complication being that many suppliers were threatened with bankruptcy, but there was no guideline available on how to recognize such candidates early on. Supplier failure directly affected the participating firms in the very moment of this research. Thus, firms were actively seeking suggestions regarding how to avoid future supplier breakdown surprises. The central research question came up, then, on "How can firms identify supplier failure at an early stage to take efficient counter-actions?" In order to answer this question in a short period of time, we conducted a research world café project.

At the moment of start of the research project, supply chain risk management was a fairly new research topic with very limited knowledge on risk monitoring and the effect of supply risk actions on performance (Blackhurst, Scheibe, & Johnson, 2008; Ritchie & Brindley, 2007). However – and that is important – the field was not in completely an exploratory phase, as some grounded theory based research had already established an introductory understanding (Zsidisin & Smith, 2005). We had been conducting research in the field since about two years and as such could propose a distinction into four types of supply risk (which would then become the four tables of our world café): (1.) Environmental risk – events in the environment of a supply chain relationship, i.e. external to the directly interacting firms, (2.) financial risk - the change on supplier default insolvency or bankruptcy, (3.) operational risk - the inability of a supplier to live up to the buyer's requirements, and (4.) strategic risk - the change of not being treated as a preferred customer, i.e. the unwillingness of a supplier to live up to the buyer's requirements, even though, in principle, it could.

The important special feature of a theory section with a world café project is that it lays the ground to define the tables used for the data collection setting.

Motivating the method selection: choosing the world café as preferred method for data collection in a semi-structured environment with speed requirements

Typically, such as also expressed in the survey of the latest word café applications (chapter 5.2), a series of considerations induce researchers to use the world café method:

1. Knowledge development rather than testing,
2. time considerations (speed),
3. collecting large amount of data / explanatory factors / options (as opposed to discussing specific depths on details),
4. allowing for interaction among the participants and giving all a space to express, thus exploring still unstructured and unmature pieces of information (no conclusive theory available),
5. allow to access collective wisdom in a natural setting,
6. enable to include larger amounts of participants (as the world café setting is scaleable),
7. enabling to prioritise and select information, avoiding researcher bias and – last not least –
8. the world café has been reported to be "great fun" for the participants, i.e. it allows to collect, develop and prioritise information in a way which is immediately rewarding for the participants.

While the last motive might not sound like strictly scientific, it can become a very relevant decision criterium if researchers face a situation of difficult access to a population and hence need to present an attractive package for participants. A respondent to our survey on the application of the group data collection methods summarised: "It is an easy and simple method to be applied, which promotes true participation. It encourages cross-pollination of ideas among participants. It allows you to work with large groups. […] When we use World Café, time is playing in your favor, groups naturally respect time."

In the example of our illustrative case, we originally had envisaged to apply a consortium benchmarking approach (Schiele & Krummaker, 2011). However, the requirement of this research sponsors – the national purchasing association – for providing answers within the quarter of a year requested a different method. We chose an exploratory research design because the topic's strong practical relevance coincided with a lack of academic research and the pressure to quickly provide insights based on the specific economic situation. Such challenges appeared to be ideal for an academic-practitioner collaborative research approach.

Application of the research world café method

Following the four stages described in the previous section, we conducted the research as follows:

Step 1: Define the Problem. We had been researching supply risk management for two years before receiving initial signals from practitioners that supplier failure had become an even more pressing problem under the current economic downturn. The national purchasing association picked up the topic, identifying supplier failure as an important issue for association members. The group encouraged us to conduct a research project and offered support.

Step 2: Identify participants. We formed a research set comprised of 16 practitioners and 3 academics. The purchasing association promoted the project through different communication channels. We also recruited some participants through our university networks and through a consultancy firm specializing in the field. To develop generalizable results, we invited representatives from a range of industries, mirroring German industry that focuses on automotive production, engineering, electronics, and chemistry. We purposely excluded service firms, whose different supplier risks might skew the findings.

Step 3: Conduct the World Café. For the one-day world café workshop, we used a list of risk sources identified in the existing risk management literature. We asked the participants to comment on these risk sources, to add sources from their own practical experiences, and to list possible indicators and measures to manage the risks. Because we had identified four generic types of risks (environmental, financial, operational, and strategic risks) before the session started, we seated participants at four tables. Each table had a moderator from the organizing committee whom we had trained before the session. To ensure that the moderators were not adding their own thoughts and moving the discussion in a certain direction, we provided the moderators with guidelines and a code of conduct that they kept at their tables. We also reinforced the need for their neutrality several times during the session.

There were four discussion rounds, the first two being 40 min in length, the second two 30 min. As a result, all of the participants were able to switch tables and discuss each of the four main risk categories. The participants used flip chart paper to capture the ideas discussed at the tables. After completing all four rounds, the participants reviewed the ideas that the tables had generated and helped create a joint result sheet of risk sources, indicators, and mitigation strategies. Since our intention had been to use the world café input for a subsequent quantitative survey, we needed to find a way to identify the most likely most relevant factors emerging in the discussion. A typical problem of similar workshops is that very large amounts of suggestions emerge, but many of them may represent individual's reflection of their particular situation. Hence, we introduced the dot voting, in order to access the collective wisdom of the participants and separate special suggestions from more generalisable findings. This proved to be an important amendment to the classical world café method, which we always used subsequently. In this first project, the participants used stickers to assign points indicating the importance of the different risk sources, indicators, and mitigation strategies. Though a fixed amount of stickers would also be possible, we allowed participants to assign as many points as they wanted. For all risk types, the participants produced a list of the most important risks sources, indicators, and measures. With the consent of the participants, the researchers recorded the discussions and later transcribed them verbatim to ensure the traceability of the results, to verify the moderators' neutrality, and to have the ability to examine the results more closely for new insights and extract questions for future

study. At this point, the world café data collection is concluded.

Step 4: Analyze and Validate Knowledge. Right after the workshop we summarized its findings and ranked the most highly voted factors. In this case, however, we added a follow-up survey. This step is not a necessary element of a world café research project, but we report it here, because its results also give evidence of the high value of output the world café workshop generated.

The survey included not only all the risk sources, indicators, and measures that the participants considered to be important but also included "supply risk management performance" as a dependent variable, general company data, and data concerning the respondent's position in the firm, following the typical approach recommended for survey-based research (e.g. Fowler Jr (2013)). We sent the survey to all members of the buyer association in Germany, Austria, Switzerland, and Luxembourg and to the consulting company's customer database. Because of tight operational time constraints, the recipients had to respond in one week. Even given this short deadline, we received approximately 260 completed questionnaires, a remarkably high response for survey research in German-speaking countries. Some firms contacted us after the survey was closed to express their wish to participate, which we had to refuse.

As an example for the findings, the world café identified and prioritised eight factors which are used by firms to identify, measure and mitigate environmental risk sources, i.e. those which affect all customers of suppliers subject to the risk occurrence. Risk sources can be currency exchange rate fluctuations, price increases or grip on raw materials. Nation reports and corruption indices are used to measure and assess countries' risk levels and, finally, firms use total cost calculations, multiple sourcing and simply avoid critical countries in order to mitigate environmental risks. From these eight factors which were identified and prioritised in the world café workshop, in the quantitative follow-up study all but two revealed to be differentiating between successful and less successfully supply risk managing companies, jointly explaining 24% of the success difference. Considering that there are at least three more risk types (financial, operational, strategic risk), the empirical results are very good, showing that the factors identified in the world café did have a generalisable relevance. The considerable explanatory power of the quantitative findings support the claim that the world café as a qualitative group data collection method is able to surface relevant variables and access the "wisdom of the crowds", i.e. the knowledge of the experts meeting in the workshop. The careful selection of the participants – in our case consisting of representatives from 16 different firms mirroring the total industry sample – may also explain the good results.

Three months after the project began, we invited the world café participants to a workshop in which we presented and discussed the results. We invited representatives from best practice firms to the meeting to learn about their concrete experiences in implementing a risk management system.

As a final step we then wrote two academic papers and a practitioner handbook on supply risk management. Later, the findings served as toolbox for the implementation of supply risk management systems with several companies. The project contributed to both, the academic discussion and theory building, as well as immediate practical guidance and actionable tools.

Altogether, the collaborative research project took slightly more than three months, beginning with the first idea of conducting a joint research project with practitioners regarding supplier risk failure to the end of the second workshop. The most time-consuming tasks were analyzing the survey data and producing a report for the participants, which we handed out in the second workshop. Compared to traditional methods, we reduced the research time significantly even with the quantitative step added. Result indicate that this is also a method that can contribute to the translation and rapid diffusion of research into applicable knowledge.

In order to verify if the illustrative example is just an exception or if world café projects as a rule do require less time in order to produce results which can be presented to the participating practitioners, we conducted a short survey asking the authors of such papers on their experience. Please note that the below named world café projects mostly do not yet apply all steps recommended to be a "research world café", but mostly rely on more traditional variants.

5.2. Empirical spotlight: World café delivering twice as fast practitioner results than other qualitative group data collection methods

Given the existence and use of the diverse research techniques, while being unable to provide large scale empirical data on the full application of the here described "research world café", we are, however, able to survey, if the speed accelerating effect of the classical world café method is, de facto, visible in current world café based research projects. For that, we conducted a survey, collecting punctual data from researchers applying the different data collection methods (Delphi, expert interviews, focus group, world café). For that purpose, in May 2021 we sent out a request to the corresponding authors of the latest 100 papers published in a journal contained in the Scopus database and which indicated in the abstract or key words the use of any of these methods, asking them to systematically report on the time their research project took according to the research phases. We asked both, for the project extension in calendar time (weeks), as well as in terms of working hours actually spent on the project.

From the 400 addressed projects 42 returned with unknown address. After two weeks, completely filled out data on 115 research projects could be collected (32% return rate); 27 referred to research projects which used the Delphi method for data collection, 33 expert interview papers, 24 focus group studies and 31 world café papers.

The analysis shows that the median world café based projects took about 0.3 weeks to collect the data, being 6 h the length of the workshop. In comparison, the other data collection methods took 4 weeks or 16 h effectively working on the data gathering (Fig. 4). We used the median values for the comparison, in order to avoid a distortion through extreme values, which would be the case if taken averages. However, the message stays the same, if comparing average and not median values: the median world café project could present its results to practitioners after 13 weeks (average 24), compared to the other methods with 28 weeks (average 41), i.e. in about half the time. Clearly, the world café is faster in execution, in particular during the data gathering phase and in the problem definition phase. Concerning the claim to find a data gathering method which helps to close academic-practitioner gap by enabling faster result presentation to practitioners, then, the world café in its current application, seems to match the claim.

Data analysis and presentation, though, in the sample did take as long with world café projects, as with the research projects applying the other data collection methods. With the exception of authors of Delphi papers, respondents to our survey spend about 40 h preparing their academic paper.

What might be surprising is that with the other methods the problem definition phase took much longer then with world café projects. Table 1 sheds light on this observation: it is in particular expert interview projects which spend considerable more time in this research phase. Likewise, these projects take longer in the analysis phase (including coding), in particular if considering the hours actually worked on the project, not the distribution over calendar weeks. Interestingly, the phase "identification of participants" also shows a time advantage for the world café, again in particular compared to expert interviews. However, here it might depend very much on the nature of the empirical focus: many world cafés seem to be applied in organisational settings, where an entire group of actors, such as member of a particular function, location or stakeholder group are brought together. Hence, organising such a meeting takes less time than acquiring single experts in different organisations. When running a research world café with participants from different firms, though, recruitment time is expected to be similar.

Another interesting observation may refer to the amount of participants in the research projects. Here, the world café strikes out with 36 participants, with the other forms of inquiry typically relying on values ranging from 17 to 21 experts.

It is wort to remark that the sample size of this "empirical spotlight" only allows to give a first indication on how the discussed data collection methods have been applied in the recent past. This does not mean that these values necessarily apply to all research projects. However, they may serve as an orientation for researchers planning to launch a project. Last, not least, the above surveyed world café projects mostly did not apply the principles developed here. For instance, only half a dozen reported the use of dot voting, which would have a considerable impact on the length of the data analysis phase. As a conclusion, it might be summarised that the typical world café took half the time, but included about twice as many participants as the other multi-expert qualitative data collection methods.

6. Conclusion: The world café as a way for accelerating data collection to address clock-speed challenges in academic-practitioner collaborative research

6.1. Summary: Amending the world café method as tool for rigorous academic inquiries

This paper discusses the academic-practitioner divide in knowledge creation and collaborative research and introduces the research world café, as an academically rigorous, yet accelerating form of data collection method in academic-practitioner collaborative research. The speed in providing timely research results has been found to be highly relevant, yet largely unnoticed problem in academic knowledge production and dissemination. Hence, we suggest that in addition to ensuring academic rigor and relevance for both academics and practitioners, joint academic-practitioner research must climb a third "hurdle": namely

Research phase	explanation
(1.) Problem definition and conceptualizing	Preparing the research by reviewing the existing literature, models and implementations, deriving the research gap, goal, questions and choosing the method
(2a.) Preparing inquiry	Developing questions for the research particiapants / discussion tables
(2b.) Identification participants / experts	Finding suitable participants and getting their committment to participate
(3.) Gathering data	Realising the data collection through interviews, workshops etc.
(4.) Analysing data	Transccoding, sorting, interpreting, etc.
(5a.) Results – practitioner	Providing feedback to the practitioners participating in the research
(5b.) Results - academic	Publishing academic paper(s)/book(s) presenting the results

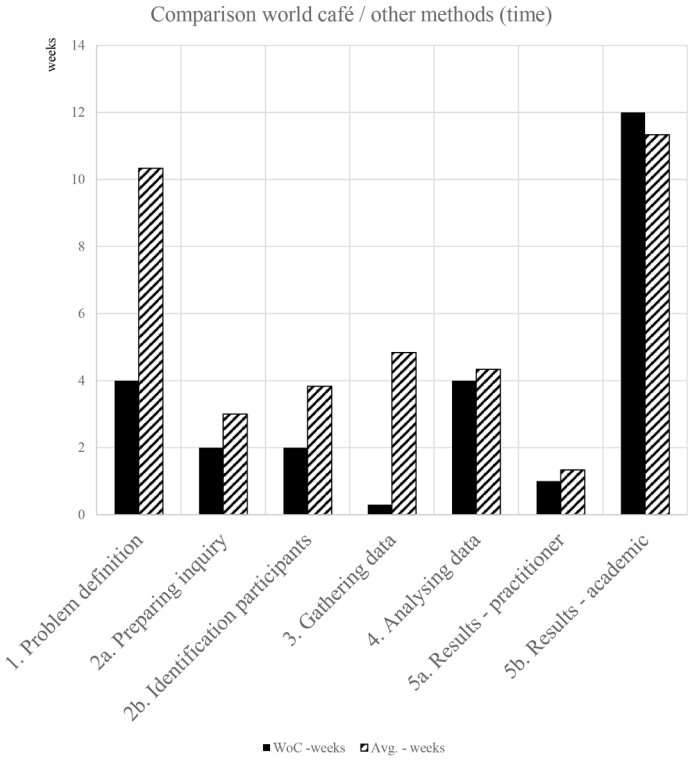

Fig. 4. Empirical results.

Table 1
Time per phase of research following the different methods (week: range in calendar time [throughput in weeks]; h: hours actually worked on the project).

Phase	Values (median)	Expert Interview	Delphi	Focus group	World Cafe	Average all	
(1.)	Problem definition	7.0	12.0	12.0	4.0	8.0	week
		110.0	90.0	50.0	20.0	50.0	h
(2a.)	Preparing inquiry	2.0	4.0	3.0	2.0	3.0	week
		20.0	25.0	13.5	9.0	15.0	h
(2b.)	Identification participants	3.5	4.0	4.0	2.0	3.0	week
		40.0	18.0	10.0	4.0	10.0	h
(3.)	Gathering data	5.5	5.0	4.0	0.3	4.0	week
		32.0	22.0	18.0	6.0	16.0	h
(4.)	Analysing data	6.0	3.0	4.0	4.0	4.0	week
		100.0	36.0	20.0	30.0	51.0	h
(5a.)	Results - practitioner	2.0	1.0	1.0	1.0	1.0	week
		10.0	16.0	4.5	8.0	10.0	h
(5b.)	Results - academic	14.0	12.0	8.0	12.0	12.0	week
		36.0	85.0	30.0	40.0	40.0	h
	Total time till practice result	26.0	29.0	28.0	13.3	23.0	week
	Amount participants	16.0	21.5	17.0	36.0	24.0	

speed, next to rigor and relevance. Trying to find ways to accelerate academic knowledge production may pave a way out of the recurring debate on the academic-practitioner divide. Numerous researchers regard traditional data collection methods as too slow for fast clock-speed environments, which coin many practitioner environments, we analyzed the research process for acceleration potential and identify the world café method as a key to solve this problem.

Given the necessary condition of ensuring a high level of academic rigor, we found the most promising acceleration potential in the data collection stage. Instead of collecting data in sequential company visits, recurring and time consuming Delphi studies or organizing a less comprehensive focus group discussion, we suggested inviting practitioners from different companies to come together in an interactive and iterative working format referred to as a research world café. In the data collection phase a world café shows its acceleration potential, by concentrating the data collection on one day, in which all participants gather. Surveying the authors of the latest publications using group data gathering methods, it became clear that the current world café applications have been able to reduce the time from concept to practitioner feedback to half of the average, hence, the speed effect of the world café method is not only conceptual in nature, but is indeed already happening.

Next to acceleration the research world café has further benefits, in particular the cross-fertilization of the participating experts among each other, which does not occur in an interview setting, as well as the observation that the rotation model leads to satisfaction with participants. A world café is typically experienced as a rewarding event by practitioners, who specially highlight the own learning experience (Chang & Chen, 2015). Because of the voting technique, participants leave the world café already with a good overview of the results. Here, speed of research is given, which is an important motivator for people to join a world café workshop. We argue that the world café method, originally applied for generating inter-practitioner dialogues, can -duly modified- also serve as a data collection approach for research projects.

The research world café asks to consider the following modifications towards the original, practice-only oriented world café design: 1) Carefully selecting the participants to ensure the required level of generalizability (research consortium building), rather than allowing for an arbitrary participation process, 2) keeping a trained moderator on each table, 3) using flip-charts / electronic boards instead of table cloth for the moderator to capture the findings, 4) Taping and transcribing the discussion sessions, 5) eventually presenting the results of all table rotations in plenary, and asking participants to rate the findings through placing stickers.

Finally, this paper proposes a four step approach to run a research world café. With the help of a practical example, we not only illustrate the process but also provide an example depicting the benefits of this method for both academics and practitioners.

6.2. Contributions: Solution to the triple hurdle of rigor, relevance and speed

We expect the research world café to contribute to the existing body of literature in at least five ways. First, this method broadens the rigor-relevance debate to include the challenge of conducting timely and rapid research in fast clock-speed environments. In addition to the existing rigor and relevance components, our paper suggests including “speed” as the third requirement of impactful research. By doing so, we raise the bar for research and postulate that in fast clock-speed environments, research not only climb a double hurdle (Pettigrew, 1997), but a triple hurdle, adding speed as a new and distinct criterion in addition to rigor and relevance.

Second, by recommending an acceleration of the data collection phase using a world café, we are not only suggesting a way to accelerate the research process but are also introducing the research world café as a qualitative method of scientific data collection. Originally, the world café has been used in practice conversations (Brown & Isaacs, 2005), but only infrequently in academic or joint practice-academia contexts or then in very specialized setting. The modifications we are suggesting, such as the neutral, trained moderator remaining at the table, recording the discussions at the tables, and conducting a final verification round that includes all participants attaching stickers to select the most important findings, add additional rigor to the method, thus making the world café a useful, interesting, and flexible option for academic researchers.

Third, although the research world café can be used to explore a range of phenomena from the field of management, given the strong tradition of qualitative case study research in industrial research (Beverland & Lindgreen, 2010) and the high level of velocity in the majority of business-to-business environments (Riolli-Saltzman & Luthans, 2001; Slater, 1993), it may be likely that a research world café has specific strengths that allow researchers to learn more about time-critical topics. More generally, this method adds a new perspective to focus group research (e.g., Greenbaum (1998)) in general and world café research in particular. The research world café may enable researchers not only to explore time-critical topics, but also to conduct academic-collaborative research, as suggested by several authors (McAlister, 2006). By modifying the traditional world café, in particular to include a fixed, neutral moderator (instead of a facilitator joining the discussion with an own opinion) per table and to verify the findings with placing stickers in the end, this paper demonstrates how the world café can be applied as a means for scientific research and to be published in scientific journals (examples of publications: provided in final version). In this way we may contribute to pave the way for a more up-to-date academic research and considerably expand the scope of application of the world café.

Fourth, this paper contributes by providing an actionable four step approach on how scientists can apply the research world café, collecting data, which are at the same time academically publishable, as well as providing timely feedback to practitioners.

Fifth, by providing the first empirical spotlight on the length of the phases for applying qualitative group data gathering research, this paper contributes to research by helping future project leaders to more accurately estimate the time needed for their research project. Likewise, we contribute to method selection processes by empirically comparing the four techniques Delphi, expert interview, focus group and world café.

Practitioners also benefit from the world café in an academic-practitioner collaborative research project. This method helps practitioners to actively engage in the data collection process and to exchange ideas and practices in real time, providing an immediate return on the time invested in the process. Asked to evaluate the application of the world café method, participants appreciated its knowledge sharing character and their own learning process through participation, being facilitated by high engagement of the participants (Lagrosen, 2017). They further felt innovative thinking was stimulated in a learning experience. The method also introduces practitioners to research questions and to the ways in which researchers test assumptions about data; thus, the method itself offers a way to build the (research) capabilities of the participants. Furthermore, the exchange process with their peers also makes this method attractive for practitioners. The rotation between the tables in the research world café strengthen this attractiveness even more, as it strongly enhances the exchange process.

6.3. Limitation to the data collection phase and need for further research on voting techniques

With regard to limitations, we first acknowledge that the entire approach of academic-practitioner collaboration in general and the attempt to collaborate in fast clock-speed environments in particular is only interesting for those scholars who conceive of management as an applied science (Rumelt, Schendel, & Teece, 1991; Schmalenbach, 1911; Whitley, 1984) and/or who understand their academic role as one of an engaged scholar (Van de Ven, 2007). At the same time, science may not

be fulfilling its purpose of revealing truth, challenging societal practices and making fundamental new discoveries, if too narrowly and exclusively following the "practice criterion of truth", effectively just trying to provide solutions to practice defined problems (Roll-Hansen, 2005).

Second, a research world café can only accelerate the data collection stage. If researchers attempt to accelerate other stages, in particular the literature review and data analysis, we expect negative effects on academic rigor. Further research may want to investigate when the data collection reaches saturation, which poses the question on the optimal size of a world café.

Third, an issue of debate and need for further research evolves around the amount of voting stickers participants should get. On the one hand, it has been advocated to have a fixed and limited number of votes, allowing each participant to place a maximum of one sticker per item. Technically, this resembles an ipsative scale. The problem with this is that limited variance becomes a problem and the votes are not independent from each other. Hence, depending on which and how many items have been discussed, different prioritizations may result. On the other hand, the idea emerged that in a multi-firm setting where participants gathered with a pure knowledge sharing interest, a free amount of stickers can be awarded, allowing to place as many votes on a particular feature as wanted. While ensuring that a clear picture emerges of which discussion points are considered to be most important by the participants, technically speaking we would deal with different scale values for each item. A compromise can reside in awarding 20–30 stickers per person (depending on the amount of tables) and allowing up to 3 stickers to be placed on one item. Here, further research is needed to identify the best compromise for voting, so that the wisdom of the crowds is most genuinely reflected.

Fourth, the world café is at its best in explorative research projects aiming at developing new concepts, frameworks, or theories or refining existing ones. However, recently, some two step models have been proposed, expanding the scope of applications: For instance, Lagrosen (2017) introduced a "quality world café", in which the first part of idea generation is done through a world café, which is then seamlessly integrated into a more traditional quality workshop. Another complimentary format is the "design world café" which has successfully been tested, again consisting of two parts: in the morning a "normal" world café such as described above was used, in the afternoon, then, a second round was run to conceptually forward the most highly voted concepts of the first round (Goldberg & Schiele, 2018). In this way, the scope of application was expanded into the design of solutions. Another way could be to combine the world café with a Delphi, in order to develop more in depth knowledge on the factors identified during a world café, for instance using the recently developed "real time Delphi" (Gnatzy, Warth, von der Gracht, & Darkow, 2011; Lechler, Canzaniello, Roßmann, von der Gracht, & Hartmann, 2019). In this Delphi variant, first a set of propositions is developed which are then discussed in depth in the Delphi, which might now also be hosted in a blog-like form in the internet. Here, a world café could be conducted to derive the starting propositions and then the Delphi subsequently goes more into details, which exceed the time available during a world café meeting. At the same time, the Delphi could overcome one of the shortcomings of a world café that it might not be able to go too much into depth into each factor. Future applications, hence, could integrate the central elements of a research world café into additional applications.

Fifth, in terms of empirical outcome, the validity and efficiency of the research world café could be assessed by experimentally comparing it to the performance of other methods applied in parallel, regarding a similar starting situation. Suggested comparison criteria could be the outcome quantity and quality as such, the time and resource consumption to achieve this outcome and the satisfaction of the involved participants, which is supposed to be a strength of the research world café.

CRediT authorship contribution statement

Holger Schiele: Conceptualisation, Methodology, Validation, Formal analysis, Writing Project administration. **Stefan Krummaker:** Conceptualisation, Methodology, Writing. **Petra Hoffmann:** Validation, Formal analysis, Investigation, Writing. **Rita Kowalski:** Conceptualisation, Methodology, Writing review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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