2

Deploying Collaborative Management Research Approaches in Humanitarian Supply Chains: An Overview and Research Agenda

Yasmine Sabri

Introduction

Humanitarian supply chains often involve complex networks of interconnected global organisations, operating in harsh and uncertain conditions caused by natural as well as man-made disasters (Day et al. 2012). Unlike the commercial ones, the humanitarian supply chains are expected to add value to an ultimate beneficiary from the affected communities, not to a customer in the traditional sense (Blanco and Goentzel 2006).

Despite the utter benefits of humanitarian supply chains in mitigating the implications of disastrous circumstances, they started to gain research attention just recently (Christopher and Tatham 2014). For instance, the findings of Kovács and Spens (2011) report that humanitarian logistics and supply chain management scholarly publications were doubled from the year 2005 onwards, following the Indian Ocean Tsunami disaster. Albeit the attention of researchers in the majority of these publications is on improving preparedness and response (Leiras et al. 2014), lack of coordination and collaboration between the different stakeholders is still identified as one of the main challenges faced by the management of humanitarian supply chains (Vaillancourt 2016; Kovács and Spens 2011). Lack of collaboration was

Y. Sabri (✉)
Department of Management, Economics and Industrial Engineering, Politecnico di Milano, Milano, Italy
e-mail: yasminesabri.hassan@polimi.it

G. Kovács et al. (eds.), *The Palgrave Handbook of Humanitarian Logistics and Supply Chain Management*, https://doi.org/10.1057/978-1-137-59099-2_2

observed in sudden-onset natural disasters, for instance subsequent to the aftermath of the Indian Ocean earthquake in 2004 (Telford et al. 2006; Jayasuriya and McCawley 2008). Similarly, it is noted in slow-onset man-made disasters, as recent armed conflicts left unprecedented numbers of displaced populations in need of humanitarian support (UN 2016).

Successful management, of humanitarian supply chains, requires a methodological approach that integrates the roles of the various stakeholders. However, the extant research in humanitarian supply chain domain is often criticised for lacking relevance (Jahre et al. 2015). Thus, the research community would benefit from examining whether the currently adopted methodological approaches enable the generation of relevant knowledge. Relevance should be established in practice, but also to the taxpayers, who mostly fund research activities in universities. In light of the findings attested in Kunz and Reiner (2012), humanitarian supply chain management scholarly publications usually follow two main methodologies: simulation and modelling, and case study. Thus, the question concerning the appropriateness of these methodological approaches, in addressing the challenges faced in humanitarian supply chain research, still holds.

In this chapter, the adoption of collaborative management research is examined as a methodological approach that could contribute in enhancing the collaboration and the engagement of humanitarian actors, as well as to mitigate the shortcomings of the fragmentation of stakeholders' efforts.

Collaborative management research emerged to lessen the diversion between theoretically generated knowledge and real-world events (Gibbons et al. 1994). It is founded on establishing a platform of inter-disciplinary collaboration and continuous inquiry between the involved stakeholders (Pasmore et al. 2007). Hence it enables researchers and practitioners to jointly participate on fulfilling end beneficiaries' (the affected communities') needs. Arguably, it allows for an environment of continuous improvement and increased preparedness to real-world events (Brydon-Miller et al. 2003). However, collaborative management research is always facing a strong critique regarding its scientific nature and implementation challenges. Due to the researcher's great involvement in the practitioner system, there are claims of bias in data analyses. Collaboration between stakeholders might not be so easy to establish, as it requires high levels of trust and agreement on the research project's aim and scope. Furthermore, in some instances there could be attempts from practitioners to influence data analysis and the final output of the project. Further, collaborative research projects need good management

of expectations so as to decrease the gap between what the researchers and what the practitioners are expecting as an outcome from the research project.

Shani et al. (2004) identify eight approaches for collaborative management research: action research, field research and different types of inquiries. This chapter specifically focuses on action research and clinical inquiry, as their research process demonstrates higher reliability (Shani et al. 2004).

The aim of this chapter is to expand our conceptual understanding on the different research approaches in generating knowledge in humanitarian logistics and supply chain management. The chapter extends Coughlan and Coghlan's (2002) framework and builds on the findings of Schein (2006) and Näslund et al. (2010), to develop a collaborative research framework suited for the humanitarian logistics and supply chain management domain, as well as highlighting the challenges of adopting these approaches.

Humanitarian Logistics and Supply Chain Management

The Idiosyncrasy of Humanitarian Supply Chains

Evidently, the humanitarian empirical scene is currently experiencing an increasing, and repetitive, number of natural and man-made disasters. This critical situation contributes in developing disruptions and results in the displacement of a large number of the affected populations. In a 2016 United Nations report, the number of displaced victims has mounted up to 43 million uprooted victims with humanitarian needs (UN 2016). These unprecedented developments call for developing suitable mitigation frameworks, as well as strengthening the collaboration between the different stakeholders. To address the implications of this critical situation, the international community and representatives from various stakeholders inaugurated the first ever World Humanitarian Summit (WHS) that was held in Istanbul in 2016. The summit brought together the humanitarian actors, decision and policy makers, and concluded with recommendations on making an impact on people's lives not only to deliver aid but also to end the need (WHS Chair's Summary report 2016).

As the magnitude, intensity and frequency of disasters are on increasing trend (UN 2016), the implications of these disasters emphasise the

importance of the supply chain functions. Humanitarian actors are responsible to ensure an efficient and effective flow of goods, information and services, with the minimum possible latency between affected locations and providers (Kunz and Riner 2012). Humanitarian supply chains are networks of entities representing multiple stakeholders, starting from donors and ending with the end beneficiaries (affected communities). The stakeholders are linked through flows of information and donations. The humanitarian affected location could embrace these organisations: UN organisations, non-governmental organisations, local authorities, military and the media (Van Wassenhove 2006).

Within the domain of humanitarian supply chain, it is likely to borrow from commercial supply chains literature and research frameworks (Kovács and Spen 2007). The humanitarian supply chain is itself a type of commercial supply chains, but has different settings, due to its different characteristics. Blanco and Goentzel (2006) highlight the main differences between commercial (corporate or for-profit) supply chain and humanitarian supply chain, as demonstrated in Fig. 2.1. The significant difference is the absence of a customer in the humanitarian supply chain, instead there is a beneficiary from the affected communities. The flow of material (physical flow) in commercial supply chain is forward flow from suppliers to customers while in humanitarian supply chains it is forward and also downward flow from donors. Another significant characteristic, according to Blanco and Goentzel (2006), is

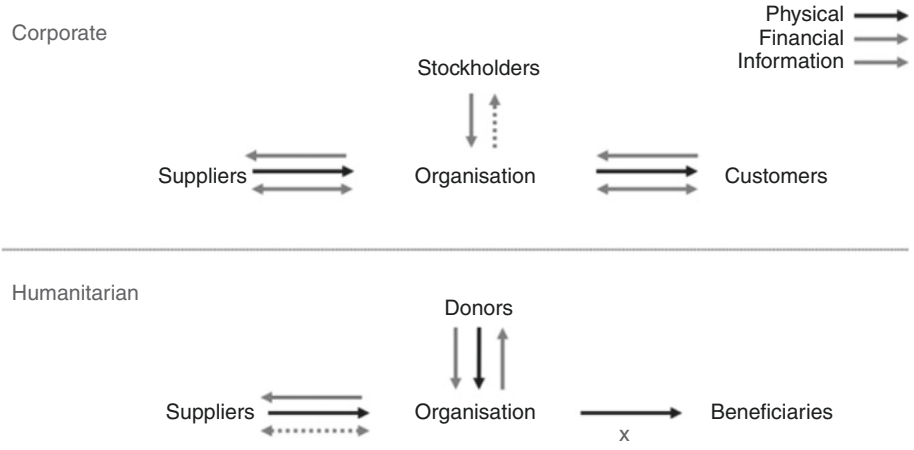

Fig. 2.1 Differences between corporate and humanitarian supply chains (*source*: Blanco and Goentzel 2006)

the lack of information flow between humanitarian organisations and the affected communities, which we hope to overcome through employing collaborative research approaches.

Do Humanitarian Supply Chains Need Different Methodological Approaches?

The challenges faced in managing humanitarian supply chains significantly differ from the commercial ones, mainly due to the high uncertainty of demand and supply (Van Wassenhove 2006), and lack of coordination (Jahre et al. 2015). This leads to propose that different problems would need to be (methodologically) approached differently. Furthermore, the efforts in advancing supply chain management discipline might be hindered if the research community keeps addressing the peculiar issues of humanitarian supply chains, with the same approaches used in other research fields (Näslund 2002; Näslund et al. 2010).

In the humanitarian arena, thousands of donations are usually directed to the affected locations. However, the aid and relief processes are not always as effective as expected, which calls for enhancing the integration and the inclusion of all the involved humanitarian actors (Christopher and Tatham 2014). Furthermore, in light of the earlier discussion in section "The Idiosyncrasy of Humanitarian Supply Chains", the peculiar nature of the humanitarian supply chains entails attaining the highest possible levels of collaboration and coordination between the different stakeholders, to achieve greater effectiveness. Balcik et al. (2010) analyse the collaboration practices in humanitarian supply chains; they conclude that coordination mechanisms increase the supply chain's efficiency and performance. Further, Altay (2008) stresses that achieving success, in managing humanitarian logistics and supply chains, depends on establishing effective communication, coordination and collaboration among the chain members. However, it seems challenging to implement coordination schemes. Van Wassenhove (2006) reports on the following challenges: the complicated operating conditions, safety and security concerns, high staff turnover, uncertainty of demand and supply, time pressure, large number of stakeholders and the role of media.

So, do the currently adopted research approaches respond to all these challenges? In the subsequent section, collaborative management research approaches are discussed as means to improve humanitarian supply chains management and to ensure that the field is producing relevant knowledge.

Collaborative Management Research

Rationale Behind Collaborative Management Research

Mohrman and Lawler (2011) identify how research could close the gap between practice and theory development. Research should respond to three rationales: instrumental, value based and epistemological, depicted in Fig. 2.2. First is the instrumental rationale. Access to high-quality data is usually ensured when researchers have closer links with practitioners, thus research has to be interesting to practice in the first place. Furthermore, acknowledge that the research process involves multiple actors, not just university based. The engagement and integration between these actors need appropriate methodological approaches that demonstrate higher flexibility and dynamism. This leads to a co-production of knowledge (they refer to this notion as mode 2 knowledge).

Second, value-based rationales relate to value of the topics to be discussed to be relevant to practice, as well as the value of enhancing the position of universities. The authors suggest that organisational innovation is vastly performed in practice compared to academia, and the later has become the position of *playing catch-up* instead of being in a leading position.

Third, epistemologically, organisations do not exist independent from their context. This context sensitivity has to be reflected in the research approach. Furthermore, the global market settings are forcing organisations to constantly change, which should be reflected in the research process.

Mohrman and Lawler (2011) also identify the barriers for the co-production of knowledge between researchers and practitioners, which are mainly related to the institutional barriers facing researchers due to the rules of their

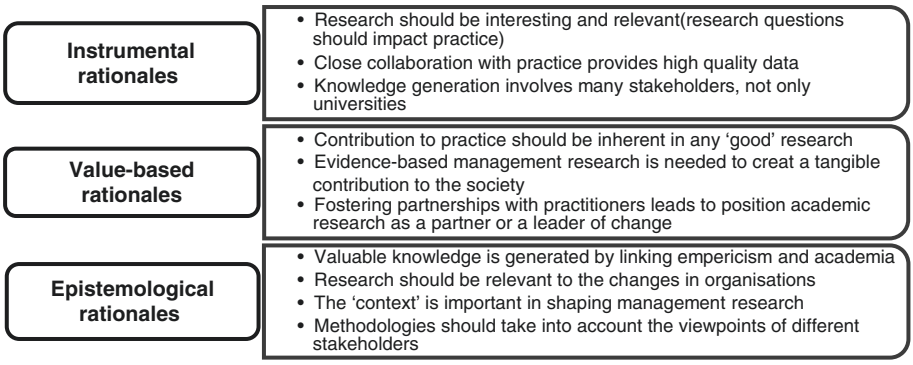

Fig. 2.2 Overview on the rationale behind developing actionable knowledge

universities, as well as the challenges that will face the *publishability* of such research, due to strict journal rules as well as the journal's expectations of the methodological rigour.

The Evolution of Collaborative Management Research

Collaborative management research approaches emerged in response to the perpetual debate between positivistic and interpretivistic stances towards science and knowledge production (Müller 2005). The aim of collaborative research approaches is to address the concerns, of both academics and practitioners, regarding the development of organisational research and knowledge generation (Starkey and Madan 2001). A collaborative management research process involves two parties or more. At least one of them represents practitioners. It involves mutual framing of the research agenda and the research questions, a co-design of action plans, as well as co-evaluation of the outcomes (Shani et al. 2012). Its nucleus is to incorporate action with collaboration in order to generate relevant and actionable knowledge (Pasmore et al. 2007). The collaborative research approach doesn't only help organisations to transform, but it also allows researchers to reflect on their own experiences, which might guide them to a positive personal change (Brydon-Miller et al. 2003).

Collaborative management research serves as an enactment of mode 2 knowledge production, in which it simultaneously engages application with academia-based knowledge. It is a trans-disciplinary approach towards integrating empiricism with theoretical approaches (Gibbons et al. 1994; MacLean et al. 2002). The main outcome of a collaborative research process is the so-called actionable knowledge that is theoretically grounded as well as relevant to practice. Co-generation (between researchers and practitioners) of actionable knowledge is assumed to offer a greater rate of progress in addressing organisational challenges, when compared with knowledge developed separately by researchers *or* practitioners (Pasmore et al. 2007).

Canterino et al. (2016) suggest that, in a collaborative research process, the co-production of knowledge is achieved through establishing conversational inquiries between researchers and practitioners, then collaboratively developing and implementing action plans. The process is not linear as it involves cycles of co-evaluation of the outcomes, and it has sequential phases of planning, intervention, taking action, then reflection. This will eventually lead to transformation.

Eight collaborative research approaches are identified in Shani et al. (2004), namely action science, appreciative inquiry, clinical inquiry, developmental action inquiry, intervention research, participatory inquiry/action research, table tennis research and action research.

How could one differentiate between different collaborative research approaches. This chapter adopts Schein's (2006) framework, as depicted in Fig. 2.3, in differentiating the research process of different collaborative approaches. The criteria in Schein's (2006) framework rests on three main dimensions: (1) who is initiating the research process, (2) the extent of researcher's involvement into the system, (3) the extent of practitioner's involvement into the research process.

After a thorough consideration of the criteria provided in prior literature, the scope of this chapter specifically focuses on (1) action research and (2) clinical inquiry. The definitions of both approaches coincide with the understanding of collaborative research which incorporates intervention, inquiry and action to co-generate knowledge (Coghlan 2011; Coghlan and Coughlan 2008). The two approaches are selected due to their limited-to-moderate extent in manipulating the surrounding environment (Shani et al. 2004). This enhances the consistency of their research process and increases the trust in their research outcomes. They also entail high researcher *and* practitioner involvement in the research process (Schein 2006), which will help in better analyses of the data and co-generation of relevant knowledge.

Furthermore, the selection is motivated by building on the line of thinking that the adoption of action research and clinical inquiry in a supply chain context will help in theory building (Coughlan and Coghlan 2002; Schein 2006), and that they will boost the dissemination of research results and knowledge to practice (Starkey and Madan 2001). The two approaches are suitable for the humanitarian context as they focus on achieving a positive change (transformation), thus they can contribute in transforming and improving the current state of humanitarian logistics and supply chains management domain.

Action Research – An Overview

Action research emerged in response to the criticism of the isolation of the research processes and variables from real-world practices, as well as the absence of researchers and their reflections from the field (Müller 2005). Action research is centred on researcher involvement and participation in the research process, thus it helps researchers to learn from their own experiences

Fig. 2.3 Research processes based on Schein's (2006) framework

through continuous reflection (Brydon-Miller et al. 2003). Coghlan (2011) stresses that action is an antecedent of learning, and performing action research relies on establishing a conversational questioning process with the concerned stakeholders. By doing so, this will lead to achieving positive change and transformation. In principle, action research is based on researchers spending a significant time in the field (e.g. in an organisation) (Näslund 2002).

Action research is viewed by Shani et al. (2004) as a hybrid approach between cooperative inquiry processes and action science. They propose a definition for action research as " . . . [an] inquiry embedded in partnership between researchers and practitioners to address an organisational issue and produce scientific knowledge . . . " and it is viewed by Bradbury (2013) as " . . . Action Research is not a method, but an orientation to inquiry, with many schools, theories and practices. " These definitions suggest that action research is not a methodology of its own; rather, it is a participatory approach to inquiry, and to the research process at large. Hence, it could be employed within the empirical settings of, for instance, a case study (see, e.g., McManners 2016).

According to Müller's (2005) study, there are three main differences between action research and traditional approaches to social science research: (1) developing stronger cooperation between academia and practitioners, (2) identifying new sources of information and (3) offering new alternative strategies for scientific knowledge production, which would eventually lead to co-production of actionable knowledge. Coughlan and Coghlan (2002) refer to action research as " . . . a paradigm that requires its own quality criteria"; therefore, its rigour cannot be judged through the same criteria of positivistic methodological approaches.

Action research is considered the most applied collaborative approach. It is applied in various research domains such as education research (e.g. Balakrishnan and Claiborne 2016), public management research (e.g. Rasheli 2016) and organisational studies (e.g. Canterino et al. 2016). Action research in supply chain management domain is further analysed in section "Collaborative Research Approaches in Supply Chain Literature – An Overview".

Clinical Inquiry – An Overview

The clinical inquiry approach hinges on developing knowledge from "inside out", meaning that researchers would be invited to offer help to an organisation as a helper or a consultant. The settings of clinical inquiry provide researchers with a full and complete access to the organisations and their systems. Thus, it enables researchers to make better judgements. Adopting clinical inquiry approach is argued by Schein (2006) to contribute

significantly to theory building, as it enables researchers to gain access to a massive body of critical information. The researchers, most probably, wouldn't have secured access to this body of information, if they were perceived as "outsiders" to the system. It is viewed by Coghlan (2009) as "... the most fruitful way" to understand *and* change organisations.

In the empirical settings of a clinical inquiry research process, research is initiated from real-world needs of a "client" or a beneficiary. The process evolves around whose needs drive the research: the client or the researcher. In other words, does the research stem from practical application or it stems from theoretical perspective (Shani et al. 2004). Clinical inquiry is considered as a help to the beneficiary, and that is why it should involve top-management commitment to the research process. Yet, in the clinical inquiry approach, the research focus shouldn't rely solely on data gathering as a problem-solving technique. Rather first to understand the problem and to scrutinise its context, in order to design a suitable intervention process and to achieve the "treatment" sought after. Thus, adopting clinical inquiry suggests approaching organisational phenomenon with offering a solution (or treatment) as an end goal of the research process (Coghlan 2009). In Schein's (1995) view, action research is an extension to clinical inquiry, in which he argues that there is greater involvement into the client/beneficiary system. Clinical inquiry is mainly applied not only in nursing research but also in organisational research (e.g. Stebbins and Shani 2009) and environmental management research (e.g. Picketts et al. 2016).

Collaborative Research Approaches in Supply Chain Literature – An Overview

Birkie et al. (2013) investigated the adoption of collaborative research approaches in supply chain literature. Their findings denote a very low level of adoption. For instance, out of all the scholarly publications in supply chain and operations management journals from 2004 to 2012, only 65 papers used collaborative research approaches, and *Journal of Supply Chain Management* topping the list with 9 published articles. A few studies, in humanitarian logistics and supply chain management, attempt to explore novel methodologies so as to increase the preparedness and effectiveness of the aid operations.

Jahre et al. (2015) report on their empirical study in Turkey, Haiti and Ivory Coast, in collaboration with the IFRC (International Federation of Red Crescent and Red Cross Societies) who is an important actor in the humanitarian arena. Their study is implemented on three phases and collectively represents an action research approach. Tomasini and Wassenhove (2009) provide

empirical evidences on how adopting collaboration methodologies can significantly reduce costs and increase responses and preparedness of humanitarian chains, which positively overcomes the uncertainty in this peculiar kind of chains. It is worth noting that Tomasini and Wassenhove (2009) did not identify collaborative research as a research approach, rather identified it as coordination scheme. Chandes and Paché (2010) adopt an organisational perspective to improve the performance of the actors in humanitarian chains. Their main recommendation was to form a virtual coalition structure to incorporate all the actors and to improve the collective action in disasters, and similar to Tomasini and Wassenhove (2009) study, they do not identify their intervention as a form of collaborative research.

Within the supply chain research stream, there are numerous studies using collaborative research approaches and explicitly referring to action research. Touboulic and Walker (2016) explore how action research could be employed to enhance engagement and in transforming sustainable supply chain management research. Eltantawy et al. (2015) employ action research in enhancing three echelon supply chain coordination and achieving a superior performance. Seuring (2011) advocates for using mixed methodologies in order to propose a sustainable supply chain strategy; one of them was action research, as well as Taggart et al. (2014) use action research approach for management of construction rework supply chain in the UK. Liu et al. (2016) stress how academic–practitioner collaboration would enrich supply chain management research and knowledge creation. A few studies focus on how the utilisation of action research leads to a more accurate forecasting values, which also leads to having a more accurate input into the supply chain decision making (Caniato et al. 2011). Within the operations management research, some studies (e.g. Farooq and O'Brien 2015) use action research approach to develop a technology-selection framework. The authors in this study advocate for triangulation of methodologies (i.e. combining action research with other methodologies) in order to overcome any validity issue. In their study they embed action research approach in a case study methodology. It is worth noting that their view on collaborative research is limited to the involvement of the researcher, yet they did not provide deeper analyses of the role of action researcher in their study.

In view of the above discussion, a few studies in the field of humanitarian logistics and supply chain management research are performing, to some extent, a form or another of collaborative research, yet, it is not explicitly stated that the research is collaborative. The reason might be due to some concerns on the rigour and validity issues (e.g. Farooq and O'Brien 2015) or might be related to adhering to the mainstream of following a more traditional research methodology.

Methodological Quality Assessment

Ensuring Rigour, Relevance and Reflectiveness

The rigour-relevance-reflectiveness criteria emphasise that the data gathering and data analysis steps should adhere to the scholarly quality assurance instruments (Canterino et al. 2016), though trying to find meaning and interpretation of the data is performed collaboratively by members of the research team. Yet the underlying theoretical underpinnings should exist beforehand, and should be clearly stated at the beginning of the collaborative research project. Research would also benefit from triangulation of methodologies and/or of investigators (Näslund et al. 2010); in addition, collaborative research project should be data driven, and demonstrates methodological consistency of its process. This section builds on Pasmore et al.'s (2007) recommendations and illustrates the criteria for ensuring quality in collaborative research approaches, depicted in Fig. 2.4.

Criteria for rigour includes greater researcher involvement, cross-checking and reviewing the research process with other external researchers, ensuring deeper understanding of the phenomena, respecting the research process context, laying the epistemological foundations for hypothesis testing and

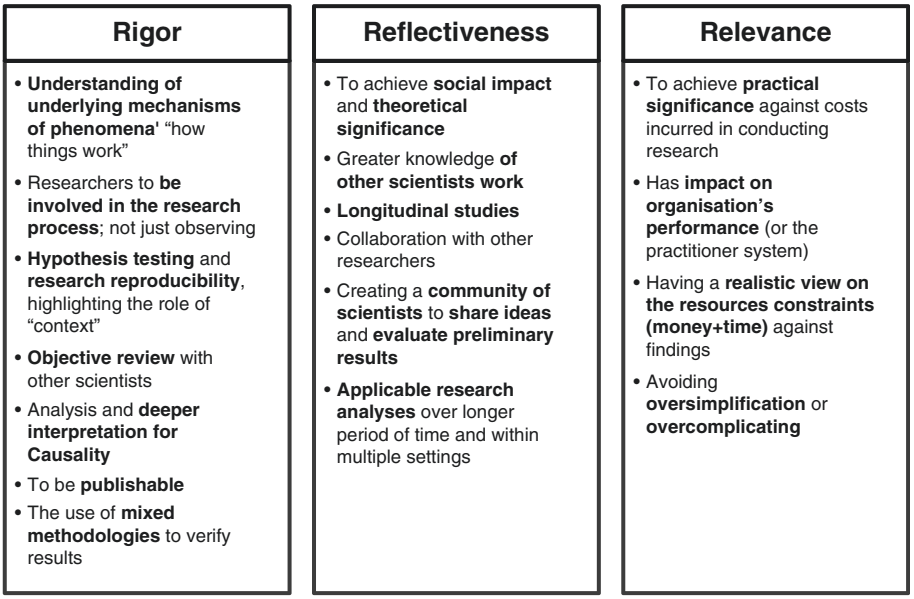

Fig. 2.4 Criteria for ensuring rigour, relevance and reflectiveness in CMR approaches

ensuring research reproducibility, and to produce publishable research. Ensuring reflectiveness criteria include developing a research process that achieves social impact and possesses a theoretical significance. It encourages collaboration with scientists from other disciplines (inter- and trans-disciplinary research), to share ideas with a larger community of researchers and to be able to generate analyses that hold over longer period of time. Ensuring relevance criteria stress a need to achieve practical significance so as to impact organisations' (or practitioners' systems) performances, to establish a realistic view on what are the research constraints in terms of time and money, to avoid oversimplification/over-complication of the phenomenon and to design a research process that generates applicable analyses within various contexts.

Furthermore, detailed and measurable indicators for investigating how collaborative research could be assessed in terms of scientific rigour, relevance and reflectiveness are proposed in Fig. 2.5. The proposed indicators embrace some of the attributes proposed previously in Birkie's et al. (2013) study. The indicators suggest that in order to ensure reflectiveness, the research should have social and historical impact. It should involve its surrounding community and to ensure to replicability. For the relevance dimension, the research should emerge from the need of an end beneficiary (or practitioner/client), which represents real-world needs and events. The research should have clear implication on performance. It should demonstrate applicability and re-applicability in practice, should be teachable, interesting and has true significance.

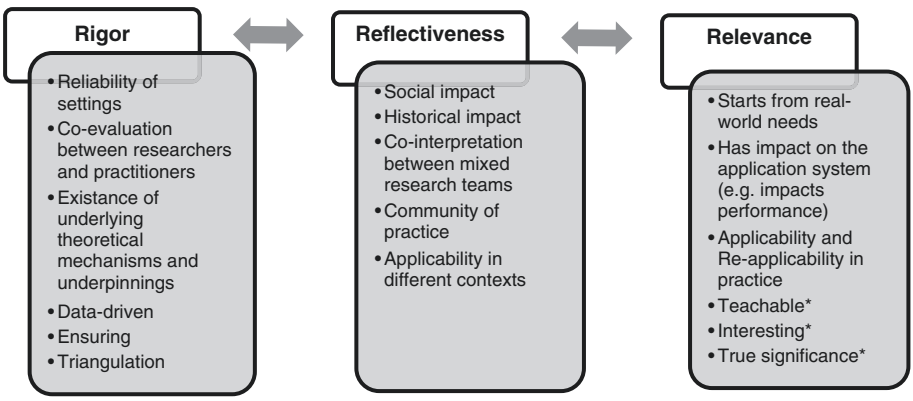

Fig. 2.5 Indicators for assessing rigour, relevance and reflectiveness in CMR projects

*These indicators were identified in Birkie et al. (2013) as attributes with "subjective judgement"

Methodological Limitations

Collaborative research approaches often face the challenge of demonstrating and establishing validity and rigour (Näslund 2002; Näslund et al. 2010). They face scepticism concerning their scientific nature. The sceptic views and arguments should be seriously considered before embarking on a collaborative research project.

The main methodological rigour limitations are related to how collaborative approaches might allow for data manipulation. The research question is not clear from the beginning, thus, the research path is continuously changing, and the research process is quite fuzzy. Moreover, in some instances researchers become client centred and they fail to draw a line between the research nature and the client requirements, or to question clients' practices (Argyris 1987). Other studies (e.g. McTaggart 1994) view action research as a common sense, rather than a scientific method. Furthermore, it is worth taking into consideration the coordination challenges identified by Kieser and Leiner (2012). They put forward intriguing questions on the feasibility of strong coordination between researchers and practitioners in collaborative research projects. They highlight the possible communication issues as well as the perpetual issue of rigour-relevance gap, which is often overlooked by most collaborative researchers. Furthermore, collaborative approaches always face the critique that the definitions and the boundaries between the different methodologies are not very clear to management researchers. Moreover, the findings are very context sensitive, and the analyses that result from collaborative research approaches should be always interpreted with respect to its context, thus hindering generalisability (Touboulic and Walker 2016). Among the challenges of collaborative research is the lack of scientific language and rigour among practitioners, as well as lack of managers' involvement in the research design.

Deploying Collaborative Research Approaches in Humanitarian Supply Chains

Collaboration in Action

Collaboration between organisations is extensively considered in prior literature (for a comprehensive review, check Phillips et al. 2000). The existing studies provided guidance and frameworks on establishing collaborative

inter-organisational relationships (e.g. Ring and Van de ven 1994). There are many commonalities between these studies and the proposed collaborative framework presented hereinafter. There is agreement on the importance of collaboration, on establishing a common strategy and common decision making. However, there are inherent differences. For instance, in collaborative management research process, the researcher has no power or authority to drive change. The research cannot enforce transformation. Collaborative research approaches engage communities and universities in the transformation. While in other inter-organisational collaboration frameworks, collaboration is managed in between cooperative organisations that might be collaborating and competing in the same time. It is important to reflect the essence of deploying collaborative research approaches, as they encourage researchers to opt for a research strategy that accommodates the viewpoint of different collaborating and cooperating stakeholders, in a systematic and scientific way.

Collaboration shouldn't be viewed as a magical solution to all organisational problems. There are studies that highlight if the inter-organisational collaboration is not generating a balanced mutual benefit to all the stakeholders, then relationships might deteriorate slowly (Anderson and Jap 2005). This "dark side" of collaboration is also demonstrated in Villena et al. (2011). In which they find that when the extent of collaboration is stretched to a deeper level, this harms the inter-organisational relationships between buyers and suppliers.

A Collaborative Framework for Humanitarian Supply Chain Management Research

A framework developed for employing collaborative research approaches in humanitarian and supply chain management research is developed hereinafter.

The collaborative research process, as depicted in Fig. 2.6, could start by an initiation meeting between the research project stakeholders (or a researcher and a practitioner in the minimalistic form) to agree on the project scope and aim. This would be followed by forming the project team and scheduling regular team meetings. The team jointly develops the research rules and the strategy for their collaborative project. The different stakeholders are highly encouraged to get involved in forming the preliminary research question, which will be evolving during the whole process. After deciding on the unit(s) of analysis, data gathering process starts.

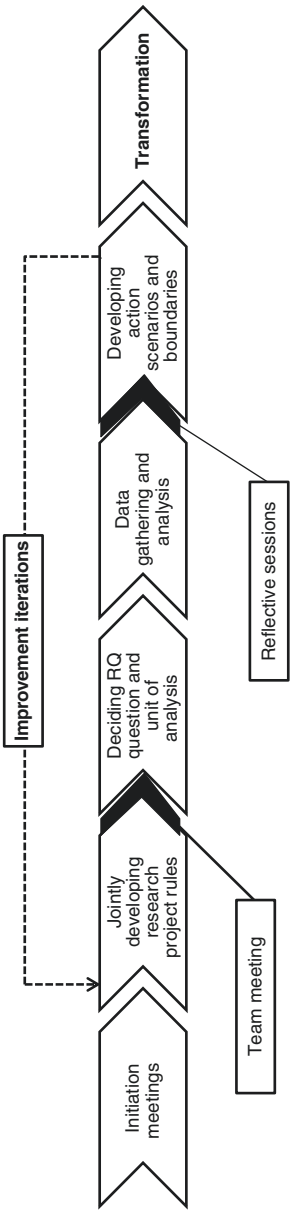

Fig. 2.6 A collaborative research project process

Afterwards, this would be followed by conducting reflective sessions which offer the research team an opportunity to co-reflect on the findings and on the initial analyses. Then intervention scenarios for change should be developed and implemented to achieve the desired transformation. The iterative cyclical nature is critical to collaborative research. The research process is not linear, as transformation cannot be achieved from a one-shot linear process.

A proposed framework, depicted in Fig. 2.7, is developed for deploying collaborative management research approaches in humanitarian and supply chain management research. This framework builds on the propositions of Coughlan and Coghlan (2002), who presented one of the most quoted frameworks for systematically establishing a collaborative approach in supply chain and operations management research. The framework embraces the recommendations of Shani et al. (2004), Müller (2005), Schein (2006) and Näslund et al. (2010), which were discussed earlier in section "Collaborative Management Research".

The framework starts with a **First Step**, which involves understanding the context and the purpose of the research. This includes understanding the rationale behind the research project and the social, economic, political and technical implications of the research. In this step, it is important for the management of the involved stakeholders to show commitment to the research project. Issues of mistrust should be cleared, and a detailed project scope will be co-identified. The research design and tools for data gathering will be agreed upon, and the preliminary research question will be co-identified. Also, since the research concerns humanitarian needs, then privacy (e.g. non-disclosure agreements) of sensitive data, as well as the possible ethical issues should also be clarified beforehand. In this step, the research team will be formed from individuals representing all the involved stakeholders, highly preferable to include representatives from the affected communities.

Second Step is data gathering. It is done through the continuous involvement of the researcher in the practitioner system, thus data could be collected in a formal setting, such as researchers attending a meeting or interviewing the subject or through surveys, as well as in an informal setting such as over field trips. Data could be collected in a soft qualitative form (e.g. observations, interviews, meetings) or hard quantitative data (e.g. financial, statistics). Since the research process is collaborative, therefore data could be gathered from the different sources and from all the involved stakeholders, which will contribute in enriching the content to be analysed afterwards. In collaborative research, inquiries are made by the researcher in a conversational manner, and data gathering is usually performed while the researcher is

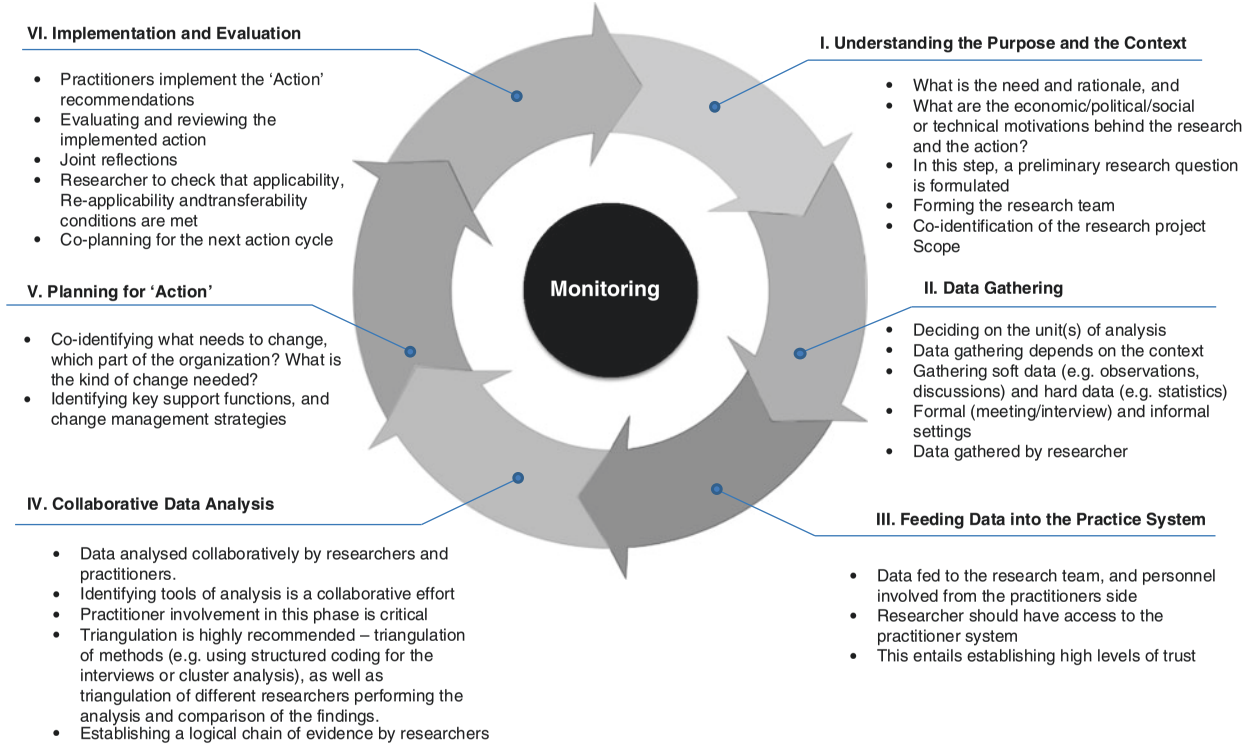

Fig. 2.7 Deploying collaborative approach in humanitarian logistics and supply chain management research – based on Shani et al. (2004), Coughlan and Coghlan (2002), Müller (2005), Schein (2006) and Näslund et al. (2010)

spending a significant period of time interacting with the main actors in the field, including representatives from the affected communities. To ensure rigour, data should be gathered by researchers. In the case of interviews, the regular recording of interviews/meetings and transcription could be followed. In case of questionnaires or surveys, regular survey instruments should be employed and designed by researchers, and then consulted with the research team.

Third Step is how researchers "feed" the data back to the practitioners. It is concerned with the inclusion of the different stakeholders in making sense of the research findings. Researcher collects all the bits and pieces of the gathered data, from different stakeholders, and then prepares them for further discussion with the research team. This could be done through preparing instruments (e.g. documents/initial coding or themes) containing the data and presenting it to the research project team. To ensure rigour, researchers should have a complete access to the practitioners' systems (organisations) and to data sources (individuals, reports, insights), which entails attaining highest level of trust and collaboration.

Fourth Step is collaboratively analysing the data. Prior to this step, it is also critical for the practitioners to be involved in the research process, which will enable them to receive a minimal level of training on the research tools and methods so that they can help in sense-making of the data. To ensure rigour, researchers are advised to opt for triangulation of methodologies, as well as triangulation of the investigators. Triangulation entails using mixed methods approach in data collection and analysis. For instance, each research cycle could be dedicated to collect qualitative and/or quantitative data. Each cycle could also be dedicated to a different methodology; for instance, a cycle for structured interviews, and a second cycle for survey. It is also very convenient to use structured coding, or cluster analysis, when analysing qualitative interview data. Näslund et al. (2010) advise to establish a chain of logical evidences in that stage so as to ensure trust in the findings analysis.

The **Fifth Step** is to co-plan for action. Based on the analyses, a co-identification of what needs to be changed is decided upon by the research team, as well as the plan for intervention and for change management. The research team identifies which part of the system that needs change, what are the key supporting functions for change and who would be involved from the stakeholders' teams. This step could involve discussions, meetings with top management representatives and reflective sessions between the research project team members.

The **Sixth Step** is dedicated for implementation and evaluation. In the implementation phase, the action plan is executed by practitioners, then researchers evaluate the outcomes of the action process. This will be followed by joint reflections from both researchers and practitioners on the implemented process advantages as well as its shortcomings. Meanwhile, researchers are encouraged to check the rigour of the analyses through checking the research process reproducibility, documentation. The research team would jointly identify improvement opportunities in the executed action plan. Then would implement the new plan to ensure a continuous improvement process towards the transformation.

The collaborative research process is continuously monitored in all its stages by the involved stakeholders; monitoring is a meta-step in this framework. It is important to highlight that collaborative research is cyclical. Each cycle could have a different objective (or research question). The research process continues till the treatment (transformation) is reached, and then the project concludes.

Expected Implications

Deploying collaborative research approaches would impact different humanitarian logistics and supply chain operations and functions. This adoption might have implications on the management of logistics, stakeholders, post-disaster, donor and donations, as well as the affected location (communities). Hereinafter, each implication and their relation to the humanitarian activity are summarised in Table 2.1.

In the area of logistics management, the implementation would mainly help in mitigating demand and supply uncertainty implications (typically, in slow-onset disasters). The inclusion of the entire value chain's stakeholders would lead to better coordination and to lessen any the potential impacts of unpredictability. Collaborative research approaches would also lead to enhancing trust among different stakeholders. This would help in a seamless stakeholder's management. Furthermore, it might lead to a better management of the affected location through enhancing the communication with the affected communities. The donations management area would benefit from improving the forecasting values. There is also a great potential in developing demand-sensing practices and skills, due to the inclusion of the affected communities in the research process. Collaborative research approaches would arguably lead to enhancing the preparedness and responsiveness of the stakeholders, which will contribute in better post-disaster management.

Table 2.1 Expected implications of applying collaborative research approaches in humanitarian supply chains

Humanitarian activity	Implication of collaborative research adoption
Logistics management	Contributes in mitigating the impact of demand uncertainty in slow-onset disasters. Provides deeper involvement for researchers in the deployment process as well as in the allocation of resources.
Stakeholders management	Contributes in establishing high levels of trust among different stakeholders, which helps in planning for long-term strategic agreements and partnerships. When all the stakeholders are involved in a collaborative research project, they feel more accountable and get in touch with the process.
Post-disaster management	Collaborative research focuses on achieving positive change and transformation. Thus, it contributes in increasing back-office preparedness and front-office response to disasters and post-disaster events, leading to improving the performance of different stakeholders.
Donations and donors management	Collaborative research starts from the needs of the end beneficiaries; thus, it yields a better analysis on the end-to-end humanitarian chain which also contributes in improving forecasting values and better demand sensing.
Affected location management	Overcoming issues of communication and lack of coordination of different stakeholders. Collaborative research projects engage trans-disciplinary teams from different stakeholders; thus, it guarantees a better top-management involvement.

Implementation Challenges

Considering the peculiarities of humanitarian supply chains, achieving collaboration between multiple stakeholders could be a difficult task. Some reflections on the various challenges in opting for collaborative research approaches are presented in the following section.

When initiating a collaborative project, these challenges should be considered, in addition to the methodological limitations highlighted earlier in section "Methodological Limitations". The challenges can be pertained to the initiation of the project, collaboration, data gathering and analyses, and challenges in continuing the project cycles. Furthermore, collaborative research approaches might not be suited to every stage of a humanitarian disaster, especially during a sudden-onset disaster.

Project Initiation Challenges

The main challenges in initiating a collaborative research project are trust issues. There is a paradox of whether we employ collaborative research to enhance trust and collaboration, or that trust should be established beforehand, so that the project can be initiated. Trust issues could lead to scepticism from practitioners to invest time and effort in a long-term project that they can't grasp its immediate benefits on their businesses on the short term. Moreover, even if the trust and the will are established, there could be some budget constraints that do not allow different stakeholders to take part in the project.

A further main challenge in this phase is managing the expectations of the stakeholders. Thus, a clear explanation of the scope and aim of the research project should be co-identified beforehand the implementation. The project scope should also be clearly communicated to the affected communities, beforehand the implementation. In addition, it is utterly important to identify the team members, and clearly specifying their roles, and the range of their intervention during the different phases of the research project. By doing so, researchers would avoid any potential influence that might hinder the rigour of the research findings and analyses.

Collaboration Challenges

Almost all studies, employing collaborative research approaches, report on how achieving collaborations in their research projects was a complex process. There could be many challenges pertained to resistance to participation from some of the stakeholders. The resistance stems from mistrust in the worthiness of the project, or scepticism in the project's ability to really drive positive transformation. Resistance to participate could be either on the intra-organisational level, so there could be personnel who are not willing to contribute to be sources of data. It could be also manifested on the inter-organisational level, when there is no cooperation in sharing experiences and knowledge among the stakeholders.

Collaboration challenges can also stem from factors beyond the research team control, such as language or cultural barriers.

Data Gathering and Analysis Challenges

These challenges can happen mainly due to the inclination of some of the stakeholders' top management to control the data gathering process, through controlling certain sources of data, or to influence the process of data analyses.

Further challenges are due to the lack of the scientific approach towards data analyses and knowledge generation, especially on the practitioners' side. Therefore, a basic training session could be helpful to explain the overall scientific approach. This awareness could also be done during the project meetings.

Project Continuation Challenges

The cyclical nature of collaborative research might ignite some disagreements between the stakeholders. The iterative cycles can be time consuming, and practitioners might need to see solutions that can be implemented on a faster pace. The multiple research cycles also require top management commitment, to take part in all the cycles, and also to implement the action plans. Obviously, the researcher here is not in the position to take the decision, and researchers alone don't have authority to force the change. Furthermore, resistance to change is almost an embedded characteristic in many organisations and in human relations. Thus, it is important to deliver awareness session among the stakeholders' personnel and the affected communities. This inclusive approach is essential in sustaining the success and the transformation, of any collaborative research project.

Conclusion

The aim of this chapter is not to undermine the significant contribution of traditional management research approaches, but to challenge the prevalent understanding of knowledge production in humanitarian supply chain domain. It is about time to question what humanitarian logistics and supply chain management research is addressing. Are the topics discussed, in the scholarly publications, stem from practical issues? Do they reflect the needs of those involved in real-world humanitarian situations? Is the research community willing to embrace evidence-based management research so as to develop relevant and actionable knowledge, instead of focusing on producing university-centred knowledge? The recent first WHS urged all the involved stakeholders to consider its recommendations as a point of departure "to act" (WHS Chair's Summary report 2016). It is now the responsibility of researchers to lessen the relevance gap. Researchers are expected to craft scholarly production that can be communicated seamlessly to all humanitarian stakeholders, thus contributing in ending the need loop.

The chapter develops a comprehensive framework for deploying collaborative research approaches, while addressing the rigour, reflectiveness and

relevance issues. The main motivation behind deploying collaborative approaches is to achieve transformation and a positive change. The transformation is achieved through successive and iterative research cycles.

The analyses in this chapter capture how the adoption of collaborative research approaches would result in significant implications on the performance of humanitarian supply chains. The main areas with highest improvement potential are in logistics, stakeholders' management, location management, post-disaster management and donation management. In particular, deploying collaborative research approaches can impact the degree of collaboration and interaction between different stakeholders. It also helps in enhancing trust between different humanitarian actors. The greater involvement of researchers helps in engaging their reflections in the research process. Furthermore, the significant time spent by researchers in the field would yield to mitigating any communication issues.

Researchers must consider the various methodological limitations and implementation challenges that face any collaborative research process. The implementation challenge lies in clearing any mistrust issues. Collaboration is a complex process, and in many instances there will be resistance to participate or to implement change in the stakeholders' teams or within the affected communities. Disagreement might emerge from discussions on forming the research team, deciding on its mission and scope, or in specifying the roles of the different team members. Further challenges are also pertained to the expectations of the research team. Practitioners' expectations might direct them to try to control the data gathering or to influence data analysis. In addition, practitioners might not be willing to collaborate in long-term research project that they cannot foresee its immediate impact on their business or operations.

Methodologically, although the research should start from a real-world need, researchers are expected to have a full understanding of the phenomena's theoretical underpinnings, before their intervention. Data gathering and data analyses should be performed with respect to the scientific quality assurance instruments, to ensure research applicability and reproducibility. To ensure rigour, any potential influence on the analyses should be completely avoided. Sharing the research project ideas and findings with other research teams might be of help to ensure rigour, relevance and reflectiveness of the collaborative research project.

The limitation of the analyses provided in this chapter should be acknowledged. The expected implementation implications provided in section "Deploying Collaborative Research Approaches in Humanitarian Supply Chains" need further empirical verification. As it is now, it is crafted based on

the literature analysis as well as the author's reflections. Furthermore, the chapter considered only two collaborative approaches; however, there might be great potential in addressing in the future additional collaborative approaches, or other methodological approaches that ensure relevance and rigour. By doing so, research would benefit from drawing more comprehensive inferences. Obviously collaborative research approaches do not suite all the stages in humanitarian disasters. Perhaps, they better fit slow-onset disasters or management of humanitarian supply chains in long-term conflicts. However, engaging the stakeholders in collaborative projects might be helpful in developing certain skills and capabilities that enable them to react better in sudden-onset disasters.

Avenues for future research include empirically examining the proposed collaborative framework and investigating how its implementation would address the different stakeholders' needs. Moreover, to create knowledge on whether collaborative management research approaches affects humanitarian supply chains efficiency, effectiveness and preparedness.

References

Altay, N. (2008). *Issues in disaster relief logistics. Large-scale disasters: Prediction, control, and mitigation* (pp. 120–146). Cambridge, UK: Cambridge University Press.

Anderson, J. C., & Jap, S. D. (2005). The dark side of close relationships. *MIT Sloan Management Review*, 46(3), 75–82.

Argyris, C. (1987). Reasoning, action strategies, and defensive routines: The case of OD practitioners. In Woodman, R. A. & Pasmore, A. A. (Eds.), *Research in organizational change and development*. Volume 1, Greenwich: JAI Press.

Balakrishnan, V., & Claiborne, L. (2016). Participatory action research in culturally complex societies: Opportunities and challenges. *Educational Action Research*, 1–18.

Balcik, B., Beamon, B. M., Krejci, C., Muramatsu, K. M., & Ramirez, M. (2010). Coordination in humanitarian relief chains: Practices, challenges and opportunities. *International Journal of Production Economics*, 126(1), 22–34.

Beamon, B. M. (1998). Supply chain design and analysis: Models and methods. *International Journal of Production Economics*, 55(3), 281–294.

Birkie, S. E., Shani, A.B. (Rami), Trucco, P. (2013). How collaborative is empirical research in supply chain risk management: Review and perspective. 20th European Operations Management Association (EurOMA) conference, 7–13 June 2013, Dublin, Ireland.

Blanco, E. E., & Goentzel, J. (2006). Humanitarian supply chains: A review. Presentation given at the *17th Annual Conference of the Production and Operations Management Society*, MIT Centre of Transportation & Logistics.

Bradbury, H. (2013). Action Research: The journal's purpose, vision and mission, Re-enchanting knowledge creation for a flourishing world. *Action Research,* 11(1), 3–7.

Brydon-Miller, M., Greenwood, D., & Maguire, P. (2003). Why action research? *Action Research*, 1(1), 9–28.

Caniato, F., Kalchschmidt, M., & Ronchi, S. (2011). Integrating quantitative and qualitative forecasting approaches: Organizational learning in an action research case. *Journal of the Operational Research Society*, 62(3), 413–424.

Canterino, F., Shani, A. B. R., Coghlan, D., & Brunelli, M. S. (2016). Collaborative management research as a modality of action research learning from a Merger-Based Study. *The Journal of Applied Behavioral Science*, 52(2), 157–186.

Chandes, J., & Paché, G. (2010). Investigating humanitarian logistics issues: From operations management to strategic action. *Journal of Manufacturing Technology Management*, 21(3), 320–340.

Christopher, M., & Tatham, P. (Eds.). (2014). *Humanitarian logistics: Meeting the challenge of preparing for and responding to disasters*. 2nd Ed. London: Kogan Page Publishers.

Coghlan, D. (2009). Toward a philosophy of clinical inquiry/research. *Journal of Applied Behavioral Science*, 45(1), 106–121.

Coghlan, D. (2011). Action research: Exploring perspectives on a philosophy of practical knowing. *Academy of Management Annals*, 5(1), 53–87.

Coghlan, D., & Coughlan, P. (2008). Action learning and Action Research (ALAR): A methodological integration in an inter-organizational setting. *Systemic Practice and Action Research*, 21(2), 97–104.

Coughlan, P., & Coghlan, D. (2002). Action research for operations management. *International Journal of Operations & Production Management*, 22(2), 220–240.

Day, J. M., Melnyk, S. A., Larson, P. D., Davis, E. W., & Whybark, D. C. (2012). Humanitarian and disaster relief supply chains: A matter of life and death. *Journal of Supply Chain Management*, 48(2), 21–36.

Eltantawy, R., Paulraj, A., Giunipero, L., Naslund, D., & Thute, A. A. (2015). Towards supply chain coordination and productivity in a three echelon supply chain: Action research study. *International Journal of Operations & Production Management*, 35(6), 895–924.

Farooq, S., & O'Brien, C. (2015). An action research methodology for manufacturing technology selection: A supply chain perspective. *Production Planning & Control*, 26(6), 467–488.

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The new production of knowledge: The dynamics of science and research in contemporary societies*. London: Sage.

Jahre, M., Ergun, O., & Goentzel, J. (2015). One size fits all? Using standard global tools in humanitarian logistics. *Procedia Engineering*, 107, 18–26.

Jayasuriya, S., & McCawley, P. (2008). Reconstruction after a major disaster: Lessons from the post-Tsunami experience in Indonesia, Sri Lanka, and Thailand, *ADBI working paper series*, No. 125

Kieser, A., & Leiner, L. (2012). Collaborate with practitioners: But beware of collaborative research. *Journal of Management Inquiry*, 21(1), 14–28.

Kovács, G., & Spens, K. M. (2007). Humanitarian logistics in disaster relief operations. *International Journal of Physical Distribution & Logistics Management*, 37(2), 99–114.

Kovács, G., & Spens, K. M. (2011). Trends and developments in humanitarian logistics – a Gap Analysis. *International Journal of Physical Distribution & Logistics Management*, 41(1), 32–45.

Kunz, N., & Reiner, G. (2012). A meta-analysis of humanitarian logistics research. *Journal of Humanitarian Logistics and Supply Chain Management*, 2(2), 116–147.

Leiras, A., de Brito Jr, I., Queiroz Peres, E., Rejane Bertazzo, T., & Tsugunobu Yoshida Yoshizaki, H. (2014). Literature review of humanitarian logistics research: Trends and challenges. *Journal of Humanitarian Logistics and Supply Chain Management*, 4(1), 95–130.

Liu, X., Wu, Y. C. J., & Goh, M. (2016). Collaborative academic–industry SCM research and knowledge building. *International Journal of Logistics Research and Applications*, 19(1), 19–40.

MacLean, D., Macintosh, R. & Grant, S. (2002), Mode 2 Management Research. *British Journal of Management*, 13(3), 189–207.

McManners, P. (2016). The action research case study approach: A methodology for complex challenges such as sustainability in aviation. *Action Research*, 14(2), 201–216.

McTaggart, R. (1994). Participatory action research: Issues in theory and practice. *Educational Action Research*, 2(3), 313–337.

Mohrman, S. A., & Lawler, E. E. III. (2011). Research for theory and practice: Framing the challenge. In Mohrman, S., & Lawler, E. (Eds.), *Useful research: Advancing theory and practice* (pp. 9–33). San Francisco, CA: Berrett-Koehler Publisher, Inc.

Müller, M. (2005). Action research in supply chain management—An introduction. In Kotzab, H., Seuring, S., Müller, M., & Reiner, G. (Eds.), *Research methodologies in supply chain management* (pp. 349–364). Heidelberg, Germany: Physica-Verlag.

Näslund, D. (2002). Logistics needs qualitative research-especially action research. *International Journal of Physical Distribution & Logistics Management*, 32(5), 321–333.

Näslund, D., Kale, R., & Paulraj, A. (2010). Action research in supply chain management—a framework for relevant and rigorous research. *Journal of Business Logistics*, 31(2), 331–355.

Pasmore, W. A. et al. (2007). The promise of collaborative management research. In Shani, A. B. (Rami), Mohrman, S., Pasmore, W. A., Stymne, B., & Adler, N. (Eds.), *Handbook of collaborative management research* (pp. 7–31). Thousand Oaks, CA: Sage.

Picketts, I. M., Andrey, J., Matthews, L., Déry, S. J., & Tighe, S. (2016). Climate change adaptation strategies for transportation infrastructure in Prince George, Canada. *Regional Environmental Change*, 16(4), 1109–1120.

Phillips, N., Lawrence, T. B., & Hardy, C. (2000). Inter-organizational collaboration and the dynamics of institutional fields. *Journal of Management Studies*, 37(1).

Rasheli, G. A. (2016). Action research in procurement management; evidence from selected lower local government authorities in Tanzania. *Action Research*, 0(0), 1–13.

Ring, P. S., & Van de Ven, A. H. (1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Review*, 19(1), 90–118.

Schein, E. H. (1995). Process consultation, action research and clinical inquiry: Are they the same? *Journal of Managerial Psychology*, 10(6), 14–19.

Schein, Edgar H. (2006). Clinical inquiry/research. In Reason, P., & Bradbury, H. (Eds.), *Handbook of action research*, Paperback Edition. London: Sage.

Seuring, S. (2011). Supply chain management for sustainable products–insights from research applying mixed methodologies. *Business Strategy and the Environment*, 20(7), 471–484.

Shani, A. B. (Rami), David, A., & Willson, C. (2004). Collaborative research: Alternative roadmaps. In Adler, N., Shani, A. B. (Rami), & Styhre, A. (Eds.), *Collaborative research in organizations: Foundations for learning, change and theoretical development* (pp. 83–100). Thousand Oaks, CA: Sage.

Shani, A. B. (Rami), Coghlan, D., & Cirella, S. (2012). Collaborative management research and action research: More than meets the eye? *International Journal of Action Research*, 8(1), 46–67.

Starkey, K., & Madan, P. (2001). Bridging the relevance gap: Aligning stakeholders in the future of management research. *British Journal of Management*, 12(s1), S3–S26.

Stebbins, M. W., & Shani, A. R. (2009). Clinical inquiry and reflective design in a secrecy-based organization. *The Journal of Applied Behavioral Science*, 45(1), 59–89.

Taggart, M., Koskela, L., & Rooke, J. (2014). The role of the supply chain in the elimination and reduction of construction rework and defects: An action research approach. *Construction Management and Economics*, 32(7–8), 829–842.

Telford, J., Cosgrave, J., & Houghton, R. (2006). *Joint evaluation of the international response to the Indian Ocean tsunami: Synthesis Report*. London, UK: Tsunami Evaluation Coalition.

Tomasini, R. M., & Van Wassenhove, L. N. (2009). From preparedness to partnerships: Case study research on humanitarian logistics. *International Transactions in Operational Research*, 16(5), 549–559.

Touboulic, A., & Walker, H. (2016). A relational, transformative and engaged approach to sustainable supply chain management: The potential of action research. *Human Relations*, 69(2), 301–343.

United Nations. (2016). Retrieved 15 May 2016, from Overview of forced displacement Website http://goo.gl/VuZ3wk.

Vaillancourt, A. (2016). A theoretical framework for consolidation in humanitarian logistics. *Journal of Humanitarian Logistics and Supply Chain Management*, 6(1), 2–23.

Van Wassenhove, L. N. (2006). Humanitarian aid logistics: Supply chain management in high gear. *Journal of the Operational Research Society*, 57(5), 475–489

Villena, V. H., Revilla, E., & Choi, T. Y. (2011). The dark side of buyer–supplier relationships: A social capital perspective. *Journal of Operations Management*, 29(6), 561–576.

WHS Chair's Summary report. (2016). Retrieved 27 May 2016, from World Humanitarian Summit website https://goo.gl/PZkDvh.