Middle-range theorising supporting and supported by action research: focusing on practitioner preparedness

Citation for the original published paper (version of record):
Bäckstrand, J., Fredriksson, A., Halldorsson, A. (2025). Middle-range theorising supporting and supported by action research: focusing on practitioner preparedness. Production Planning and Control, 36(2): 222-235.
http://dx.doi.org/10.1080/09537287.2024.2327347

Production Planning & Control
The Management of Operations

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/tppc20

Middle-range theorising supporting and supported by action research: focusing on practitioner preparedness

Jenny Bäckstrand, Anna Fredriksson & Árni Halldórsson

To cite this article: Jenny Bäckstrand, Anna Fredriksson & Árni Halldórsson (11 Mar 2024): Middle-range theorising supporting and supported by action research: focusing on practitioner preparedness, Production Planning & Control, DOI: 10.1080/09537287.2024.2327347

To link to this article: https://doi.org/10.1080/09537287.2024.2327347

Published online: 11 Mar 2024.

PRODUCTION PLANNING & CONTROL
https://doi.org/10.1080/09537287.2024.2327347

Middle-range theorising supporting and supported by action research: focusing on practitioner preparedness

Jenny Bäckstrand[a], Anna Fredriksson[b] and Árni Halldórsson[c]

[a]Department of Supply Chain and Operations Management, School of Engineering, Jönköping University, Jönköping, Sweden; [b]Department of Science and Technology, Linköping University, Norrköping, Sweden; [c]Department of Technology Management and Economics, Chalmers University of Technology, Gothenburg, Sweden

ABSTRACT

Increased demand for actionable knowledge in operations- and supply chain management has fuelled the interest in collaborative, action-oriented research design as well as modes of theorising that generate adaptable and actionable frameworks. Whilst action research (AR) design as well as middle-range theories (MRT) offer guiding principles herein, they are researcher centric in nature. It is taken for granted that practitioners that enter such an endeavour have a certain level of knowledge or experience prior to the initial stages of formalising the research problem. Practitioners in non-academic, operations management-intensive industries or craftsmanship-based industries, such as construction or carpeting (often in the SME range) are often neither prepared nor equipped with the principles necessary to convey their managerial challenges into collaborative research design. This risk limiting or even hindering altogether such participation. This paper elaborates on combining the logic of AR and MRT. By conceptualising a preparatory phase for initiating practitioner engagement, complementing the conventional AR cycle, a four-step approach is presented: (1) *Identifying* a joint interest; (2) *Teaching* – Awakening interest in the topic through MRT frameworks; (3) *Accepting* buy-in to the AR cycle and determining the problem; and (4) *Proposing* MRT frameworks for analysis and entering the traditional AR cycle.

ARTICLE HISTORY
Received 22 June 2023
Accepted 1 March 2024

KEYWORDS
Action research; middle-range theory; engaged scholars; practitioner preparedness; theorising

Introduction

Engaged, collaborative, and action-oriented research (Bäckstrand and Halldórsson 2022; van de Ven 2007; Coughlan and Coghlan 2002, 2024) is based on the idea of knowledge co-creation through collaboration between scholars and practitioners (Ellström et al. 2020; Ellström 2007). The rationale for such an approach is commonly grounded in ensuring the practical relevance and distinct impact of research. Accordingly, the research design and modes of theorising along these lines intensify their focus on the interaction between scholars and practitioners within operations and supply chain management (OSCM) (Wynstra 2016; Knight et al. 2016; Touboulic, McCarthy, and Matthews 2020; Bäckstrand and Halldórsson 2022). In the following, we refer to OSCM rather than merely operations management since these are often addressed together in the methodological discourse. For example, Karlsson (2009) extended this perspective in the more recent version of his textbook (Karlsson 2024).

Complementary to this method-based process to impact is theorising, which, although much less developed (Swedberg 2012), explains how theories actionable by managers emerge through middle-range theories (MRTs) (Bäckstrand and Halldórsson 2022; Craighead, Ketchen, and Cheng 2016). This paper provides a perspective on theorising that combines collaborative research design, operationalised through an action research (AR) perspective, with MRT. Our focus is on the initial phases of research, where 'engagement' is established between the practitioner or the manager and the OSCM scholar.

Collaborative research is of interest to applied academic fields, such as OSCM, due to the ongoing discussion of how to disseminate research results beyond university borders and, more importantly, such research design facilitates the engagement of researchers (in this paper, we use the terms 'scholar' and 'researcher' interchangeably) in societal development by rendering the research projects more relevant to practitioners. University–industry collaboration is widely discussed in terms of generating the benefits of new ideas and knowledge through external collaboration (Di Benedetto et al. 2019) and ensuring that research is relevant (i.e. problem-driven rather than a gap-spotting exercise) (Alvesson and Sandberg 2013).

This interest is further fuelled by the ongoing rigour vs. relevance debate in the field. First, the number of empirical

CONTACT Jenny Bäckstrand jenny.backstrand@ju.se Department of Supply Chain and Operations Management, School of Engineering, Jönköping University, Jönköping, Sweden

studies in OSCM has increased substantially during the last decade (Barratt, Choi, and Li 2011; Kelliher and McAdam 2018). It has become apparent that theorising does not rely upon new concepts alone but is also guided by novel research designs that entail proximity between research scholars and practitioners (Knight et al. 2020) and gaining access to each other (Coughlan and Coghlan 2024). Second, extant literature has documented a certain 'distance' between the industry and the academia—a challenge that is common for OSCM scholars across disciplines, such as business administration, industrial engineering, and management (Karlsson 2009; van de Ven 2007; Akmal, Gauld, and Podgorodnichenko 2022). This is frequently referred to—or reduced to—a knowledge transfer problem (van de Ven 2007), referring to a challenge at the end of the research process to build bridges and give analytic seminars to disperse new knowledge from the researcher to the practitioners (Ellström et al. 2020), but without providing details on how to *enter* into and establish such a collaborative research design. Third, in line with the dialogue on Mode 1 and Mode 2 knowledge creation (Gibbons et al. 1994), there is a strong underlying movement away from the traditional paradigm of scientific discovery and a shift from research *on* practice to doing research *together with* practice (van de Ven 2007; Ellström 2007). However, less is understood regarding the preconditions of *together with*, which include acceptance, trust, and curiosity among the participating organisations. Fourth, *funding agencies* (e.g. in Europe) have *steadily increased their expectations* concerning industry engagement in research projects, both in *input* (in-kind financial support from industrial partners) to create a credible commitment for engagement at the outset and in *output* (e.g. through a prototype and tested solution entailing usage in its operational environment during project time and pre-defined technology-readiness levels). The incentive behind this is the support for national industrial competitiveness or 'industrial leadership' (a key objective of the Horizon Europe funding programmes) and, hence, to increase accountability for the spending of governmental funding.

While such requirements call for collaborative, action-oriented research engaging private companies and public organisations in the dual task of change processes as a part of research output, in addition to long-term theory development (Ellström et al. 2020), they also assume the interest and ability of both actors—practitioners and researchers—to initiate and develop this type of research design. In turn, such expectations of research output not only increase the demand for researchers to conduct relevant research but also raise a more fundamental question, namely, that of *becoming* engaged scholars (Knight et al. 2016; van de Ven 2007). However, despite this encouragement towards relevance and impact, a significant obstacle to progress in more pervasive, engaged research is not so much a lack of viable research designs but a lack of understanding of how to enter this 'engaged' interaction between the scholar and the practitioner. To this end, cyclical representation of collaborative research design, such as AR (Coughlan and Coghlan 2002) and interactive research design (Ellström et al. 2020) could benefit from explicating preparedness, which is the preparation required to enter the suggested cycle. This hinders the development of novel insights through research and leads to ambiguity in the use of AR-like research designs in at least three areas: practitioner preparedness, practitioner engagement, and becoming a trusted agent.

Against this backdrop, this paper aims to conceptualise the preparatory phase of the AR cycle and propose a four-step approach aimed at initiating the engagement of practitioners in MRT theorising. The paper is organised as follows. First, an elaborate perspective on the problematisation is provided. Second, the theoretical background of MRTs and collaborative research (including the AR approach) is presented. Third, the research process is elaborated, and the conceptualisation of the preparatory phase of the AR cycle is introduced. Finally, the implications of this conceptualisation are discussed.

Problematising preparedness

To shed light on the problem of preparedness, three issues surrounding preparedness are outlined in this section.

Practitioner preparedness

The organisations most in need of participating in research through collaborative approaches are often non-academic organisations, characterised by a lack of employees with formal training, academic research degrees (e.g. MSc or PhD), and limited networks that include scholars. Examples of such organisations include small and medium-sized companies (SMEs), municipalities in rural areas, and those within industries such as recycling or construction (see e.g. Region Jönköping 2020; Melander et al. 2023; Bäckstrand and Fredriksson 2020). Despite their operational intensity, these oganisations often rely on R&D capabilities being possessed by major suppliers, customers (e.g. construction), or even public organisations (e.g. recycling stipulated by governmental policies). These non-academic organisations possess valuable experience-based knowledge within their respective trade and local contexts and are keenly aware of the challenges ahead. However, practitioners within these organisations are not accustomed to engaging with scholars or leveraging research-based knowledge to address operational problems or initiate change processes. These practitioners may even be sceptical of scholars, viewing scholarly knowledge as abstract theory and questioning scholars' ability to provide timely and useful results (Di Benedetto et al. 2019) that allow immediate action. In many instances, scholars and their frameworks are too abstract to relate to their local context and actual operational issues. Furthermore, these practitioners, who lack formal education, often struggle with confidence and vocabulary when discussing their problems with scholars, underestimating the power of their own experience-based, in-depth knowledge. This raises the question of how researchers can initiate the engagement of these

individuals in research projects and develop trust in the research process, empowering them to be informed by and implement the results effectively.

Practitioner engagement

At the core of collaborative approaches, such as AR, is the profound interaction between scholars and the studied organisation (Greenwood and Levin 2006) within a change process. However, a gap persists in collaborative research design when it comes to developing this interaction, primarily due to a lack of familiarity with research-based knowledge or limited experience in engaging with scholars. Extant literature offers scant guidance to researchers on *how* to prepare practitioners in non-academic organisations for entry into and participation in collaborative AR design. For example, Coughlan and Coghlan (2024, 232) stated: 'The firm may be clear in its own terms on why it needs to engage in the action and why now', but guidance with respect to 'how' is less developed in the literature. It is also worth noting that as a managerial topic, OSCM is not commonly in the hands of R&D in organisations (apart from product development and process innovation). Rather, OSCM collaborative research is often conducted together with individuals– or insiders – who are close to the operations processes. To some extent, AR assumes a certain level of experience and ability to engage, for example, in outlining how to conduct 'insider action research' (Coghlan and Shani 2015).

Becoming a trusted agent

Regarding scholars, their tacit knowledge and personal connections determine whether they are perceived as trusted agents by practitioners.

For senior scholars, initiating collaborations like AR processes involves activating personalised, tacit knowledge developed over years of practice across various organisations. This includes the ability to bridge abstract theory, frameworks, and concepts with practitioners' challenges and the need for actionable solutions (Coughlan and Coghlan 2024). This also entails a certain level of business acumen and a well-established personal network. Given the relatively quick and recent call for collaborative, AR-like research designs, many of the scholars expected to design and manage AR-based projects are at an early stage in their career, often junior faculty (PhD students and postdocs). While these scholars may have theoretical knowledge and have taken courses on running an AR cycle, they may lack direct experience, particularly in initiating such a process, as senior scholars often handle research applications and initial contacts.

Theoretical background

There is a prevalent tradition within OSCM of employing case studies as a research design (McCutcheon and Meredith 1993; Voss, Tsikriktsis, and Frohlich 2002; Sadeghi Moghadam, Ghasemnia Arabi, and Khoshsima 2021; Stuart et al. 2002), often relying upon data collection and analysis conducted closely with organisations and with the active engagement of practitioners while providing abundant descriptions of the methods or approaches involved in conducting such research. These approaches can be framed under the umbrella of practitioner-oriented research with different levels of engagement between the researchers and the practitioners.

To align closely with practitioners, this paper adopts the concept that the preparedness of a collaborative, interactive research design relies on the strong engagement of scholars and practitioners in a co-creative endeavour (Ellström et al. 2020). In this regard, the concept of preparedness is built on two theoretical pillars. On the one hand, preparedness refers to theoretical preparation and the practical ability to take part in the process of *theorisation*. In this paper, this is operationalised through MRT (Bäckstrand and Halldórsson 2022; Craighead, Ketchen, and Cheng 2016; Floyd and Wooldridge 1992), which presumes proximity to the specific business context in the creation of situational and actionable theoretical frameworks. On the other hand, preparedness is guided by a *research design or method* that ensures proximity to and engagement with practice. In this paper, we have opted to focus on AR to operationalise the method dimension.

Middle-range theories (MRT)

AR integrates theory with practice and requires a conceptualisation based on theory to provide meaningful knowledge to practitioners in terms of actions and to scholars in terms of research-based knowledge (Coughlan and Coghlan 2024). The abductive process of AR holds much importance (Coughlan and Coghlan 2024). In the early stage of the research process, theory and the underlying frameworks and concepts play a key role in shaping the research topics and questions. As the research progresses, theory comes into play for analysing evidence and discussing the significance of the results. At the conclusion of a specific research project, novel theories or theoretical contributions are often regarded as indicators of research achievement (Bartunek, Rynes, and Ireland 2006). The role assigned to theory in the research process is closely related to how we define not only theory but also the process leading to that theory (i.e. theorisation) (Swedberg 2012). Theory can be regarded in terms of 'levels' (Sutton and Staw 1995; Bäckstrand and Halldórsson 2022), ranging from grand theories external to OSCM through more discipline-based, practice-oriented theories to theoretical frameworks and concepts. MRT refers to the 'context-specific conceptualisation' (Weick 1989) of a specific problem that provides a 'theoretically grounded insight' (Craighead, Ketchen, and Cheng 2016). MRT presumes sensitivity to context; that is, concepts and frameworks that gain legitimacy by capturing factors meaningful to the practitioner with respect to both the problem and the ability to act upon it, i.e. being actionable (Bäckstrand and Halldórsson 2022). A key feature of MRTs or frameworks is the modifiable feature of their key dimensions. The supply risk of the Kraljic (1983) matrix, an MRT widely used in various organisations to define sourcing strategies, is an example of a modifiable

feature. It can be modified by the manager in situ, not the researcher in the research process; hence, it is readily applicable to a manager (Craighead, Ketchen, and Cheng 2016).

MRTs often manifest as frameworks widely used within a particular academic discipline or profession, such as Kraljic's (1983) portfolio matrix or the four-stage model of operations strategy by Hayes and Wheelwright (1984). The dimensions or attributes of an MRT create a relevant *proximity to the context* at hand. In some cases, they contain in situ concepts represented by words and phrases commonly used by practitioners, such as 'supply risk' or 'outsourcing'. Moreover, the dimensions underlying these concepts are not fixed but rather evolve. Examples include one of the axes in Kraljic's matrix, which has been adapted from supplier market complexity to supplier dependence (Gelderman and van Weele 2002) and, more recently, supply risk. Their evolution is shaped and given further content by events such as 9/11 in 2001, the financial crisis in 2008 and the impact of COVID-19 in 2020.

MRTs can also be defined relative to a more abstract level of theory and theorising in OSCM, namely, grand theories (Spina et al. 2016), such as the resource-based view (RBV) or transaction cost economics (TCE). The concepts or frameworks of these theories are not bound to any specific discipline but have a core question that they address that adapts to different academic disciplines. For example, the core problem of TCE is, 'Why do firms exist?', whereas RBV asks, 'How do companies differ?' Due to the broad and abstract nature of these theories, they pertain to a certain conceptual distance between a core concept and the practical problems. These grand theories, in turn, are used by relatively more applied disciplines, such as OSCM, to define and analyse research problems specific to their context. For example, in RBV, this might mean evaluating the competitive advantage and uniqueness of the operation processes, or in TCE, defining the most efficient boundaries of the firm, which means considering outsourcing and supply chain re-design. By contrast, MRT theorising is grounded in a specific industrial context and the practitioner's problem. MRTs are considerably accurate and detailed in their problem specification (Weick 1989), providing a 'theoretically grounded insight readily applicable to an empirical context' (Craighead, Ketchen, and Cheng 2016).

While grand theories are essential for framing basic problems for scholars, they are often too abstract and provide general guidelines rather than detailed solutions for specific business problems. In this way, theory can become a cause of, rather than a solution to, the researcher–practitioner gap. To address this, three key assumptions about the nature of theory and its role in the research process must be revisited. First, following Swedberg (2012), there is growing interest in shifting focus from theory testing towards the process of 'theorising'. Second, following the abovementioned layered view of theory, in applied fields such as OSCM, shifting the focus from grand theories to MRTs is considered beneficial in enhancing research relevance and engaging scholars and practitioners in knowledge-creating efforts (Craighead, Ketchen, and Cheng 2016; Stank et al. 2017; Bäckstrand and Halldórsson 2022; Johnson et al. 2021). Third, as developed in the remainder of this paper, in the preparatory phase of AR, the nature of AR as a research design must not only be reconciled with the type of theory employed, but collaborative and interactive research design must also be inseparable from the MRT used and generated in the research process. MRT describes what takes place in the research process, guided by the AR principles—both as a prerequisite and outcome in terms of a modifiable framework.

MRT does not stipulate any specific research design; however, it is significantly relevant for AR as a mode of theorising concerning practice-oriented research. In terms of preparedness, MRT requires precision in problem definition (Weick 1989), which is not explicitly stated in the AR cycle (Coughlan and Coghlan 2002). Another issue calling for a better understanding of preparedness is the use of 'sensitising concepts', i.e. concepts or logics used by or emerging from practitioners, which can be specific to OSCM (Bäckstrand and Halldórsson 2022), thereby prompting a practice-centric mode of theorising in MRT.

Action research (AR)

Researchers are encouraged to become more engaged scholars (Knight et al. 2016) capable of balancing rigour and relevance (van Weele and van Raaij 2014) and use innovative methods that enhance the understanding of the implementation of existing concepts in new contexts (Knight et al. 2016). One way to achieve this goal is through collaborative research, supported by a number of methods and traditions, including collaborative research, AR, participatory research, co-operative enquiry, and design science (e.g. Säfsten and Bäckstrand 2016). Collaborative research is defined by Adler, Shani, and Styhre (2004) as 'An emergent and systematic inquiry process, embedded in a true partnership between researchers and members of a living system for the purpose of generating actionable scientific knowledge' (2004, 83).

It serves as an umbrella concept involving a number of practice-oriented research approaches, such as collaborative management research (Adler, Shani, and Styhre 2004), interactive research, and AR (Aagaard Nielsen and Svensson 2006). There are subtle differences in emphasis and background among these practices, but they all have the purpose of generating knowledge relevant to both parties (Aagaard Nielsen and Svensson 2006; Ellström 2007; Svensson, Ellström, and Brulin 2007).

This paper focuses on the AR approach, which allows for systematic reflection, enquiry, and action (Costello 2011). AR concerns processes or phenomena that would not take place without the researchers affecting or initiating action (Wallén 1996). According to Huzzard, Ahlberg, and Ekman (2010), the action researcher is not a neutral observer but an active constructor of the research and its results. AR is not a sequence of research followed by application; instead, the application carries out the research through data collection and testing (Wallén 1996), contributing to change (Rönnbäck 2010) or learning (Powell and Coughlan 2020). The research process is also a learning process, with one of its outcomes being

increased and improved experience among participants (Mediavilla, Mendibil, and Bernardos 2021; Wallén 1996). Abrahamsen et al. (2016) highlighted that the AR approach represents an interpretivist ontology, suggesting that knowledge is contextual and socially co-created. Thus, from a research quality perspective, it is important to describe and discuss the actual research process, as well as for scholars to possess an in-depth knowledge of the context in which the research takes place. As a comparison, traditional non-collaborative (positivistic) case research can be described as interactive during data collection in terms of interviews and data verification. Various descriptions of the AR process exist. For example, Abrahamsen et al. (2016) presented the practice of 'academic interventions' for introducing concepts; however, 'local expertise' can change the concepts to better suit the organisation. These processes have starting points that are either not specific regarding the 'entry' of individuals or that present a researcher-centric view (i.e. it is the researcher who engages others). For example, van de Ven (2007, 10) identified problem formulation as a common starting point for 'engaging others'. Kemmis, McTaggart, and Nixon (2014) presented what they call 'Reconnaissance', in which the initiative should be activated by sending out a call to relevant organisations. This was denoted as the 'definition phase' by Ellström (2007, 9). The AR cycle of Coughlan and Coghlan (2002), depicted in Figure 1, includes six steps: data gathering, data feedback, data analysis, action planning, implementation, and evaluation. In this early version, there is no clear entrance or beginning. However, the AR cycle has been further developed since 2002. For Coghlan and Brannick (2014) and Coughlan and Coghlan (2024), AR consists of four steps: constructing, planning action, taking action, and evaluating action. Furthermore, a pre-step to understand the context and purpose and a meta-step to monitor the process were added in the later versions (i.e. Coghlan and Brannick 2014; Coughlan and Coghlan 2024). Coghlan and Brannick (2014, 8) and Coughlan and Coghlan (2024) call this pre-step 'context and purpose'. However, this step involves the rationale for action and research and, thus, should be positioned in relation to the organisation and not as a guide on initiating the process with the potential organisation or formalising the relationship at the start of the project. Coughlan and Coghlan (2024) suggested that junior action researchers should access the organisation with the help of their academic supervisors and distinguish between primary and secondary access. Primary access refers to getting into the operation and formalising the research with a contract pertaining to the AR to be conducted, whereas secondary access refers to obtaining deeper access to certain operations and information. However, the way by which the point of formalisation and secondary action could be reached requires further elaboration.

There is significant potential in 'practice-orientated research'; however, Verschuren et al. noted the following pitfall: 'One of the most recurring shortcomings of these researchers is that they set to work on the research project too hastily. The research project is often already underway before all of the parties have obtained a clear idea of which problem is to be tackled and what the problem is exactly' (Verschuren, Doorewaard, and Mellion 2010).

Effective participation requires obtaining a deeper understanding of the concerns (and thus the criteria) of all stakeholders and ensuring that they feel they 'have a voice' in the decision-making process (Macharis, De Witte, and Ampe 2009). Verschuren, Doorewaard, and Mellion (2010) stress the importance of considering collaboration during the design *and* execution of a project (since most researchers focus on execution), noting that more reflection is needed at the design stage (e.g. to ensure that there *is* a collaborative research approach). Coughlan and Coghlan (2024) added the importance of familiarity with relevant literature and operations practice as prerequisites, emphasising that scholars and practitioners are co-researchers. The outcome of the 'context and purpose' pre-step in Coghlan and Brannick (2010) is to consolidate a recognised role for the action researcher among the practitioners. However, in numerous instances, it remains unclear how academic scholars and practitioners experience difficulty in not only establishing contact but also reaching a mutual commitment, which involves aligning their respective objectives with respect to the practitioner 'taking

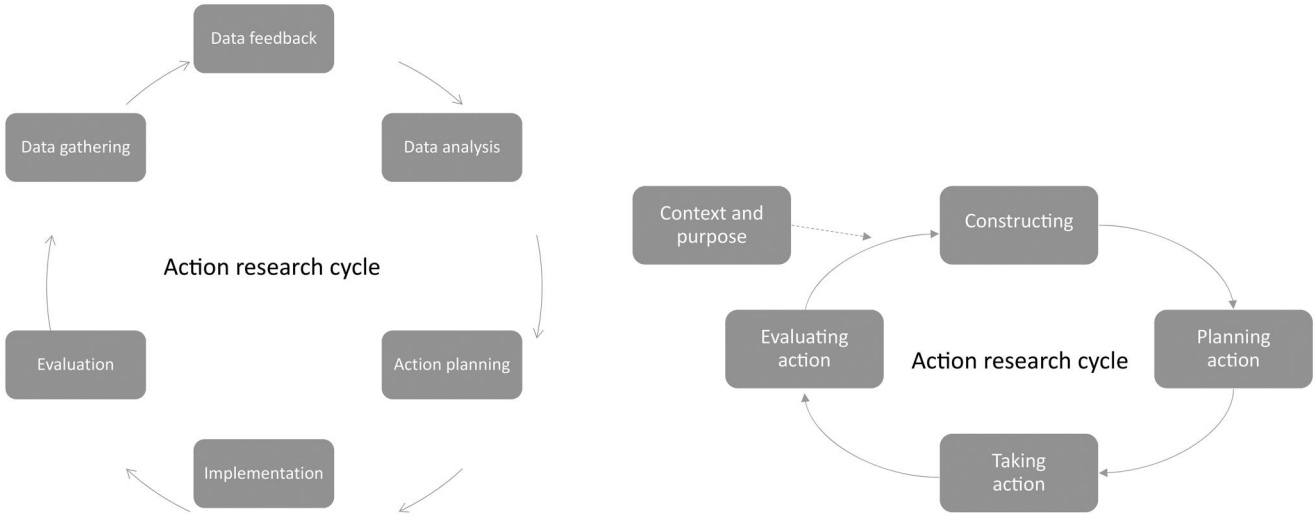

Figure 1. Two versions of the action research cycle (Coughlan and Coghlan (2002) on the left and Coghlan and Brannick (2010, 8) on the right).

action' and the scholar 'creating knowledge' about that action (Coughlan and Coghlan 2002; Westbrook 1995).

Practitioners engaging in AR projects are often uncertain about the role of the researcher or how AR can help with problem-solving, a situation that inhibits and intimidates participation. In Coughlan and Coghlan (2024) and Kemmis, McTaggart, and Nixon (2014), emphasis is placed on ensuring the theoretical and research relevance of the problem to be investigated. However, the importance of scholars building trust and clarifying the organisation's expectations from the AR process remains underexplored.

Academia and industry have distinct expectations of the quality of the results and the research process in terms of academic results and their usefulness. Regarding rigour, it is important to ensure that the research process is easy to follow, as the researcher is not a neutral observer (Huzzard, Ahlberg, and Ekman 2010). Action researchers face the challenge of balancing action to contribute to practice and reflecting on the ongoing action to contribute to existing knowledge (Coghlan and Shani 2013). Herr and Anderson (2014) and Abrahamsen et al. (2016) suggested five criteria to assess AR quality:

- Outcome validity (e.g. a managerial problem has been solved through the research);
- Democratic validity (e.g. all relevant stakeholders participate in the process);
- Process validity (e.g. whether learning and development are fostered through the research);
- Catalytic validity (e.g. whether the collaborators are invigorated by the learning process); and
- Dialogical validity (e.g. interpretations of collected data are peer-reviewed within the team).

In this respect, rigour is strongly associated with academic results and is seen as part of a process or an outcome. Meanwhile, preparedness, which is associated with relevance and is input-oriented, as presented here, must not compromise rigour. Both results and preparedness should fulfil the requirements of both rigour and relevance.

According to Pasmore, Woodman, and Simmons (2008, 579), the relevance of collaborative research should be measured in terms of the following elements, where the research result is assumed to be a method or an approach:

- Return on Investment (ROI) – The approach has demonstrated returns that make the collaborative effort worthwhile. If the industrial partners cannot explain 'what's in it for me' from a business perspective, the collaboration will be short-lived, the research will be less interesting, and its impact will be less.
- Practical – The interventions and studies can be supported economically and carried out straightforwardly within a reasonable timeframe. The setting should drive the practicality as small organisations do not have the capability to dedicate several people to the project.
- Codetermined – The research goals, design, and ultimate impact are jointly conceived and aligned with the issues that [...] stakeholders care about the most. If the research is to be viewed as important for practitioners, the research goal must be codetermined.
- Re-applicable – The approach is generalisable to a broader array of organisations or settings. The theories are relevant to a broader set of issues governed by similar dynamics.
- Teachable – The method or approach can be effectively conveyed to others within a reasonable timeframe and eventually executed by the average person with adequate training and guidance. This ensures the insights are transferable.
- Face-valid – The approach is sensible and appropriate [...] for addressing the issue; it is neither too simple nor too complex.
- Interesting – The approach promises a new solution to a long-standing issue; it is simpler, cheaper, more effective, or possesses other performance-related quality that makes it more attractive than the existing approach.
- True significance – The importance of the results is not inflated.
- Specific – The approach has demonstrated relevance to a specific situation, industry, type of organisation, or geography.

A prerequisite for relevancy is an open and trusting work environment where 'sensitive data', such as weaknesses and poor decisions, can be shared and discussed (Näslund, Kale, and Paulraj 2010), enabling a focus on root causes instead of superficial problems (Säfsten and Bäckstrand 2016). The time dimension of building trust should not be underestimated, as seen in earlier applications of the AR approach (e.g. Mogos, Fredriksson, and Alfnes 2019; Mogos et al. 2022).

In summary, AR and MRT offer a synergistic approach towards actionable knowledge along two dimensions: method and theory. On the one hand, AR provides operationalisation to MRT through the AR cycle, emphasising joint learning (i.e. involvement of and benefits to both actors–scholars and practitioners–through an iterative process). On the other hand, MRT enhances the proximity to the context and actionability of the theory generated by AR through its problem-driven, situational conceptualisation and use of the practitioner's language to phrase problems and frameworks. In addition, our integration of AR and MRT outlines a distinct difference between the two. AR is more outcome-oriented than MRT in the two goals that AR entails, referencing an already established research process or the research outcome. AR addresses 'a practical issue' by focusing on action and contributions to practice and tackles outcomes in terms of 'contributing to science' (Coughlan and Coghlan 2024), which can be classified as a theory in the context of MRT. By comparison, MRT refers partly to the outcome of the research process by providing theory-grounded insights to practitioners. Interestingly, with 'context-specific conception' as a key feature, as elucidated earlier, MRT also offers an elaborate perspective on the front end of the research process, which opens up for preparedness and provides potential benefits to AR.

Illustrative research process

The results presented in this paper stem from retrospective meta-studies of several cross-industry and cross-disciplinary research projects carried out in the Nordic countries employing collaborative research approaches within a consortium of university and industry partners (see Table 1). This overview covers the period of the project, provides a short description of the project's aim, the industry, the size of the participating companies and, finally, the number of companies involved in the project. The first column is an identifier that will be used henceforth to refer to a specific project.

The studies presented can be seen as a longitudinal study from 2009 to 2024, wherein several design cycles (Hevner et al. 2004) have been iterated to reach the proposed preparatory stages of the AR project design. In line with Piekkari, Plakoyiannaki, and Welch (2010) and Lacoste and Johnsen (2015), we have used tacit or experience-based knowledge gained through immersion in the field to guide our retrospective analysis of previous and current research approaches. The incorporation of the tacit knowledge and experience shared by the researchers into the development of conceptual models is key to their underpinning, credibility, and usefulness (Jaakkola 2020). For this reason, the research process leading up to the results presented in this paper includes numerous iterations and interactions between the researchers.

The authors of this paper have over 60 years of combined experience working as engaged scholars in the OSCM field using methods/approaches such as case studies, AR, and design science. Many of their studies have been published in academic papers (Wikner and Bäckstrand 2011; Bäckstrand 2012; Wikner and Bäckstrand 2012; Bäckstrand et al. 2013; Bäckstrand, Johansson, and Ohlson 2014; Wikner et al. 2015; Bäckstrand and Engström 2016; Tiedemann, Bäckstrand, and Carlsson 2016; Wikner, Bäckstrand, and Johansson 2017; Bäckstrand and Lennartsson 2018; Wikner and Bäckstrand 2018; Käkelä and Bäckstrand 2019; Gatenholm, Halldórsson, and Bäckstrand 2021; Gremyr et al. 2022; Fredriksson, Malm, and Skov Madsen 2019; Mogos, Fredriksson, and Alfnes 2019). Furthermore, all three authors are experienced research leaders, PhD supervisors, and coaches to junior faculty and have extensive experience in designing and teaching courses on research methods at both master's and PhD levels. In their roles as research leaders, they have initiated, applied for, and been granted numerous research projects, all in collaboration with various consortium partners from the industry. One key driver behind such a collaborative approach is that most OSCM research in the Nordic countries requires external funding. Based on this experience, we have identified a gap/leap that precedes entering the AR cycle, together with non-academic organisations, which would substantially enhance the actionability of AR if existing descriptions of the AR cycles were complemented by preparedness.

In addition to this practical experience, the research process for this paper also builds on the accrued research knowledge of the authors on qualitative research design (Halldórsson and Aastrup 2003; Aastrup and Halldórsson 2008), AR-like collaborative research design (Ellström et al. 2020), engaged scholarship in which data was collected from OSCM scholars (Bäckstrand and Halldórsson 2019), and the relevance and usage of MRT in OSCM (Bäckstrand and Halldórsson 2022).

Our combined practical experience and research knowledge provided us with a deep understanding of the current status of the concepts and the ability to pinpoint which fundamental aspects need revisiting, as well as identifying instances for further development. Subsequently, we put

Table 1. Overview of collaborative research projects.

ID	Period	Project	Industry
A	2009–2012	KOPeration – aligning purchasing and manufacturing strategy for customised products	Manufacturing (large)
B	2012–2014	LogiNord – how tactical planning can improve resource utilisation in the food industry	Food
C	2013–2016	KOPtimera – optimise lead time for customised products	Manufacturing (large)
D	2015–2017	RePlan – how tactical planning can be implemented in construction and waste management	Construction, Waste
E	2017–2019	DigiPlan – digitalisation of planning in construction	Construction
F	2017–2020	TWG – handling customer order-specific information in the internal and external supply chain	Manufacturing (small & large)
G	2019–2024	Fossil-free construction – to identify and test different construction logistics services	Construction, Waste & material suppliers
H	2019–2024	Disturbance-free cities – to develop a prototype for how to plan construction transport from an urban perspective	Construction, Municipals
I	2023–2026	R3 – mitigate risk and increase reuse in the wood supply chain to build resilience and sustainability	SMEs in wood industry
J	2021–2024	Building supply chain resilience capability	Manufacturing (small & large)

together a tentative model of the preparatory phase of the AR cycle and a first description of the skills an engaged scholar should possess during this phase. The tentative model was presented to and discussed with the research team. Such researcher triangulation can help validate the conceptual thinking of the research team, in line with suggestions from Patton (1987), and relates primarily to investigator triangulation. The model was then updated and discussed with researchers outside the team and practitioners involved in earlier research projects who applied their tacit knowledge of the preparatory phase.

A four-step preparatory process for entering AR/collaborative research

In response to the three types of issues outlined in the problematisation earlier and based on the extant literature and experience illustrated above, the following outlines a proposal of a four-step process of preparedness.

Practitioner preparedness

Step 1 – Identifying a joint interest

The first step in the preparatory phase focuses on identifying a joint interest. Identifying the interest area usually includes meetings at the organisation where the researcher observes and is given a tour of the organisation's facilities and, in turn, presents his/her research area and expertise (ideally in a popular science version and an engaging manner).

In Project H, we used a Society Quest as the first step in identifying partners with a joint interest. This was useful in this project as the research focus was urban disturbances from construction transport, and a wide array of relevant actors (both private and public) were to be involved. In Project B, all factories were visited. The specific planning problems of different food types were elaborated to identify the issues causing shortages in supply or demand relevant to focus on in the tactical planning processes. In Project I, identifying a joint interest area was aided by several student projects that connected relevant organisations with the researchers. Hence, based on this first meeting, the organisation representatives and the researcher(s) individually reflect on possible common ground, followed by a confirmation of a joint interest. For Project J, a series of 15- to 25-minute interviews on 'symptoms' were conducted across five companies and subsequently analysed with respect to the joint interests across these organisations. All companies were subjected to synthesis to *validate* the thematic map, create a sense of *urgency*, ensure the *buy-in* of decision-makers, and present an *effect chain* for the project to the funding agency (following the logic of the AR cycle to a great extent) to enhance the actionability of the research outcome.

Step 2 – Teaching – awakening interest in the topic through MRT frameworks

The purpose of the second step is twofold. First, the researcher presents the *theoretical content*—the state of extant theory on the subject area in focus by illustrating common problems that are subject to research and connecting relevant theoretical concepts to the challenges from Step 1. This theoretical connection enhances the credibility of the project focus but does not necessarily lead to buy-in from the company. In this part, it is easy for the researcher to become too abstract, using terms or frameworks that create distance from, rather than proximity to, the practitioners' problem. Therefore, a second key part of this is to present the shape or *format of theory*. This is where the situational and problem-driven nature of MRT plays a vital role in creating a credible pathway to generating actionable knowledge—a format that combines the interest of the researcher to publish relevant theory presented in applicable frameworks while allowing the practitioner to have project deliverables in the format of guiding principles and frameworks, such as those entailed by MRTs.

This second step creates an understanding within the organisation of what to expect from the AR cycle (e.g. to answer the relevant aspect of 'what is in it for them') and what problems are suitable to form a point of departure for an AR cycle (i.e. the formulation of research questions). In Projects D and E, tutorial sessions on tactical planning and advanced planning and scheduling systems were elaborated and thereafter presented when all participants attended. Likewise, in Project F, tutorial sessions on levels of customisation and inter-organisational communication were conducted. Based on these sessions, the participants developed an understanding of MRTs, which also set expectations at the appropriate level to allow for the involvement of suitable representatives among the companies.

Practitioner engagement

Step 3 – Accepting buy-in to the AR cycle and determining the problem

While Step 2 concerns buy-in regarding the subject and the problem, in this third step, the organisation accepts an engagement in the *AR process* by identifying the possible research problems based on their current situation to be tackled in the AR cycle. This step is mainly conducted within the organisation; it can take some time and might require several discussions between the researcher and the organisation to establish system borders and buy-in among powerful/influential members of the staff. For example, if the problem will require time studies, the labour union needs to consent (at least in Sweden), or if it is more of a strategic issue, the owner's family needs to be involved (in a family-owned organisation). In Project G, during this step, we arranged for a researcher to be present for a couple of days at the construction sites and travel along with the drivers. This created an acceptance and understanding of what the research would imply for the participants studied. A similar arrangement was set up with the company in Project J.

Step 4 – Proposing MRT frameworks for analysis and connecting to the AR cycle

Based on the problem identified and decided in the third step, the researcher presents possible theoretical frameworks

that can be used to analyse the identified problems and how they relate to the specific steps in the AR cycle, for example, in terms of data collection methods and the timeline. This step enables the organisation to gain an understanding of the time consumption and resources needed from their side and establish proper expectations of when results will come out. In Project H, we had regular project meetings where the researchers presented conceptual elaborations of the studied problem (e.g. transport planning, urban planning, and construction planning). These conceptual elaborations were further developed in each meeting, and the participants developed their recognition of the concepts and started to use them in their internal discussions. The same procedure, but on other subjects, was adopted in Projects A, C, and F.

After accomplishing these four preparatory steps, the traditional AR cycle is entered. However, if the organisation lacks experience in collaborating with researchers for academic studies, relinquishing control of the AR cycle's progress to the organisation during the initial cycle(s) might be impractical. In such cases, the researcher must ensure progress between the AR cycle steps.

The preparatory phase and the AR cycle are visualised in Figure 2.

Becoming a trusted agent

In the AR literature, the type of researcher we refer to here is described as an 'outside agent' (Herr and Anderson 2014), to which the word 'outside' signals alienation. There are, of course, inside agents (Coughlan and Coghlan 2024) who have an inherent advantage by being embedded in the organisation. Rather than focusing on the prerequisites for inside and outside agents to gain access to organisations, we would like to introduce the term 'trusted' agent and focus on the mechanisms that experienced AR researchers use to become 'trusted' agents who can enable non-academic organisations to achieve the AR cycle results through active participation. A 'trusted' agent is central in the AR cycle, as AR is based on a social element (van de Ven 2007) involving a give-and-take relationship between the organisation and the researcher. To work with a new organisation requires the ability to become a 'trusted' agent and a researcher, a competence not easily acquired through courses because it represents tacit knowledge to a large extent. A 'trusted' agent can connect the general research plateau to the specificity of the organisation in such a way that the organisation actually dares to change. Compared with a general change agent role, the 'trusted' agent effects change by showing the potential of academic reasoning and theoretical knowledge as a basis for that change.

During the 'identify' step of the preparatory phase, the 'trusted' agent tries to develop a social bond with the organisation and create an atmosphere in which the organisation representatives feel at ease in the presence of an academic with a 'fancy' title. In many cases, non-academic organisations are run by the entrepreneurs who founded them, or at least their relatives. They are extremely knowledgeable about their trades but are not accustomed to academic language and theoretical reasoning. Here, mechanisms such as social activities, participating in networking events and round tables, and 'marketing' in the sense of free lectures or consulting (also known as academic householding) are critical (see Table 2). As an example, the results from Project A were presented at networking events and condensed into lifelong learning lectures intended for SMEs, which directly enabled Projects F and I.

During the 'teaching' step, it is crucial to demonstrate your proficiency as an academic to put yourself in the shoes of the organisation. This can be achieved via the exemplification and contextualisation of earlier studies within similar areas or by using boundary objects to illustrate your capacity to capture their descriptions, such as blueprints, prototypes, and sketches of activity flows. The effectiveness of the visualisation of lead time was validated by Bäckstrand and Engström (2016), while Gremyr et al. (2022) introduced service blueprinting as boundary objects. In addition, providing the organisation with popular science versions of frameworks

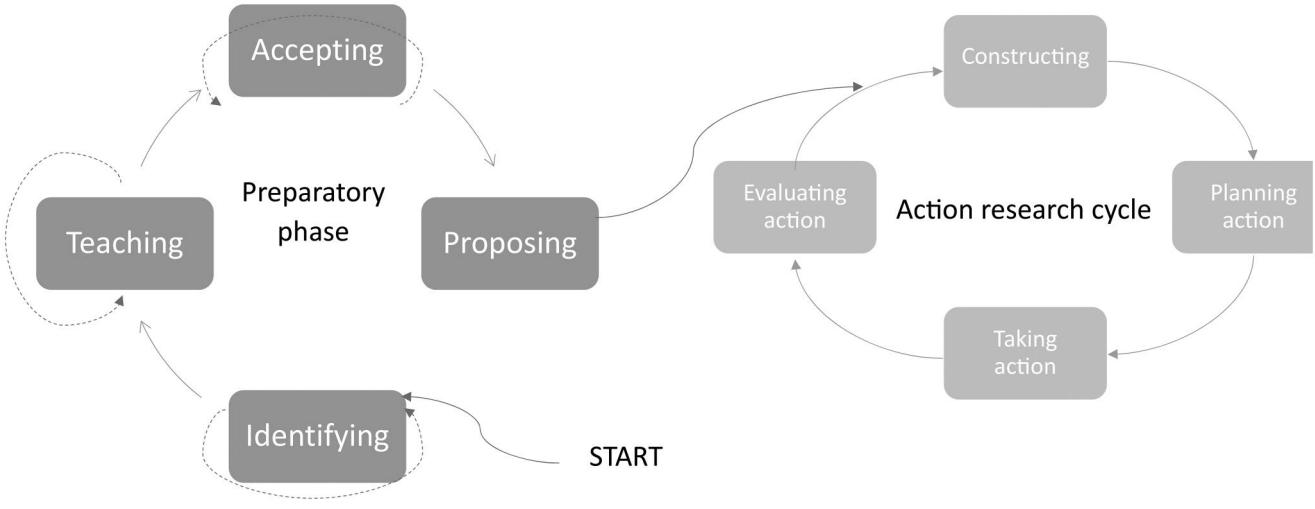

Figure 2. The AR cycle by Coghlan and Brannick (2010) complemented with the four steps of the suggested preparatory phase.

Table 2. The mechanisms to become a trusted agent during the preparatory phase.

Trusted agent	Organisation representative	Step	Mechanism	Project(s)
x	x	Identifying	Networking, social activities, meetings, round tables, dialogue, 'marketing', relations, events, academic householding	A, B, C, F, G, I, J
X		Teaching	Exemplifications, contextualisations, frameworks, visualisations, boundary objects	C, D, E, F, G, I, J
	x	Accepting	Internal communication, anchoring, promoting	F, G
X		Proposing	MRT framework, adaptations	F, G, H, J

intended for practical use is an effective way to showcase your ability to engage in theoretical discussions without becoming too abstract.

The information shared during the second step is then used to create internal acceptance within the organisation during the third step. Acceptance is cultivated through effective communication and project promotion, ideally resulting in the solidification of support among key stakeholders. In Project F, an organisation representative who previously participated in Projects A and C acted as the trusted agent, an insurer of relevance and a culture bearer of collaborative research for the new representatives.

During the fourth step, the researcher, based on the knowledge gained during the previous steps, suggests a suitable MRT framework as a basis for analysis and how to adapt this framework to the specific context and problem to be studied in the AR cycle.

Discussion and conclusions

MRTs require collaborative research to demonstrate their relevance and contextualise them. Funding bodies demand that researchers increase their engagement in societal development and bring their knowledge into practical use as part of the research process. This paper started with a problematisation of preparedness by outlining three issues related to increasing the output of engaged research in society:

1. Practitioner preparedness;
2. Practitioner engagement in collaborative research processes; and
3. Becoming a trusted agent.

Based on the results of this paper, the following strategies are proposed to address these issues.

Practitioner preparedness

The preparatory phase presented in this paper ensures that organisations participating in collaborative research understand the possible benefits of opening their organisations to scholars and being part of research projects while also setting the appropriate level of expectations (Steps 1 and 2). This preparatory phase is a necessary addition to the approach of conducting AR projects successfully from the perspectives of all participating parties. Successful AR projects establish long-term relationships between society and academia, thereby creating engaged members of society and the research community who contribute to and drive change/improvement on a wider level.

Practitioner engagement

Existing collaborative research approaches illustrate the method of conducting rigorous and relevant research. In the existing pre-steps (e.g. Coughlan and Coghlan 2024), the emphasis lies on securing access and establishing a contract for the AR; however, the guidance on how the researchers should facilitate practitioners' comprehension of the research's relevance to them is not included. Hence, the current process descriptions exhibit a scholar-preparedness focus and take for granted that the necessary trust in the relationship between the practitioners and the scholars already exists. However, this assumption holds true neither for new and young scholars nor for organisations unaccustomed to taking part in research projects. Hence, Steps 3 and 4 are suggested.

Becoming a trusted agent

In line with a suggestion from Coughlan and Coghlan (2024) for inexperienced action researchers, we emphasise the importance of joining a team with experienced researchers and learning during this preparatory phase through an 'apprenticeship' model (Eden and Huxham 1996), as well as utilising academic supervisory contacts (Coughlan and Coghlan 2024). Although this is the preferred case, it is not always the reality for many young scholars due to a lack of time and commitment from their supervisors. Therefore, one contribution of this paper is to explicitly describe the (preferred) tacit learning process through apprenticeship, as well as highlight the importance of academic householding in reaching the status of a trusted agent. It is hoped that this will expedite the learning process among young scholars and facilitate communication with practitioners by elucidating the potential benefits for both parties. Another contribution lies in elucidating how MRTs become part of the AR process as early as its inception as part of the teaching and proposing steps in the preparatory phase. Additional contributions include clarifying the abduction aspect of the AR

Table 3. Quality criteria for rigour and relevance guiding the preparatory phase.

Rigour	Relevance – synergies	Guiding preparatory phase
Outcome – problem solved	'Return on Investment' 'True significance'	• Pre-study: Short interviews to a) understand managers' challenges and b) identify potential benefits and costs (during project and after project period).
Democratic – stakeholder participation	'Codetermined' 'Face-valid'	• Determine identifiable terms for which benefits that could accrue (e.g. process improvement, increased circularity of waste materials). • Use a mixture of theoretical concepts and managers' own in vivo vocabulary.
Process – learning during project	'Practical' – interventions. 'Specific'	• Present an effect chain – ranging from a specific research activity through intervention to a specific, favourable outcome. • Make use of MRT to ensure specificity.
Catalytic – transformation and deepened understanding	'Practical' 'Re-applicable'	• Prototype results in MRT frameworks. Application of MRT frameworks tested by managers and revised to enhance both impact and re-applicability. • MRT frameworks need to be re-configurable (i.e. able to adapt specific determinants to new situations or industry contexts).

cycle and envisioning an ongoing AR process as a preparatory phase for the next process.

Becoming a trusted agent requires personal contacts and tacit knowledge of researchers. In addressing these requisites, this paper makes a theoretical contribution by connecting academic householding and the AR approach. The time dimension underlying the preparatory phase should not be underestimated and is part of the often-unpaid academic householding necessary to conduct engaged industry-relevant research (Bäckstrand and Halldórsson 2019).

Conclusions

A well-founded relationship established on the engagement of the researcher builds trust within the participating organisation and enables long-term win–win relationships between society and academia. If well executed, it can be the beginning of a long relationship in which both parties can support each other's success. The elaboration of the preparatory phase shows new, young scholars the commitment required to conduct relevant and rigorous collaborative research. Another implication derived from this is that younger scholars should be coached in performing the tasks suggested in Table 3. This way, we contribute to the AR research approach by highlighting the relationship between academic householding and the relevance and rigour of the AR processes and MRT.

This paper presents a description and visualisation of the preparatory phase of the AR process and how the scholar, acting as a trusted agent, can initiate the process in a non-academic organisation. The visualised preparatory phase entails both theoretical and managerial contributions. One key implication for the practice of scholars and practitioners in non-academic organisations is how to guide the preparatory phase using quality criteria to maintain both rigour and relevance. Table 3 provides an overview of these criteria, first by matching the corresponding criteria for rigour and relevance, followed by suggestions on how these criteria can inform actions in the preparatory phase.

Our argument predominantly focused on 'relevance' and its connection to preparedness. However, it is imperative to acknowledge the need for research quality (and criticism of AR). It is important not to separate rigour and relevance in this discussion of preparedness and not to assume that the researcher alone possesses or is responsible for rigour.

Limitations

One limitation of this paper is that it is based on experience in a collaboration-intensive research environment, raising concerns about the limitations that relate to the research design and the mode of theorising. Moreover, obstacles in the preparatory phase that are institutional in nature need to be explored further (e.g. cultural differences in approaching people, attitudes towards sharing ideas with external actors without knowing them or signing a confidentiality agreement). The institutional environment of the studied organisation can play an important role; for example, studies in healthcare often entail complex ethical and formal approval that would simply put off SMEs from engaging in AR. Another limitation of the paper is that all three authors have developed their experience by working in the Nordic context. The Nordic research context is known for its tight collaboration between researchers and practitioners, and it is common among scholars to move between research and both private and public organisations. The society is also known for short distances and a lack of hierarchical layers. All these characteristics make it easier to establish collaborations between organisations. Hence, the suggested preparatory phase needs to be evaluated within other research contexts to verify its relevance outside the Nordic setting.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Jenny Bäckstrand is Associate Professor within Supply Chain and Operations Management at the School of Engineering at Jönköping University, Sweden. She presented her thesis – A Method for Customer-driven Purchasing – Aligning Supplier Interaction and Customer-driven Manufacturing as the first Doctor of Philosophy in Science at Jönköping University in 2012. She has published articles on various topics related to purchasing and customised products in a triadic setting as well as engaged research methods. Her current research interests include university-industry interaction and information sharing, specifically in SME companies and ETO-contexts.

Anna Fredriksson is Professor at the Construction Logistics group within the Department of Science and Technology at Linköping University. She presented her PhD thesis, 'Production Outsourcing and Materials Supply', at Chalmers University of Technology in 2011. She has published articles on various topics related to outsourcing, offshoring, production transfer and materials management as well as logistics within different industries, such as food, health care and construction. Her current research interest is how to manage production transfers, construction logistics and supply chain planning processes.

Árni Halldórsson is Professor in Supply Chain Management at Chalmers University of Technology, Sweden. His research interests concern supply chain management, sustainable development, and advancing service supply chains in various sectors. Key focus areas include logistics services (energy efficiency, development, and service blueprinting); supply chain design; buyer-supplier relationships; logistics services for enhanced circularity; end-users in the supply chain; supply chain resilience; research methodology and theory development. He has fulfilled several formal university roles that entail the development of university–industry collaboration and research-led improvement and development.

ORCID

Jenny Bäckstrand http://orcid.org/0000-0001-7867-3895
Anna Fredriksson http://orcid.org/0000-0001-7494-8134
Árni Halldórsson http://orcid.org/0000-0001-9448-4971

References

Aagaard Nielsen, Kurt, and Lennart Svensson, eds. 2006. *Action and Interactive Research: Beyond Practice and Theory*. Maastricht: Shaker Publishing.

Aastrup, Jesper, and Árni Halldórsson. 2008. "Epistemological Role of Case Studies in Logistics: A Critical Realist Perspective." *International Journal of Physical Distribution & Logistics Management* 38 (10): 746–763. https://doi.org/10.1108/09600030810926475.

Abrahamsen, Morten H., Stephan C. Henneberg, Lars Huemer, and Peter Naudé. 2016. "Network Picturing: An Action Research Study of Strategizing in Business Networks." *Industrial Marketing Management* 59: 107–119. https://doi.org/10.1016/j.indmarman.2016.02.006.

Adler, Niclas, Abraham B (Rami) Shani, and Alexander Styhre, eds. 2004. *Collaborative Research in Organizations: Foundations for Learning, Change, and Theoretical Development*. London, UK: SAGE.

Akmal, Adeel, Robin Gauld, and Nataliya Podgorodnichenko. 2022. "The Rules of the Game': How Business Research Journals Discourage Knowledge Translation to Practice and What Needs to Change." *Production Planning & Control 2022*: 1–9. https://doi.org/10.1080/09537287.2022.2144524.

Alvesson, Mats, and Jörgen Sandberg. 2013. "Has Management Studies Lost Its Way? Ideas for More Imaginative and Innovative Research." *Journal of Management Studies* 50 (1): 128–152. https://doi.org/10.1111/j.1467-6486.2012.01070.x.

Barratt, Mark, Thomas Y. Choi, and Mei Li. 2011. "Qualitative Case Studies in Operations Management: Trends, Research Outcomes, and Future Research Implications." *Journal of Operations Management* 29 (4): 329–342. https://doi.org/10.1016/j.jom.2010.06.002.

Bartunek, Jean M., Sara L. Rynes, and R. Duane Ireland. 2006. "What Makes Management Research Interesting, and Why Does It Matter?" *Academy of Management Journal* 49 (1): 9–15. https://doi.org/10.5465/amj.2006.20785494.

Bäckstrand, Jenny. 2012. "A Method for Customer-driven Purchasing: Aligning Supplier interaction and Customer-driven manufacturing." School of Engineering, Jönköping University. http://urn.kb.se/resolve?urn=urn:nbn:se:hj:diva-19844.

Bäckstrand, Jenny, and Annika Engström. 2016. "The Lead Time Tree as a Boundary Object for Developmental Learning and Improved Conditions for Purchasers." 5th World Conference on Production and Operations Management P&OM, Havanna, Cuba, 6-10/9 2016.

Bäckstrand, Jenny, and Anna Fredriksson. 2020. "The Role of Supplier Information Availability for Construction Supply Chain Performance." *Production Planning & Control* 33 (9–10): 863–874. https://doi.org/10.1080/09537287.2020.1837933.

Bäckstrand, Jenny, and Árni Halldórsson. 2019. "Engaged Scholar(Ship) in Purchasing and Supply Management (PSM): Creative Tension or Squeezed in the Middle?" *Journal of Purchasing and Supply Management* 25 (4): 100557. https://doi.org/10.1016/j.pursup.2019.100557.

Bäckstrand, Jenny, and Árni Halldórsson. 2022. "Enhancing Theorizing in Purchasing and Supply Management through Middle-Range Theories." In *Handbook of Theories for Purchasing, Supply Chain and Management Research*, edited by Wendy L Tate, Lisa M. Ellram and Lydia Bals. MA: Edward Elgar Publishing.

Bäckstrand, Jenny, Eva Johansson, and Nils-Erik Ohlson. 2014. "Extending the Customer Differentiated Supply Method to New Product Development." 21st International Annual EurOMA Conference, Palermo, Italy, 22–25 June, 2014.

Bäckstrand, Jenny, Eva Johansson, Joakim Wikner, Rikard Andersson, Björn Carlsson, Alexander Hjertén, Fredrik Kornebäck, et al. 2013. "A Method for Customer-Driven Purchasing." 20th International Annual EurOMA Conference, Dublin, Ireland, 9–11 June 2013.

Bäckstrand, Jenny, and Martin Lennartsson. 2018. "Customizations Vs. Platforms – A Conceptual Approach to COSI." IFIP WG 5.7 24th International Conference on Advances in Production Management Systems (APMS 2018), Seoul South Korea, 26–29 August 2018.

Coghlan, David, and Teresa Brannick. 2010. *Doing Action Research in Your Own Organization*. 3rd ed. London, UK: SAGE.

Coghlan, David, and Teresa Brannick. 2014. *Doing Action Research in Your Own Organization*. 4th ed. London, UK: SAGE.

Coghlan, David, and Abraham B. Shani. 2013. "Organizational-Development Research Interventions: Perspectives from Action Research and Collaborative Management Research." In *The Wiley-Blackwell Handbook of the Psychology of Leadership, Change, and Organizational Development*, edited by H. Skipton Leonard, Rachel Lewis, Arthur M. Freedman, and Jonathan Passmore, 443–460. Oxford, UK: Wiley-Blackwell.

Coghlan, David, and Abraham B. Shani. 2015. "Developing the Practice of Leading Change through Insider Action Research: A Dynamic Capability Perspective." In *The SAGE Handbook of Action Research*, edited by H. Bradbury and P. Reason, 47–54. London, UK: Sage publications Ltd.

Costello, Patrick J. M. 2011. *Effective Action Research: Developing Reflective Thinking and Practice*. London, UK: Bloomsbury Publishing.

Coughlan, Paul, and David Coghlan. 2002. "Action Research for Operations Management." *International Journal of Operations & Production Management* 22 (2): 220–240. https://doi.org/10.1108/01443570210417515.

Coughlan, Paul, and David Coghlan. 2024. "Action Research." In *Research Methods for Operations and Supply Chain Management*, edited by Christer Karlsson, 219–251. New York, NY: Routledge.

Craighead, Christopher W., David J. Ketchen Jr. and Li Cheng. 2016. "Goldilocks" Theorizing in Supply Chain Research: Balancing Scientific and Practical Utility via Middle-Range Theory." *Transportation Journal* 55 (3): 241–257. https://doi.org/10.5325/transportationj.55.3.0241.

Di Benedetto, C. Anthony, Adam Lindgreen, Marianne Storgaard, and Ann Højbjerg Clarke. 2019. "How to Collaborate Really Well with Practitioners." *Industrial Marketing Management* 82: 1–8. https://doi.org/10.1016/j.indmarman.2019.08.001.

Eden, Colin, and Chris Huxham. 1996. "Action Research for Management Research." *British Journal of Management* 7 (1): 75–86. https://doi.org/10.1111/j.1467-8551.1996.tb00107.x.

Ellström, Per-Erik. 2007. "Knowledge Creation Through Interactive Research: A Learning Perspective." HSS-07 Conference, Jönköping, Sweden, May 8–11, 2007.

Ellström, Per-Erik, Mattias Elg, Andreas Wallo, Martina Berglund, and Henrik Kock. 2020. "Interactive Research: concepts, Contributions and Challenges." *Journal of Manufacturing Technology Management* 31 (8): 1517–1537. https://doi.org/10.1108/JMTM-09-2018-0304.

Floyd, Steven W., and Bill Wooldridge. 1992. "Middle Management Involvement in Strategy and Its Association with Strategic Type: A Research Note." *Strategic Management Journal* 13 (S1): 153–167. https://doi.org/10.1002/smj.4250131012.

Fredriksson, Anna, Anna Malm, and Erik Skov Madsen. 2019. "Technology Transfer as a Part of the Business–Inter-Organizational Transfer Strategies Based on Experiences of Aircraft Production." *Journal of Global Operations and Strategic Sourcing* 12 (1): 151–171. https://doi.org/10.1108/JGOSS-04-2018-0018.

Gatenholm, Gabriella, Árni Halldórsson, and Jenny Bäckstrand. 2021. "Enhanced Circularity in Aftermarkets: Logistics Tradeoffs." *International Journal of Physical Distribution & Logistics Management* 51 (9): 999–1021. https://doi.org/10.1108/IJPDLM-11-2020-0367.

Gelderman, Cees J., and Arjan J. van Weele. 2002. "Strategic Direction through Purchasing Portfolio Management: A Case Study." *Journal of Supply Chain Management* 38 (1): 30–37. https://doi.org/10.1111/j.1745-493X.2002.tb00127.x.

Gibbons, Michael, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott, and Martin Trow. 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. Thousand Oaks: SAGE.

Greenwood, Davydd J., and Morten Levin. 2006. *Introduction to Action Research: Social Research for Social Change*. Thousand Oaks: SAGE Publications.

Gremyr, Ida., Jenny Bäckstrand, Anna Fredriksson, Gabriella Gatenholm, and Árni Halldórsson. 2022. "Blueprinting Construction Logistics Services for Quality Improvement." *Construction Management and Economics* 41 (1): 60–78. https://doi.org/10.1080/01446193.2022.2130384.

Halldórsson, Árni, and Jesper Aastrup. 2003. "Quality Criteria for Qualitative Inquiries in Logistics." *European Journal of Operational Research* 144 (2): 321–332. https://doi.org/10.1016/S0377-2217(02)00397-1.

Hayes, Robert H., and Steven C. Wheelwright. 1984. *Restoring Our Competitive Edge: Competing Through Manufacturing.?* New York, NY: John Wiley & Sons.

Herr, Kathryn, and Gary L. Anderson. 2014. *The Action Research Dissertation: A Guide for Students and Faculty*. Thousand Oaks: Sage Publications.

Hevner, Alan R, Salvatore T March, Jinsoo Park, and Sudha Ram. 2004. "Design Science in Information Systems Research." *MIS Quarterly* 28 (1): 75–105. https://doi.org/10.2307/25148625.

Huzzard, Tony, Beth Maina Ahlberg, and Marianne Ekman. 2010. "Constructing Interorganizational Collaboration." *Action Research* 8 (3): 293–314. https://doi.org/10.1177/1476750309335206.

Jaakkola, Elina. 2020. "Designing Conceptual Articles: Four Approaches." *AMS Review* 10 (1–2): 18–26. https://doi.org/10.1007/s13162-020-00161-0.

Johnson, Mark, Jens K. Roehrich, Mehmet Chakkol, and Andrew Davies. 2021. "Reconciling and Reconceptualising Servitization Research: Drawing on Modularity, Platforms, Ecosystems, Risk and Governance to Develop Mid-Range Theory." *International Journal of Operations & Production Management* 41 (5): 465–493. https://doi.org/10.1108/IJOPM-08-2020-0536.

Käkelä, Nikolas, and Jenny Bäckstrand. 2019. "Sharing Knowledge for Customization: A Triadic Perspective." 26th International Annual EurOMA Conference, Helsinki, Finland, 17–19 June.

Karlsson, Christer. 2024. *Research Methods for Operations and Supply Chain Management*. 3rd ed. London; New York: Routledge, Taylor & Francis Group.

Karlsson, Christer. 2009. *Researching Operations Management*. New York, NY: Routledge.

Kelliher, Felicity, and Rodney McAdam. 2018. "Applying a Longitudinal Interpretive Multi-Case Research Method to Study the Employee Impact of Operations Management Systems in a Micro Firm Setting." *Production Planning & Control* 29 (16): 1321–1331. https://doi.org/10.1080/09537287.2018.1535134.

Kemmis, Stephen, Robin McTaggart, and Rhonda Nixon. 2014. *The Action Research Planner: Doing Critical Participatory Action Research*. Singapore: Springer.

Knight, Louise, Joanne Meehan, Efstathios Tapinos, Laura Menzies, and Alexandra Pfeiffer. 2020. "Researching the Future of Purchasing and Supply Management: The Purpose and Potential of Scenarios." *Journal of Purchasing and Supply Management* 26 (3): 100624. https://doi.org/10.1016/j.pursup.2020.100624.

Knight, Louise, Wendy L. Tate, Aristides Matopoulos, Joanne Meehan, and Asta Salmi. 2016. "Breaking the Mold: Research Process Innovations in Purchasing and Supply Management." *Journal of Purchasing and Supply Management* 22 (4): 239–243. https://doi.org/10.1016/j.pursup.2016.09.003.

Kraljic, Peter. 1983. "Purchasing Must Become Supply Management." *Harvard Business Review* 61 (5): 109–117.

Lacoste, Sylvie, and Rhona E. Johnsen. 2015. "Supplier–Customer Relationships: A Case Study of Power Dynamics." *Journal of Purchasing and Supply Management* 21 (4): 229–240. https://doi.org/10.1016/j.pursup.2014.12.006.

Macharis, Cathy, Astrid De Witte, and Jeroen Ampe. 2009. "The Multi-Actor, Multi-Criteria Analysis Methodology (MAMCA) for the Evaluation of Transport Projects: Theory and Practice." *Journal of Advanced Transportation* 43 (2): 183–202. https://doi.org/10.1002/atr.5670430206.

McCutcheon, David M., and Jack R. Meredith. 1993. "Conducting Case Study Research in Operations Management." *Journal of Operations Management* 11 (3): 239–256. https://doi.org/10.1016/0272-6963(93)90002-7.

Mediavilla, Miguel, Kepa Mendibil, and Carolina Bernardos. 2021. "Making the Most of Game Theory in the Supplier Selection Process for Complex Items." *Production Planning & Control* 32 (10): 845–860. https://doi.org/10.1080/09537287.2020.1773560.

Melander, Anders, Olof Brunninge, David Andersson, Fredrik Elgh, and Malin Löfving. 2023. "Management Innovation in SMEs – Taking Psychological Ownership of Hoshin Kanri." *Production Planning & Control* 2023: 1–19. https://doi.org/10.1080/09537287.2023.2214517.

Mogos, Maria Flavia, Anna Fredriksson, and Erlend Alfnes. 2019. "A Production Transfer Procedure Based on Risk Management Principles." *Journal of Global Operations and Strategic Sourcing* 12 (1): 103–150. https://doi.org/10.1108/JGOSS-01-2018-0001.

Mogos, Maria Flavia, Anna Fredriksson, Erlend Alfnes, and Jan Ola Strandhagen. 2022. "Investigating Relationships between Production Transfer Management and Transfer Success." *Journal of Manufacturing Technology Management* 33 (6): 1124–1149. https://doi.org/10.1108/JMTM-08-2021-0310.

Näslund, Dag., Rahul Kale, and Antony Paulraj. 2010. "Action Research in Supply Chain Management – A Framework for Relevant and Rigourous Research." *Journal of Business Logistics* 31 (2): 331–355. https://doi.org/10.1002/j.2158-1592.2010.tb00155.x.

Pasmore, William A., Richard W. Woodman, and Aneika L. Simmons. 2008. "Toward a More Rigorous, Reflective, and Relevant Science of Collaborative Management Research." In *Handbook of Collaborative Management Research*, edited by A. B. (Rami) Shani, S. A. Mohrman, W. A. Pasmore, B Stymne and Niclas Adler, 567–582. London, UK: SAGE.

Patton, Michael Quinn. 1987. *How to Use Qualitative Methods in Evaluation.Program Evaluation Kit, 4*. Newbury Park, CA: SAGE Publications.

Piekkari, Rebecca, Emmanuella Plakoyiannaki, and Catherine Welch. 2010. "'Good' Case Research in Industrial Marketing: Insights from Research Practice." *Industrial Marketing Management* 39 (1): 109–117. https://doi.org/10.1016/j.indmarman.2008.04.017.

Powell, Daryl John, and Paul Coughlan. 2020. "Rethinking Lean Supplier Development as a Learning System." *International Journal of Operations & Production Management* 40 (7/8): 921–943. https://doi.org/10.1108/IJOPM-06-2019-0486.

Jönköping, Region. 2020. *Jönköping County – Regional Developement strategy 2020–2035* https://utveckling.rjl.se/strategier–handlingsplaner/regional-utvecklingsstrategi-2020-2035/.

Rönnbäck, Åsa. 2010. *Co-Creation of Value in Public Transportation-A Quality Management Perspective*. Nigeria: Chalmers University of Technology.

Sadeghi Moghadam, Mohammad Reza, Narjes Ghasemnia Arabi, and Gholamreza Khoshsima. 2021. "A Review of Case Study Method in Operations Management Research." *International Journal of Qualitative Methods* 20: 160940692110100. https://doi.org/10.1177/16094069211010088.

Spina, Gianluca, Federico Caniato, Davide Luzzini, and Stefano Ronchi. 2016. "Assessing the Use of External Grand Theories in Purchasing and Supply Management Research." *Journal of Purchasing and Supply Management* 22 (1): 18–30. https://doi.org/10.1016/j.pursup.2015.07.001.

Stank, Theodore P., Daniel A. Pellathy, Joonhwan In, Diane A. Mollenkopf, and John E. Bell. 2017. "New Frontiers in Logistics Research: theorizing at the Middle Range." *Journal of Business Logistics* 38 (1): 6–17. https://doi.org/10.1111/jbl.12151.

Stuart, I., D. McCutcheon, R. Handfield, R. McLachlin, and D. Samson. 2002. "Effective Case Research in Operations Management: A Process Perspective." *Journal of Operations Management* 20 (5): 419–433. https://doi.org/10.1016/S0272-6963(02)00022-0.

Sutton, Robert I., and Barry M. Staw. 1995. "What Theory is Not." *Administrative Science Quarterly* 40 (3): 371–384. https://doi.org/10.2307/2393788.

Svensson, Lennart, Per-Erik Ellström, and Göran Brulin. 2007. "Introduction – on Interactive Research." *International Journal of Action Research* 3 (3): 233–249.

Swedberg, Richard. 2012. "Theorizing in Sociology and Social Science: Turning to the Context of Discovery." *Theory and Society* 41 (1): 1–40. https://doi.org/10.1007/s11186-011-9161-5.

Säfsten, Kristina, and Jenny Bäckstrand. 2016. "Co-Creation of Knowledge – Key Aspects for Relevance in Collaborative Research Projects." 23rd International Annual EurOMA Conference, Trondheim, Norway, 17–22 June, 2016.

Tiedemann, Fredrik, Jenny Bäckstrand, and Björn Carlsson. 2016. "The Sign of Leadtime." 25th International IPSERA Conference, Dortmund, Germany, March 20–23rd 2016.

Touboulic, Anne, Lucy McCarthy, and Lee Matthews. 2020. "Re-Imagining Supply Chain Challenges through Critical Engaged Research." *Journal of Supply Chain Management* 56 (2): 36–51. https://doi.org/10.1111/jscm.12226.

van de Ven, Andrew H. 2007. *Engaged Scholarship A Guide for Organizational and Social Research*. New York, NY: Oxford University Press.

van Weele, Arjan J., and Erik M. van Raaij. 2014. "The Future of Purchasing and Supply Management Research: About Relevance and Rigor." *Journal of Supply Chain Management* 50 (1): 56–72. https://doi.org/10.1111/jscm.12042.

Verschuren, Piet, Hans Doorewaard, and Michelle Mellion. 2010. *Designing a Research Project*. Vol. 2. The Hague, NL: Eleven International Publishing.

Voss, Chris, Nikos Tsikriktsis, and Mark Frohlich. 2002. "Case Research in Operations Management." *International Journal of Operations & Production Management* 22 (2): 195–219. https://doi.org/10.1108/01443570210414329.

Wallén, Göran. 1996. *Vetenskapsteori och forskningsmetodik [in Swedish]*. 2nd ed. Lund, Sweden: Studentlitteratur.

Weick, Karl E. 1989. "Theory Construction as Disciplined Imagination." *The Academy of Management Review* 14 (4): 516–531. https://doi.org/10.2307/258556.

Westbrook, Roy. 1995. "Action Research: A New Paradigm for Research in Production and Operations Management." *International Journal of Operations & Production Management* 15 (12): 6–20. https://doi.org/10.1108/01443579510104466.

Wikner, Joakim, and Jenny Bäckstrand. 2011. "Aligning Operations Strategy and Purchasing Strategy." 18th International Annual EurOMA Conference, Cambridge, UK, 3–6 July 2011.

Wikner, Joakim, and Jenny Bäckstrand. 2012. "Decoupling Points and Product Uniqueness Impact on Supplier Relations." 19th International Annual EurOMA Conference, Amsterdam, The Netherlands, 1-5 July 2012.

Wikner, Joakim, and Jenny Bäckstrand. 2018. "Triadic Perspective on Customization and Supplier Interaction in Customer-Driven Manufacturing." *Production & Manufacturing Research* 6 (1): 3–25. https://doi.org/10.1080/21693277.2017.1415825.

Wikner, Joakim, Jenny Bäckstrand, and Eva Johansson. 2017. "Customer-Differentiated Triadic Interaction Based on Decoupling Points." *Journal of Global Operations and Strategic Sourcing* 10 (2): 185–205. https://doi.org/10.1108/JGOSS-10-2016-0032.

Wikner, Joakim, Jenny Bäckstrand, Fredrik Tiedemann, and Eva Johansson. 2015. "Leagility in a Triad with Multiple Decoupling Points." IFIP WG 5.7 21st International Conference on Advances in Production Management Systems (APMS 2015), Tokyo, Japan, 5–9 September 2015.

Wynstra, Finn. 2016. "Past, Present and Future Trends of Purchasing and Supply Management: An Extensive Literature Review." In *A Journey through Manufacturing and Supply Chain Strategy Research: A Tribute to Professor Gianluca Spina*, edited by E. Bartezzaghi, R. Cagliano, F. Caniato and S. Ronchi, 199–228. Switzerland: Springer International Publishing.