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Tied islands: The role of organizational members in knowledge transfer across strategic projects

Manon Eikelenboom^a, Alfons van Marrewijk^{a,b,c,*}

^a Vrije Universiteit Amsterdam, Faculty of Social Sciences, De Boelelaan 1105, 1081 HV Amsterdam, the Netherlands

^b Delft University of Technology, Faculty of Architecture and the Built Environment, Julianalaan 134, 2628 BL Delft, the Netherlands

^c BI Norwegian Business School Oslo, Department of Leadership and Organizational Behaviour, Nydalsveien 37, 0484 Oslo, Norway

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ABSTRACT

Transferring knowledge across strategic projects is challenging. This study investigates how informal practices of members of the parent organization shape the transfer of knowledge across strategic projects. This was addressed through an in-depth case study of strategic projects in an innovation trajectory of a large public organization aiming to accelerate to transition towards circular construction. We identified five disabling practices: shaming and blaming, disconnecting, holding onto the department and project boundaries, fostering one-way relationships and avoiding internal conflict. Furthermore, we identified three enabling practices: supporting circular projects, sharing similarities across projects and integral visioning. The results contribute to the cross-project knowledge transfer literature by showing how members of partner organizations can enable or disable knowledge transfer across strategic projects. Furthermore, the results contribute to the strategic project literature by illuminating the importance of informal practices of members of the parent organization.

1. Introduction

Projects have frequently been used for driving strategic change within organizations and institutional fields (Bresnen et al., 2005; Cropper & Palmer, 2008; Kornberger & Clegg, 2011; Martinsuo et al., 2022; Sydow & Braun, 2018; Van Marrewijk & Van den Ende, 2022). Such projects, often referred to as strategic projects, aim to initiate radical innovation, change and transformation in organizational and interorganizational collaborations (Martinsuo et al., 2019; Nisula et al., 2022). Strategic projects have to contribute to the achievement of complex interrelated challenges as opposed to the narrow agenda of project execution (Gasparro et al., 2022; Ika & Munro, 2022). They do so by transferring knowledge acquired and created within one project to another project (Newell & Edelman, 2008; Zhao et al., 2015). Cross-project knowledge transfer is thus essential for the success of strategic projects (Beste & Klakegg, 2022). Such transfer can improve strategic project-to-project coordination (Turkulainen et al., 2015), efficient and effective resource utilization (Newell, 2004), and enable organizations to develop and improve their knowledge base and ultimately achieve strategic transformations (Grabher, 2004; Hargadon, 1998; Sundqvist, 2019). However, it has been shown that strategic projects are often executed as lonely endeavours and fail to transfer

knowledge to other projects (Artto et al., 2009; Ika & Munro, 2022; Martinsuo & Hoverfält, 2018; Martinsuo et al., 2022; Scarbrough et al., 2004).

Formal and informal practices have been identified enabling project members to enhance cross-project knowledge transfer (Cacciatori et al., 2012; Lehtonen & Martinsuo, 2008; Newell & Galliers, 2006; Pemsel & Wiewiora, 2013; Prencipe & Tell, 2001; Vuorinen & Martinsuo, 2018), such as being involved in communities of practice (Duffield & Whitty, 2016). These studies often overlook the essence of practices performed by members of the parent organization (Van Marrewijk & Van den Ende, 2022), such as internal experts, top and middle managers (Medina & Medina, 2017; Turner & Keegan, 2000). For example, Wiewiora et al. (2020) indicate that middle managers can use their central position to facilitate cross-project knowledge transfer. While there has been increased attention for the dynamic bi-directional relation between parent organizations and strategic projects in the recent literature (Beste & Klakegg, 2022; Martinsuo & Hoverfält, 2018; Wiewiora et al., 2020), researchers have identified the need for further empirical research to understand knowledge transfer across strategic projects (Beste & Klakegg, 2022; Mahura & Birollo, 2021).

To address this gap in the literature our research will focus on the following research question: Which informal practices are adopted by

* Corresponding author.

E-mail address: a.h.van.marrewijk@vu.nl (A. van Marrewijk).

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members of the parent organization that shape knowledge transfer across strategic projects? We concentrate on informal practices, those practices that emerge from the autonomy, motivation, and agency of individuals (Sydow et al., 2004). Individuals often rely on informal practices for the transfer of tacit knowledge (Mahura & Birollo, 2021; Terhorst et al., 2018). We investigate this research question through an in-depth case study of a strategic project of a large public organization in the Netherlands, which initiated an innovation trajectory including multiple projects to accelerate the transition towards circular construction. Circular construction refers to the adoption of a lifecycle approach that optimizes the buildings' useful lifetime, integrates the end-of-life phase in the design and uses new ownership models where materials keep their value after demolishing a building (Leising et al., 2018).

The results of this study contribute to the literature on cross-project knowledge transfer (Almeida & Soares, 2014; Bresnen et al., 2003; Wiewiora et al., 2020) by revealing that informal practices of members of the parent organization may not only reduce the ability of project teams to share their knowledge (Mahura & Birollo, 2021), but also the motivation and ability of other project teams to adopt and use this knowledge. Furthermore, the findings add to the literature on strategic projects (Beste & Klakegg, 2022; Bos-de Vos et al., 2022; Clegg et al., 2018; Martinsuo & Hoverfält, 2018; Martinsuo et al., 2022) by illuminating the important role of informal practices of parent organization's members in the flow of knowledge across projects. Finally, the study is of importance for the recent debate on connecting projects to sustainability transitions (Gasparro et al., 2022; Ika & Munro, 2022; Locatelli et al., 2023) with insights that informal practices of members can maintain unsustainable socio-technical systems.

The remainder of this paper is structured as follows. First, we will draw on the literature on strategic projects and cross-project knowledge transfer to understand how project, program and members of the parent organization shape strategic projects and explore the practices that enable and disable cross-project knowledge transfer. Second, the used case study and data collection methods are described and discussed. Third, the findings are presented. The paper concludes with a discussion of the implications for two academic debates and a conclusion with practical implications and possible avenues for future research.

2. Literature

2.1. Strategic projects shaped by project, program and parent organization members

Strategic projects are crucial to the organization's survival or success and for driving change within an organization, or between two or more organizations (Martinsuo et al., 2022; Van Marrewijk & Van den Ende, 2022). It has been highlighted that the practices of project actors can enable and constrain strategic projects (Van Marrewijk & Van den Ende, 2022). Project managers can control and manage the chaos of the projects' activities (Vuorinen & Martinsuo, 2018), for example by determining which project actions have a relevance to other projects (Beste & Klakegg, 2022). Van Marrewijk and Van den Ende (2022) show for instance that strategic change is both shaped by what actors *do* to achieve their success (Martinsuo & Hoverfält, 2018) and by what they fail to do; 'the non-issues, non-decision making, the exclusions from the agenda, the overlooked and un-noted actors, acts and omissions, those things that are strategically unthinkable' (Carter et al., 2008, p. 93).

Strategic projects are not only shaped by the involved program and project members, but also by the parent organization. Project scholars have for example highlighted the important and dynamic bi-directional interaction between strategic projects and the parent organization (f.e. Beste & Klakegg, 2022; Clegg et al., 2018). Lehtonen and Martinsuo (2009) show that strategic projects involve a constant search for a balance between integration, adapting to the structures, norms and rules of the parent organization, and isolation, detaching the project from its

environment to allow for radical innovation. These projects are often executed as complex multi-project entities with several parallel or sequential efforts (Artto et al., 2009; Martinsuo & Hoverfält, 2018), referred to as programs. Programs are understood as 'a group of projects that contribute to a common higher order objective' (Turner, 2009, p. 324). Project-to-project integration is important for strategic projects to enable coordination, efficient and effective resource utilization and coherent communication with other projects (Lycett et al., 2004; Turkulainen et al., 2015).

In order to investigate the interaction between strategic projects and the parent organization, researchers have mainly focussed on the practices of program and project members. For example, Willems et al. (2020) show that project members can isolate themselves from the parent organization though several symbolic, discursive and spatial isolation practices. Project and program managers can also enhance program-organization integration through several boundary activities, such as representing the program and creating legitimacy (Beste & Klakegg, 2022; Lehtonen & Martinsuo, 2008, 2009). Furthermore, it has been emphasized that project and program managers have to be aware of the parent organization's other duties, including other simultaneous projects and programs (Bos-de Vos et al., 2022; Martinsuo et al., 2022), and responsive to changes in the programs' external environment (Martinsuo & Hoverfält, 2018; Pellegrinelli et al., 2007).

Members of the parent organization can play a significant and active role in strategic projects. Members include top managers, middle managers and experts of the diverse functional divisions, such as marketing, finance, engineering and sustainability departments, which are sometimes also the clients of these projects (Hobday, 2000). Top managers are conceptualized here as 'the inner circle of executives who collectively formulate, articulate, and execute the strategic and tactical moves of the organization' (Raes et al., 2011: 102). Support of top managers is perceived to be a critical success factor for strategic project success (Lehtonen & Martinsuo, 2009; Young & Jordan, 2008). Prior research showed that ghosting practices of top managers, being invisible after the start of a strategic project, negatively influence their outcomes (Balogun & Johnson, 2004; Van Marrewijk & Van den Ende, 2022). Boonstra (2013) wondered why the level of top management support is sometimes low with strategic projects and found managers often being pressurized into choosing between current organizational activities and new initiatives. Furthermore, middle managers, especially in large organizations, play a significant role in the implementation of organizational strategies (Van Marrewijk & Van den Ende, 2022). We conceptualize middle managers as the managers who operate directly below these top managers and above first-level supervisors, in both strategy formulation and implementation (Raes et al., 2011). They help to shape the strategic agenda by influencing which issues come to the attention of top management (Dutton et al., 2001; Rouleau, 2005). It has also been argued that middle managers may play a crucial role in strategic projects and programs, for example by communicating change visions and enhancing knowledge sharing (BenMahmoud-Jouini & Charue-Duboc, 2022). Particularly the role of middle managers in influencing strategy making and organizational change is typically deemphasized (Van Marrewijk & Van den Ende, 2022). Finally, members of the parent organization include experts and individuals providing integrative and supportive tasks, such as resource coordination, to support the needs of projects (Turner & Keegan, 2000) and co-ordinate business functions across projects (Hobday, 2000).

2.2. Practices enabling and disabling cross-project knowledge transfer

Cross-project knowledge transfer occurs when the knowledge acquired and created within one project is transferred to and used by another project (Newell & Edelman, 2008; Zhao et al., 2015). We understand knowledge here as including both explicit and tacit knowledge (Nonaka & Takeuchi, 1995). Explicit knowledge can be codified (in official documents and written lessons learned), whereas tacit

knowledge is linked to the action and commitment of individuals in a specific context. Six factors have been identified that influence the knowledge transfer process across projects (Zhao et al., 2015), including: 1) the characteristics of the transferred knowledge (Newell & Galliers, 2006), 2) the source and the recipient project team (Edmondson & Nembhard, 2009), 3) the relationship between the project teams (Choi et al., 2008), 4) infrastructural elements (Bresnen et al., 2003), 5) the way project work is organized (Biersteker & Marrewijk, 2023; Lewis, 2005) and 6) the external project environment including the organization and industry (Prado & Sapsed, 2016). Research has shown that knowledge transfer across projects is often not achieved (Prencipe & Tell, 2001; Scarbrough et al., 2004) which has been referred to as the tendency to re-invent the wheel (Prusak, 1997) or organization amnesia (Scarbrough et al., 2004). Multiple reasons for this phenomenon have been identified, including the high level of autonomy or isolation of projects (Willems et al., 2020), their temporary nature (Borgei & Magnusson, 2018; Davies et al., 2011), uniqueness (Crespin-Mazet et al., 2021; March, 1991), the limited time taken to reflect on projects (Brady & Davies, 2004; Williams, 2006), and their boundedness to particular actor constellations (Davies & Brady, 2000; Newell et al., 2004; Scarbrough et al., 2004).

Several formal and informal practices, performed by project actors, have been identified that can stimulate cross-project knowledge transfer. Formal practices are those implemented and promoted by the organization (Hobday, 2000) while informal practices those that emerge from the autonomy, motivation and agency of individuals (Sydow et al., 2004). The distinction between formal and informal practices has been made earlier by organization scholars (Martin, 2002) and project scholars (Bygalle et al., 2015; Mueller, 2015). For example, informal practices in contracting can oppose formal practices and thus causing conflicts in projects (Bygalle et al., 2015). Kostis et al. (2022) therefore claim that a closer focus on informal practices are needed to better execute projects. As summarized by Mahura and Birollo (2021), four formal knowledge transfer practices have been identified in the literature, including 1) producing and sharing official documents (Cacciatori et al., 2012; Prencipe & Tell, 2001), 2) sharing lessons learned (Newell & Galliers, 2006; Pemsel & Wiewiora, 2013; Prencipe & Tell, 2001), 3) using and producing project management written procedures (Boh, 2007; Pemsel & Wiewiora, 2013), and 4) participating in project management training (Pemsel & Wiewiora, 2013; Sundqvist, 2019). Although several of these formal practices are adopted in most organizations, project members often rely on informal practices to enable cross-project knowledge transfer (Mueller, 2015; Sydow et al., 2004; Terhorst et al., 2018). These informal knowledge transfer practices include: 1) exploiting personal networking (Bresnen et al., 2003; Pemsel & Müller, 2012; Terhorst et al., 2018), 2) mentoring and peer training sessions (Mueller, 2015; Pemsel & Müller, 2012), 3) participating in inter-project discussions, and 4) being involved in communities of practice (Boh, 2007; Duffield & Whitty, 2016).

Researchers have recently emphasized the importance of practices at the level of the parent organization for cross-project knowledge transfer (Bakker et al., 2011; Mahura & Birollo, 2021; Wiewiora et al., 2020). Mahura and Birollo (2021) identify several practices that can enable the cross-project knowledge transfer practices of project members, such as encouraging the use and production of official documents, creating project management tools, fostering participation in formal training, welcoming and facilitating informal interactions, and installing a culture of openness. However, the authors also identify several disabling practices that can distort the knowledge transfer practices of project members, such as prioritizing the transmission of information towards the upper-levels, avoiding the creation of centralized recordkeeping systems, ignoring project contexts when creating project management tools, not providing enough time for formal training, allowing high staff turnover rates, and generating a culture of silos, auto-censorship and conflict avoidance (Mahura & Birollo, 2021). Other studies also suggest that the practices of members of the parent organization may directly

influence cross-project knowledge transfer. For example, Wiewiora et al. (2020) indicate that middle manager leaders can invite individuals from other project teams with similar challenges to join project meetings. However, these individuals may also use their position of power to restrict learning flows, for instance by prioritizing project deliverables rather than engaging in learning processes, leading to learning discontinuities (Wiewiora et al., 2020).

To conclude, cross-project knowledge transfer is essential for strategic projects to enable coordination, the development of knowledge and ultimately achieve far-reaching strategic transformations (Artto et al., 2009; Beste & Klakegg, 2022). While there has been increased interest in the bi-directional relation between strategic projects and their parent organizations (Clegg et al., 2018; Lehtonen & Martinsuo, 2009; Martinsuo et al., 2022), the practices focused on in the literature have as main protagonist project and program members. Recent insights have highlighted the importance of formal and informal practices of internal experts, top and middle managers in partner organizations that can stimulate cross-project knowledge transfer (Mahura & Birollo, 2021; Wiewiora et al., 2020).

3. Method

The study explores which informal practices are adopted by members of the parent organization shaping the transfer of knowledge across strategic projects. Exploring informal practices ask for a qualitative, interpretative approach (Yanow & Schwartz-Shea, 2006). Qualitative research is well suited for studying sensitive topics such as informal practices, as it explores actors' sensemaking and interpretations (Yanow & Schwartz-Shea, 2006). This paper uses a case study approach (Martinsuo & Huemann, 2021; Yin, 2012) focussing on a single case embedded in a real-life context. We were thus able to delve into the practices of and relationships between members of the parent organization and projects (Eisenhardt & Graebner, 2007; Mahura & Birollo, 2021; Yin, 2012).

3.1. Case selection and description

The case focused on in this research was a strategic project, aiming to accelerate the transition to a circular construction sector, of a large municipality in the Netherlands with approximately 16.000 employees across various units and departments. This case was selected as the municipality is one of the frontrunners among public organizations in the Netherlands supporting the transition to a circular construction sector. The municipality has been involved in circular construction since 2015 and set ambitious circular targets, to use 50% less new materials by 2030 and become 100% circular by 2050. Furthermore, the characteristics of a large public organization, including its strong hierarchical structure and need to report externally, offer an interesting context for analyzing interactions between members of the parent organization and projects (Mahura & Birollo, 2021).

The selected strategic project was part of an innovation trajectory of € 14 million launched in 2019, which included multiple circular construction projects. The trajectory's aim was to gain knowledge and achieve the circular ambitions endorsed by top management through a program of innovation projects (Koch-Ørvad et al., 2019). This included knowledge about new techniques, such as circular measurement systems and timber constructions, and new practices, for example using a life-cycle approach and collaborating with partners. The program and involved projects were managed and executed by the project-based department, which is a separate organizational unit that strategically decides to adopt projects to manage its operations (Turner & Keegan, 2000). In project-based organizations, members of the parent organization include individuals that provide integrative and supportive tasks, such as resource coordination, to support the needs of projects (Turner & Keegan, 2000) and coordinate business functions across projects (e.g., technical, human and financial resources for projects) (Hobday, 2000).

The project-based department handles all construction projects of the municipality and has approximately 450 employees, including project managers, program managers, coordinators and facilitators. Members of the parent organization involved in the projects included 1) middle managers of the project-based department, 2) middle managers and experts, such as sustainability experts, of the other involved departments governing and supporting the projects, and 3) top managers of the organization, such as policy makers specifying the circular ambitions of the organization. In the beginning of 2021, the first phase of the innovation trajectory was evaluated and knowledge gained in the projects was captured in learning documents. In the second phase, new circular construction projects were identified for continuing the program of innovation projects. Knowledge from these second phase projects could be further developed in future projects in a potential third and fourth phase of the innovation trajectory. While the innovation trajectory was applauded by several employees, others also argued that too little was done to enable knowledge transfer across the projects.

We focused on one project in the second phase of the innovation trajectory in particular, referred to as the Hubs Project in this study. This project was both a receiver of knowledge, aiming to use and further develop insights from the projects in the first phase of the innovation trajectory, and a sender of knowledge, aiming to transfer knowledge to potential future projects. The Hubs project focused on the renovation, demolition and construction of several hubs for waste collection in the city, including offices and parking places for vehicles. The project was commissioned by the facilities department and the waste and materials department and executed by the project management department in collaboration with an engineering firm, architects, construction companies and several suppliers. The project started in December 2021 with the development of an initial design, while the construction work started in 2023. Multiple circular ambitions were included in the project, including for example the aim to further experiment with and optimize the reuse of materials, the use of a material inventory system and to explore the adoption of a lifecycle approach. Extra budget, 30% on top of the regular budget, was provided to achieve these ambitions. However, already during the early stages of the project difficulties were experienced with building on and further developing the knowledge from previous circular construction projects: *'it seems to fail, not because of our contractors, but because of a lot of things that happen internally in our organization, for example because departments are opposing it.'* (Project manager, interview #16).

3.2. Data collection

We adopted semi-structured interviews, observations and document analysis as data collection methods (see Table 1). This enabled us to triangulate data and address a wider set of information related to the topic in-depth, providing a stronger basis for theorization (Eisenhardt, 1989; Yin, 2012).

First, 21 in-depth semi-structured interviews were conducted allowing both members of the parent organization and program/project members to focus on points they considered relevant (Mantere, 2005). Respondents were chosen based on their involvement in the project, innovation trajectory and circular construction activities as well as based on the suggestions of other interviewees. The interviewees were asked about the adoption of circular construction in the organization and/or their projects, the formal innovation trajectory and the way they engaged with the (other) circular construction projects. Furthermore, we asked about the informal practices that could shape the transfer of knowledge across the circular construction projects. The interviews were conducted partly by the first author (9 interviews) and partly by master students (12 interviews), supervised by the second author. The face-to-face and online interviews were conducted, recorded and transcribed between February and May 2022 and lasted between 30 and 70 minutes. We tried to reduce the negative impact of online interviewing, which is limited access to body language and a loss of intimacy (Seitz,

Table 1

Data sources.

Method	Number & specifications	Length
In-depth interviews case organization	1. Sustainability/circularity expert #1 2. Sustainability/circularity expert #2 3. Top manager innovation trajectory #1 4. Top manager innovation trajectory #2 5. Middle manager – department A 6. Middle manager – department B 7. Middle manager – department C 8. Middle manager #1 9. Middle manager #2 10. Project manager #1 – 1 st phase innovation program 11. Project manager #2 – 1 st phase innovation program 12. Project manager #3 – 1 st phase innovation program 13. Project manager #4 – 2 nd phase innovation program 14. Project manager #5 – 2 nd phase innovation program 15. Project manager #6 – Hubs Project 16. Project manager #7 – Hubs Project 17. Project manager #8 – Hubs Project 18. Project manager #9 – Hubs Project 19. Project manager #10 – Hubs Project 20. Sustainability advisor engineer – Hubs Project 21. Project manager engineer – Hubs Project	30-70 minutes per interview: total 1010 minutes (+/- 17 hours)
Observations case organization	1. Project meetings, Hubs Project – 25x 2. Sustainability meetings, Hubs Project – 5x 3. Internal sustainability meetings – 5x	1-3 hours per meeting: total 50 hours; 73 pages of notes + 15 pages research diary 2-4 hours per meeting: total 14 hours; 32 pages of notes
Reflective sessions	1. Reflective session Hubs Project 2. Reflective session case organization 3. Reflective session diverse organizations	2-3 hours per session: total 7 hours; 22 pages of notes
Documents	1. Sustainability strategy - case organization 2. Circular strategy - case organization 3. Progress report circularity - case organization 4. Circular knowledge sharing documents - case organization (4x) 5. Project outline - Hubs Project 6. Project progress report – Hubs Project 7. Tender engineer – Hubs Project	6 – 150 pages per document: total 246 pages

2016), by slowing down and clarifying talk, being open to repeating answers and questions, and paying close attention to facial expressions (Seitz, 2016).

In order to collect in-depth insights on informal practices we tried to

gain direct experiential and observational access to the participants' world of meaning and their interactions (Jørgensen, 2003). To do so, observations were conducted in two areas by the first author. First, the first author observed 30 meetings of the Hubs Project between

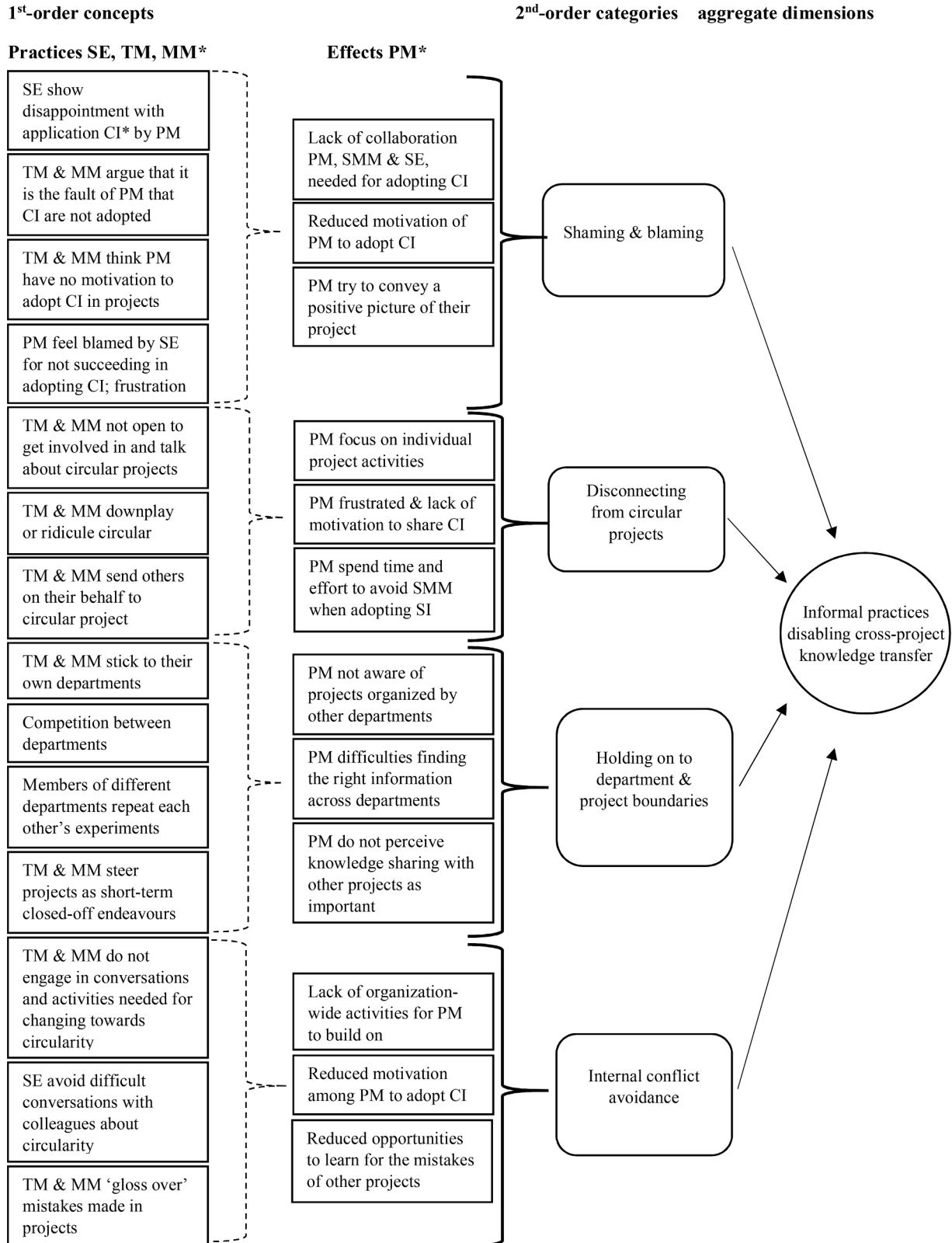


Fig. 1. Data structure.

*CI: circular insights; SE: sustainability experts; TM: top managers; MM: middle managers; PM: project managers

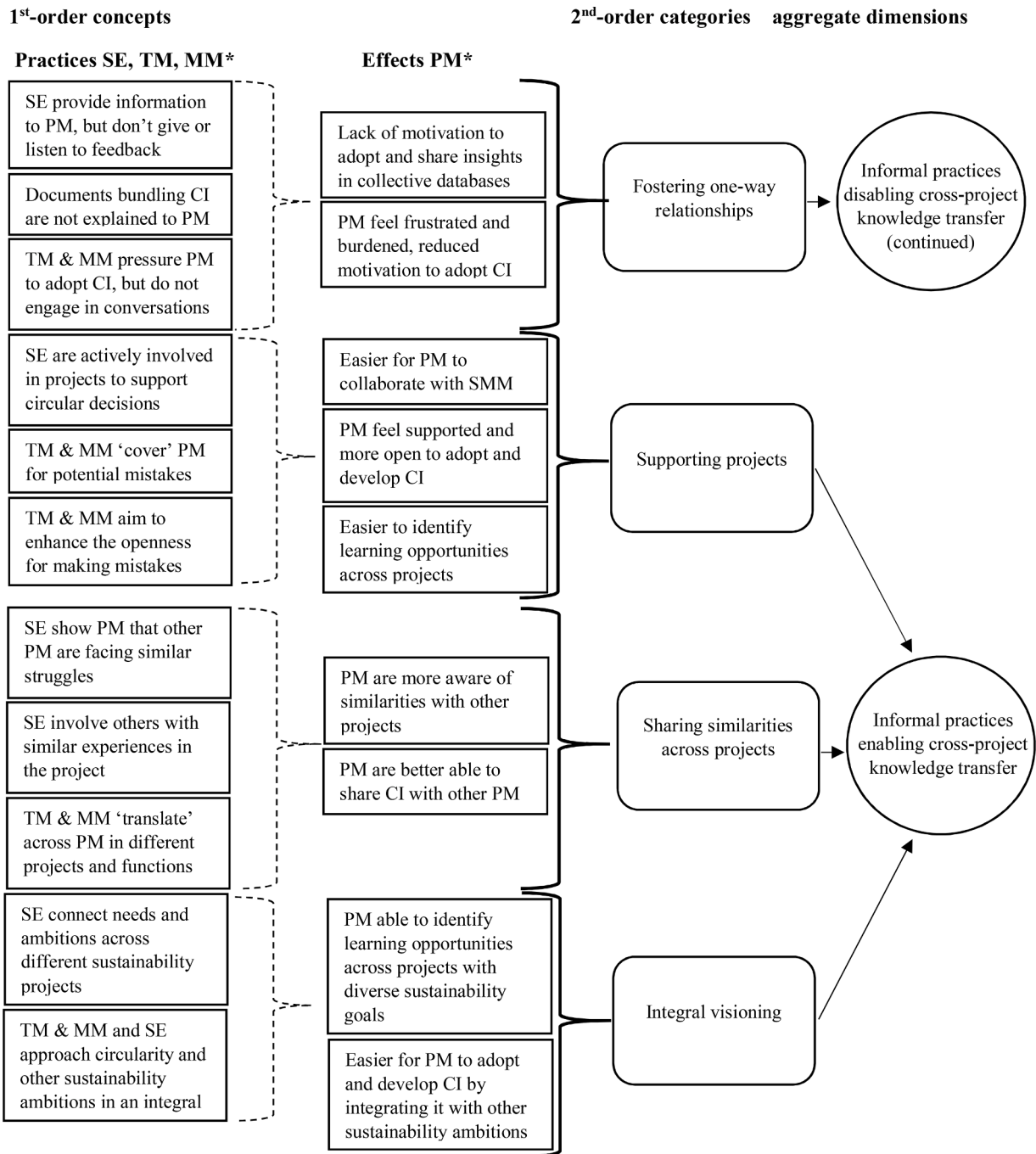


Fig. 1. (continued).

December 202 and December 2022 (see Table 1) of between 60 to 180 minutes in which the first author took extensive notes. Topics of observation were how knowledge from previous circular construction projects was informally used and how new knowledge was informally transferred. A second area of observations included five internal meetings on sustainable and circular construction within the organization between November 2021 and December 2022. These meetings were organised for employees to reflect on the adoption of sustainability and circularity in construction projects and the organization. The meetings lasted between 120 and 240 minutes in which the first author took notes.

At the end of the data collection stage, the first author organized

three sessions to reflect, together with the participants, on the results. In this way we aimed to achieve a reliable consensus among a selected panel of experts on the interpretation of the results (Sourani & Sohail, 2015). During these sessions we discussed how the results could be valuable for and used by the participants (Martinsuo & Huemann, 2021; Rapoport, 1970). The first author thus became a co-creator and co-learner with the practitioners (Rapoport, 1970). Therefore, we carefully reviewed the notes and insights from these sessions, which was in particular done by the second author who was not directly engaged in the reflective sessions. The reflective sessions lasted between 120 to 180 minutes per meeting where extensive notes were taken by the first

author and an involved PhD student.

Finally, several documents were analysed including: 1) documents on the sustainable and circular strategy of the case organization, 2) evaluation and progress reports, 3) documents for knowledge sharing and 4) several documents relating to the Hubs Project (including the project outline, progress reports and tender documents) (see Table 1). These documents provided a contextual understanding and allowed us

to create a frame from which to reflect on the observations and interviews.

3.3. Data analysis

To analyse the data, all materials, including the interviews, observations and archival data, were coded using a first and second order

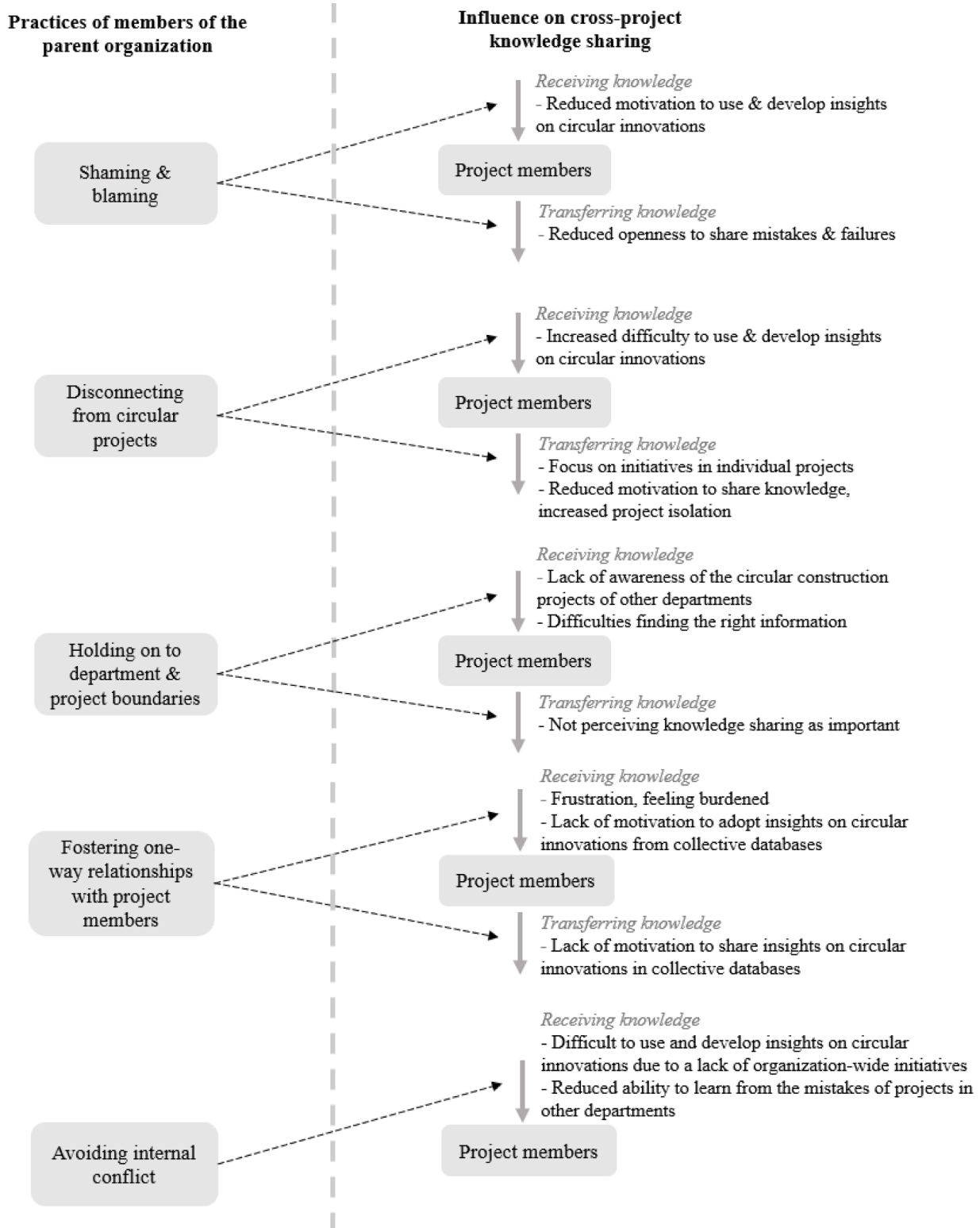


Fig. 2. Practices disabling the transfer of knowledge across circular construction projects.

coding methodology (Gioia et al., 2013) in Atlas.ti 9 (see data structure in Fig. 1). This enabled us to systematically analyse the data, providing rigour and offering room for the development of new concepts inductively, which was important due to the limited previous insights in the practices of members of the parent organization (Gioia et al., 2013). First, we carefully read all data and conducted text queries to search for keywords and phrases regarding the informal practices of members of the parent organization in relation to the strategic project and innovation trajectory. These informal practices were recurrent activities employed by top and middle managers and sustainability experts, emerging from their own autonomy, motivation, and agency (Sydow et al., 2004). We discounted for the more formal practices employed. Second, the researchers evaluated how the different identified practices shaped the transfer of knowledge across strategic projects. During this process different data sources, including interviews, observations and archival data, were used to validate the researchers' interpretations. After re-reading the interviews and other data sources, we gradually combined the original keywords and phrases into first-order codes, specifying the practices of members of the parent organization and their relation to cross-project knowledge transfer. Third, we combined the first-order codes into second-order categories, to create a coherent storyline that articulated our understanding of the informal practices adopted by members of the parent organization that shape knowledge transfer across strategic projects. We grouped together practices into categories that seemed to fit together based on their content and relation to cross-project knowledge transfer, resulting in eight categories. During this process, there was a continuous movement back and forth between the documents, questioning categorizations and adding new data to the categories under construction. Furthermore, this step involved discussing the emerging categories with the participants in the above-mentioned reflective sessions for validation purposes. Finally, we gathered the second-order categories into aggregate dimensions to focus the results, evaluating which practices could enable or disable knowledge transfer across projects. In order to do so, we reflected on our insights in light of previous literature on enabling and disabling practices related to cross-project knowledge transfer. This step also required us to go back to the data, to better understand the practices of members of the parent organization.

4. Results

4.1. Informal practices disabling knowledge transfer across projects

Five informal practices, adopted by members of the parent organization, were identified that could disable the transfer of knowledge across circular construction projects. These included: (1) shaming and blaming, (2) disconnecting, (3) holding onto the department and project boundaries, (4) fostering one-way relationships and (5) avoiding internal conflict. These five practices and their implications for the transfer of knowledge are performed by the different actors of the parent organization, being top management, middle management and sustainability experts. The actions are described below and summarized in Fig. 2.

4.1.1. Shaming and blaming project members

Members of the parent organization, in particular Top managers and sustainability experts, shamed project members for not sufficiently building on the knowledge from previous circular construction projects: *"I think that, well, I think that really with the implementation of circular we are all still lagging behind anyway"*. (Top manager, interview #4). These individuals showed their disappointment and negatively addressed the project team:

The atmosphere in the room is tense. The sustainability experts explicitly show that they are not pleased with the extent to which previous knowledge is implemented. Other people in the room seem

to get uncomfortable, looking at each other, shifting on their chairs, and becoming very silent. (Field notes #1, May 2022).

Sustainability experts engaged in these shaming practices because they thought project members did not want to use exploratory knowledge (i.e., the knowledge from the previous circular construction projects). Project members were also blamed by middle managers for not using exploratory knowledge, and knowledge about new practices in particular. For example, a middle manager argued: *'Decisions about not including the demolisher were made under the radar, I think on purpose because project managers think it is too difficult.'* (Middle manager, interview #6). Simultaneously, project members blamed members of the parent organization for their lack of ability to use exploratory knowledge, for example because middle managers only steered on planning and budget: *'Circularity is only one, and in their [middle managers] mind still an unimportant factor, which makes implementing these new ideas very hard.'* (Project meeting, November 2021). This resulted in mutual blaming, instead of collaboration, between project members and members of the parent organization.

Shaming and blaming disabled the transfer of knowledge across circular construction projects in two ways. First, due to shaming and blaming, project members became frustrated. Projects members argued that they lacked the needed support and collaboration from members of the parent organization: *'Looking at the construction process in a new way, adopting a life-cycle approach, requires their collaboration, the welfare and facilities department blame us, but they are the ones who block our efforts.'* (Project manager, interview #16). Several project members felt powerless and unable to use and further develop exploratory knowledge. This could lead to a reduced motivation and inability among project members to use exploratory knowledge. Second, because of shaming and blaming project members aimed to convey a positive picture about the use of circular innovations in their project: *'I have the feeling they [sustainability experts] are already unhappy with what we do, so please be as positive about our progress as possible.'* (Project meeting, October 2022). This reduced the opportunity for learning from the failures and mistakes of these projects.

4.1.2. Disconnecting from circular projects

Members of the parent organization, in particular top and middle managers, disconnected themselves from the studied circular construction projects in two ways. First, most managers did not feel knowledgeable about the circular economy and were therefore not always willing to talk about the circular construction projects and their implications: *'The middle managers keep refusing to meet me, they feel like they are not the 'right' person for it.'* (Research diary, December 2021). Instead, these managers suggested that others, such as project managers, should address these topics. Top management argued that this caused a lack of involvement of middle managers in the circular construction projects: *'The mentality among middle managers is really problematic: I don't have much knowledge about this, so I will not participate and send someone else.'* (Top Manager, interview #3). Top and middle managers themselves argued that this disconnection was mainly a result of the lack of priority of circular construction; *'Many management teams do not feel responsible for sustainability.'* (Top Manager, interview #4). Second, project members argued that some middle managers even downplayed or ridiculed the circular construction projects: *'They [middle managers] often frame these projects as our expensive toys.'* (Project manager, interview #10).

This disconnection could disable the transfer of knowledge across circular construction projects in two ways. First, project members avoided middle managers when adopting the knowledge from previous circular construction projects: *'He [middle manager] is not going to help us, he is not thinking about circularity, he will only delay the process, therefore I think we should not talk to him.'* (Project meeting, April 2022). This could complicate the use and development of exploratory knowledge as project members argued they had to find ways to circumvent these individuals. This furthermore led project members to develop

circular activities that were mostly relevant for their projects, for example a material inventory system limited to their individual project. Organizing broader initiatives, e.g., a general material inventory system that could be used by multiple projects, was perceived as difficult by project members as they expected that members of the parent organization would block their efforts. Second, the motivation of project members to share knowledge decreased because they were frustrated with the lack of involvement of middle managers: *'They [middle managers] won't do anything anyway. So, I rather keep it to myself.'* (Project manager, interview #13). This increased the isolation of the circular construction projects and reduced opportunities for knowledge transfer.

4.1.3. Holding onto to department and project boundaries

According to multiple respondents, middle managers did not collaborate with and learn from the circular construction projects of other departments. In addition, it was indicated by several respondents that members of the parent organization were sometimes unwilling to share insights across departments: *'We experience difficulties in sharing. Everyone likes to keep their topics and projects to themselves.'* (Sustainability expert, interview #2). This was related to the competition that was experienced among departments in the organization. It was also argued by top managers that project boundaries should be kept: *'I think there should be one person or a central place that is really concerned with it until it is really established.'* (Top Manager, interview #3). Top and middle managers would relate to projects as close-off endeavours, instead of seeing them as part of the larger transition.

These practices could disable the transfer of knowledge across circular construction projects in three ways. First, participants in the innovation trajectory were often not aware of the existence of circular construction projects of other departments and were not stimulated to engage with these projects. For example, several project managers felt they were left on their own as they had difficulties in applying the knowledge gained in other projects: *'Some project leaders let me know that they feel like they are muddling through alone.'* (Top Manager, interview #3). This could lead to duplication, where similar experiments were conducted by different departments: *'We all go and figure the same things out on our own.'* (Middle manager, interview #7). For example, there were two projects in which similar material inventory systems were developed in collaboration with different contracting partners. Second, exploratory knowledge got dispersed across departments in the organization, making it difficult for project members to find the right information: *'You really have to collect the knowledge from the different departments, it is all in different files and systems.'* (Project manager, interview #13). Third, because middle managers held on to project boundaries, project members also behaved accordingly: *'The department gave us the assignment to do a pilot project. And that is the way it was carried out, like it was just one project, with clear boundaries, and afterwards it is done.'* (Project manager, interview #13). Therefore, the transfer of knowledge from the project was often not perceived as crucial by project members.

4.1.4. Fostering one-way relationships with project members

According to several project actors, members of the parent organization did not engage in mutual conversations with them about exploratory knowledge. For example, project actors argued that the sustainability experts asked them to use and develop exploratory knowledge and report their outcomes, without giving them feedback. Furthermore, project members argued that the sustainability experts did not take enough time to explain documents bundling knowledge to them: *'When you have questions, it is often like, oh yes that is somewhere on the drive, just look it up.'* (Project manager, interview #17). This was also recognized by the sustainability experts themselves: *'We have limited time to engage in conversations about it [documents bundling knowledge].'* (Sustainability expert, interview #2). Top managers also fostered one-way relationships, stimulating project members to adopt exploratory knowledge without engaging in mutual conversations; *'The manager*

mentions the need to adopt and further develop the new technology, but quickly moves on to the next topic.' (Field notes #1, December 2021).

These practices could lead to frustration among project members, who had the feeling that top and middle managers and sustainability experts outsourced circularity to them: *'They burden us with it so that they can mark those things off their list.'* (Project manager, interview #19). Furthermore, project members became less motivated to share knowledge, because they had the feeling nothing would be done with their efforts. Some project members even lost their trust in the efforts of the sustainability experts to bundle knowledge. The efforts from the sustainability experts therefore became isolated from the project members: *'The sustainability experts, no, we don't work much with them, they are really a separate island.'* (Project manager, interview #13).

4.1.5. Avoiding internal conflict

The respondents indicated that members of the parent organization, in particular top and middle managers, sometimes avoided talking about difficult topics related to circularity with each other; *'If you talk about policy that is written now, the problem is that it is often too optional.'* (Top Manager, interview #4). It was acknowledged by several of the respondents that there was conflict avoidance among members of the parent organization: *'People are afraid to get the conflicts on the table, they avoid to talk about the fundamental things that we need to change in the organization.'* (Sustainability meeting, September 2022). For example, there was a substantial amount of critique from members in the parent organization on the circular strategy developed by the sustainability experts, however they were not willing to share these critiques: *'The problem is that the circular strategy is really vague, but you should not say that to the sustainability team.'* (Middle manager, interview #5).

Several members of the parent organization argued that conflict avoidance led to a lack of organization-wide initiatives for circularity. Project members argued that such initiatives were highly important for them to use and further develop knowledge on new circular practices: *'We cannot arrange everything inside the projects, we don't have the capacity there. It needs to be addressed structurally, centrally in the organization.'* (Project manager, interview #11). For example, project members argued that an organization-wide circular material bank was needed to enable them to design projects based on secondary materials. Some project members got frustrated and even lost their motivation to further develop exploratory knowledge as they argued that this was impossible without organization-wide initiatives. Conflict avoidance also caused members in the parent organization to be less open about the mistakes made in projects in their departments, thus reducing learning opportunities across projects: *'Things that go wrong in projects are glossed over because they [top & middle managers] don't want to engage in difficult discussions to solve them'* (middle manager, interview #8).

4.2. Informal practices enabling knowledge transfer across projects

Members of the parent organization could also enable the transfer of knowledge across circular construction projects. Three informal practices were identified that could enable this, including (1) supporting circular projects, (2) sharing similarities across projects and (3) integral visioning. These three practices and their implications for the transfer of knowledge are performed by the different actors of the parent organization, being top management, middle management and sustainability experts. These practices are outlined below and summarized in Fig. 3.

4.2.1. Supporting circular projects

Members of the parent organization could actively support project members in using and further developing knowledge from the previous circular construction projects. For example, sustainability experts argued that they could assist project members in making the 'circular' decisions by being actively involved in the projects. The respondents argued that this enabled the creation of new relationships between members of the parent organization and projects: *'We are creating a*

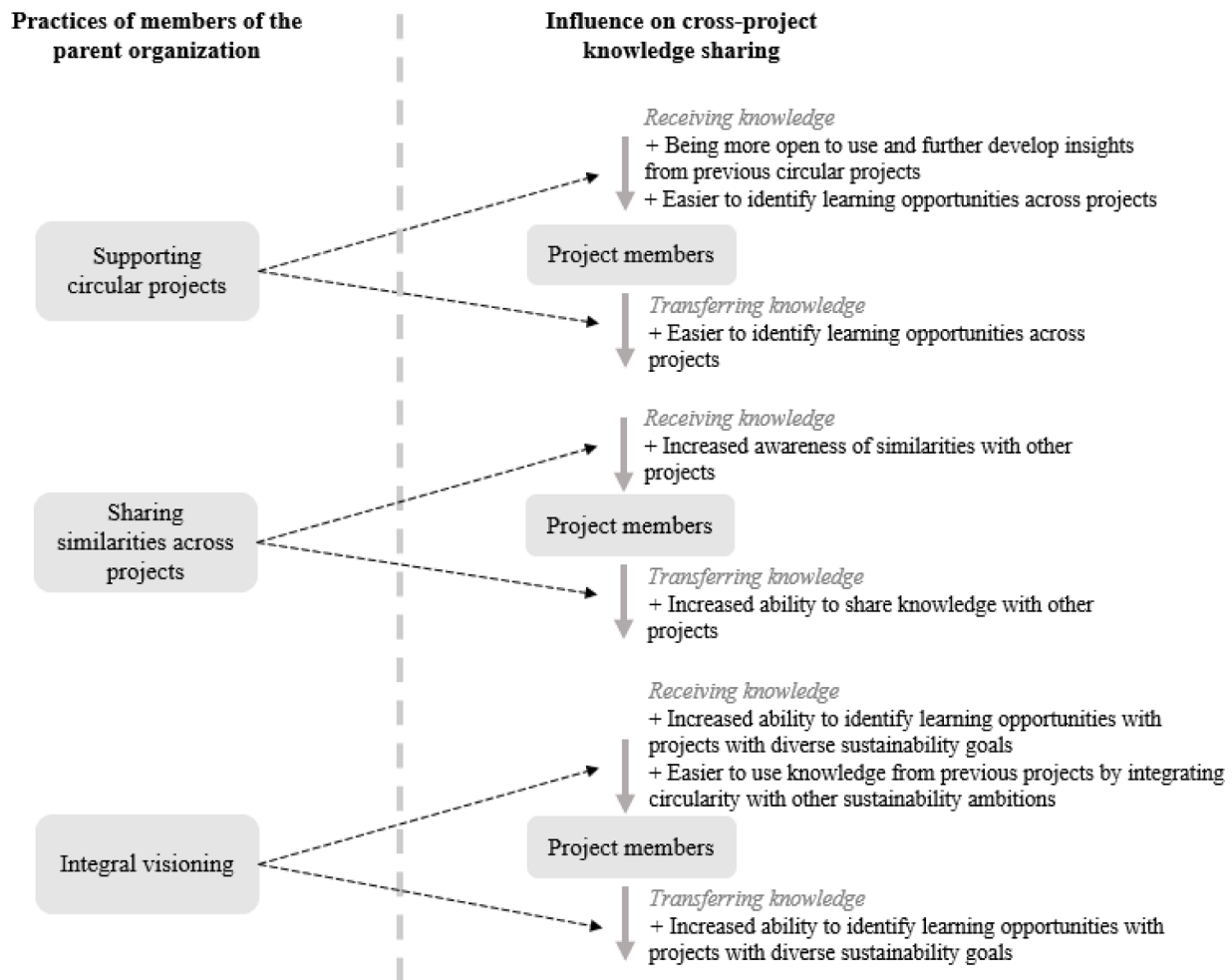


Fig. 3. Practices enabling the transfer of knowledge across circular construction projects.

different relationship with each other, where we are really involved in the team to help them and together achieve a higher quality project.' (Sustainability expert, interview #2). Furthermore, top and middle managers could enable project members to take the necessary risks for using and further developing exploratory knowledge by ensuring them that they could make mistakes.

Project members argued that the involvement of top and middle managers who were enthusiastic about circularity was important for their ability to use and further develop exploratory knowledge: 'You really need those people [middle managers] to cover you for the mistakes you are going to make and for the investments for learning we need to make.' (Project manager, interview #10). Furthermore, project members argued that these individuals could assist them in convincing other members of the parent organization that may obstruct the use of exploratory knowledge. Indeed; 'Initiating, facilitating, stimulating, those were the three core tasks we did. The program was intended to accelerate.' (Top Manager, interview #4). In addition, members of the parent organization, in particular sustainability experts, argued that they could more easily identify learning opportunities across projects by being more actively involved: 'If it [circularity] gets stranded, than we can also say, okay well, how can we bring this further in a different project?' (Sustainability expert, interview #2). However, it was also noted among members of the parent organization that they often had limited time to be actively involved in and support projects.

4.2.2. Sharing similarities across projects

Top managers helped project members by sharing the conceptualization of circularity; 'I notice that many people are on the same level

regarding what exactly is circular, how do you do it at all and what is it all about?' (Top Manager, interview #3). The sustainability experts argued that they could assist project members by making them aware of similar projects. In addition, these individuals argued that they could connect actors across projects: 'We can involve others that have worked on projects like this before, being the link between people in our organization.' (Sustainability expert, interview #1). For doing so, members of the parent organization made use of their personal networks and relations with experts in different parts of the organization. Furthermore, during meetings where actors from different projects came together, members of the parent organization played an important role by making project members aware of the similarities between them:

'It seems difficult for the different project members to understand each other, they do not talk about the same things and sometimes use a language that is too technical for other project actors to understand. The sustainability expert is supporting them by continuously asking the project members to reflect on how their projects are similar and translating insights for project members with less technical knowledge.' (Field notes #2, September 2022)

Project members argued that members of the parent organization could in this way help them to share their project outcomes: 'They can really help us in cross-fertilizing our insights across other projects.' (Project manager, interview #12). It was argued by the respondents that both managers and sustainability experts were in a good position to fulfil this task as they had a better overview of the organization.

4.3. Integral visioning

Multiple sustainability experts noted that they were approaching circularity in an integral way, focussing on similarities with other sustainability themes such as the energy transition and climate adaptation: *'We now look at circularity in an integral way ... addressing how different sustainability topics can enhance each other.'* (Sustainability expert, interview #2). Also top managers supported the integral visioning; *'The role I have played within that department, that is very necessary to put flesh on the bones of the policy you formulate.'* (Top Manager, interview #4). Respondents argued that taking this integral vision assisted them in showing members of different projects that their insights could complement each other. By conveying this integral vision, sustainability experts could thus enhance knowledge transfer opportunities across projects focussing on different sustainability themes: *'we focus a lot on materials. Now we see there is also a connection with the projects focused on the energy transition.'* (Project manager, interview #14). Furthermore, it could assist project members in using exploratory knowledge by connecting these insights to the, often-times broad array of, other sustainability ambitions in their projects. However, it was noted that this was still a complex task, as conflicts between different sustainability ambitions could be experienced: *'The problem is that the ambitions can be contradictory as well.'* (Reflective session #1). Finally, the integral vision assisted project members in convincing other members of the parent organization for the use of knowledge from previous circular projects in their project: *'The manager was holding off the adoption of circular insights, because she also had her hands full working on the energy transition. By looking at it integrally we were able to also get her enthusiastic.'* (Project manager, interview #15).

5. Discussion

This study explored how informal practices of members of the parent organization shape the transfer of knowledge across strategic projects. Through an in-depth case study of a strategic project in an innovation trajectory, including multiple circular construction projects, we found that strategic projects are like tied islands connected to the main land. Organizational members transfer knowledge from the project across the small strip of land to the parent organization. We identified several practices enabling and disabling the transfer of knowledge. The disabling practices were: (1) shaming and blaming, (2) disconnecting, (3) holding onto the department and project boundaries, (4) fostering one-way relationships and (5) avoiding internal conflict. The enabling practices were: (1) supporting circular projects, (2) sharing similarities across projects and (3) integral visioning. Our findings contribute to two academic debates, which will be discussed below.

5.1. Members of the parent organization shaping the transfer and use of knowledge

First, our findings contribute to literature on cross-project knowledge transfer (Almeida & Soares, 2014; Boh, 2007; Bresnen et al., 2003; Mahura & Birollo, 2021; Mueller, 2015; Terhorst et al., 2018; Wiewiora et al., 2020) by highlighting how the practices of members of the parent organization shape the motivation and ability of both the sending and the receiving project team to transfer and use knowledge. In line with Mahura and Birollo (2021), our results show that practices at the level of the parent organization, such as holding onto to department boundaries and avoiding conflict, can disable knowledge transfer across projects. Furthermore, similar to Wiewiora et al. (2020), our results highlight that members of the parent organization can play a beneficial role in the knowledge transfer process by using personal networks and connecting actors across projects. Our study adds to this literature, which has mainly focused on the knowledge transfer practices of the sending project team (Cacciatori et al., 2012; Mahura & Birollo, 2021; Prencipe & Tell, 2001), by showing that the practices of members of the parent

organization can also enable and disable the motivation and ability of the receiving project team to use knowledge. Intentions and practices for knowledge transfer may therefore not be sufficient to prevent the re-inventing the wheel (Prusak, 1997) or to reduce organization amnesia (Scarbrough et al., 2004) as members of the parent organization may reduce the motivation and ability of subsequent projects to use this knowledge.

Our findings also provide additional insights in the importance of informal practices. Even when formal practices, such as producing and sharing official documents, are adopted by project actors (Cacciatori et al., 2012) and supported by members of the parent organization (Mahura & Birollo, 2021), knowledge transfer may not occur. This may be due to the informal practices and day-to-day acts of members of the parent organization. For example, our findings showed that when experts in the parent organization fostered one-way relationships with project members, official documents may become isolated and not consulted by members of new projects. Furthermore, our research highlights that practices at the level of the parent organization influencing knowledge transfer are not performed by a homogenous group of actors, which is sometimes implied in previous research (Mahura & Birollo, 2021). Instead, we show that this group includes actors in different positions such as sustainability experts, middle managers in supporting/governing functional divisions, and top managers. These actors adopt diverse practices and qualities to enable knowledge transfer. For example, in our study middle managers mostly disabled knowledge transfer by holding onto to department and project boundaries. In another example, sustainability experts used their knowledge of other projects and sustainability themes to identify knowledge sharing opportunities and thus reducing organization amnesia.

5.2. Illuminating the role of members of the parent organization in strategic projects

Second, the results of this study contribute to the literature on strategic projects, and in particular to the recent debate on the dynamic bi-directional relation between these projects and their parent organizations (Beste & Klakegg, 2022; Bos-de Vos et al., 2022; Clegg et al., 2018; Martinsuo & Hoverfält, 2018; Martinsuo et al., 2022) by further illuminating the important role of members of the parent organization in this relation. In strategic project literature the focus has been on practices of project and program members, such as the isolation practices (Willems et al., 2020) and boundary activities (Lehtonen & Martinsuo, 2009; Vuorinen & Martinsuo, 2018). Studies have started to highlight the importance of practices of members of the parent organization, such as ghosting practices (Van Marrewijk & Van den Ende, 2022) and ensuring program-organization fit (BenMahmoud-Jouini & Charue-Duboc, 2022). We contribute to this research by further illuminating the role and informal practices of members of project-based organization in strategic projects. For example, our findings highlight that the isolation of strategic projects from their parent organizations may not only be caused by the practices of project and program members (Lehtonen & Martinsuo, 2008, 2009; Willems et al., 2020), but also by sustainability experts, top and middle managers who disconnect from strategic projects and foster one-way relationships with project members. This can occur through accidental or passive neglect, as members of the project-based organization are often occupied with other priorities, but also purposefully, revealing the strategic role of members of the parent organization in strategic projects. On the other hand, our results also highlighted that top and middle managers and experts can assist in strengthening the relation between strategic projects and their parent organizations (Bos-de Vos et al., 2022; Martinsuo & Hoverfält, 2018; Martinsuo et al., 2022), by using their larger overview of the organization and highlighting similarities with other projects and topics.

Our study confirms the vulnerability of the dynamic bi-directional relation between strategic projects and their parent organizations. We already know that this relation is important for successful strategic

projects (Clegg et al., 2018) as their outcomes need to be learned from, adapted, and embedded in organizational and interorganizational context (Martinsuo et al., 2019; Nisula et al., 2022). In addition, our findings show that members of parent organisation can isolate radical innovative projects from being embedded. Therefore, strategic projects require reflection on informal practices of both members of projects/programs as well parent organizations to develop and maintain the vulnerable connection and make such project successful.

5.3. Connecting strategic projects to sustainable transitions

The findings of our study are also of crucial importance in the recent debate on connecting projects to sustainability transitions (Gasparro et al., 2022; Ika & Munro, 2022; Locatelli et al., 2023). Transitions are understood as fundamental transformation processes through which established socio-technical systems shift to more sustainable modes of production and consumption (Markard et al., 2012). By functioning as spaces for experimentation with new ways to meet societal needs, such as the need for energy, housing and mobility, strategic projects can drive organizational and institutional change and accelerate the transition towards sustainability (Daniel, 2022; Munck af Rosenschöld, 2019; Sengers et al., 2019). Transferring knowledge across projects is particularly challenging in the context of sustainability transitions as projects in this context are expected to produce knowledge that contests business as usual by shifting expectations, habits and routines through a process of deepening (Hofman et al., 2021; Loorbach & Rotmans, 2006; Moore et al., 2015; Van den Bosch & Rotmans, 2008). Our findings show that members of parent organizations, who are embedded in processes that maintain the unsustainable construction system, may show resistance to and obstruct the flow of knowledge across projects (Ford & Newell, 2021; Lang & Mohnen, 2019; Wiewiora et al., 2020). Circular construction projects can enable actors in the construction sector to experiment with new circular innovations and achieve the fundamental transformations in organizational practices and routines that are necessary to accelerate the circular construction transition (Charef & Lu, 2021; Leising et al., 2018). However, strategic projects often remain isolated events, and their outcomes do not have an effect on the participating organizations and unsustainable socio-technical system (Hoogma et al., 2002; Nylén, 2021). Therefore, attention for informal practices are crucial for understanding the connection of projects and sustainable transformation (Eikelenboom & van Marrewijk, 2023).

6. Conclusion

This study answered the question of which informal practices are adopted by members of the parent organization that shape knowledge transfer across strategic circular construction projects. The found practices contribute to the debate on cross-project knowledge transfer (Almeida & Soares, 2014; Bresnen et al., 2003; Wiewiora et al., 2020). This debate has mainly focused on knowledge transfer practices of the sending project team (Cacciatori et al., 2012; Mahura & Birollo, 2021; Prencipe & Tell, 2001). Our study however, reveals how informal practices of parent organization's members reduce the ability of project teams to share their knowledge and the motivation and ability of other project teams to adopt and use this knowledge. The study also add to the literature on strategic projects (Beste & Klakegg, 2022; Bos-de Vos et al., 2022; Martinsuo et al., 2022), by showing how informal practices of parent organization's members are important in the knowledge flow across projects. Finally, the study support our understanding of the connection of projects to sustainability transition (Gasparro et al., 2022; Ika & Munro, 2022) showing how informal practices hinder a transition to circular construction.

6.1. Practical implications

The results of this study provide relevant insights for practice by

emphasizing the importance of embedding strategic projects, which aim to initiate change and add to sustainability transitions, in the parent organization. Construction and infrastructure projects are increasingly being executed as multi-project trajectories or programs, in which public clients and private contractors emphasize learning in each project to enhance efficiency and sustainable outcomes in future projects (Eikelenboom & van Marrewijk, 2023; Ghaffar et al., 2020). However, the results of this study revealed that only emphasizing learning in the project is not sufficient to enable knowledge transfer outside of the boundaries of the project. Members of the parent organization, including experts, top and middle managers, may obstruct this process for example by holding onto to project boundaries and avoiding internal conflict. It is thus important that members of the parent organization are involved in strategic projects and realize that strategic projects have wider implications, requiring changes in their practices as well. This can for example be achieved by engaging members of the parent organization in reflection sessions during and after projects (Eikelenboom & van Marrewijk, 2023), reflecting on the changes that are needed in the parent organization to enable the transfer and further development of project outcomes and constructing integral visions. Furthermore, members of the parent organization can be given a strategic role in the knowledge transfer process, for example by becoming 'mentors' of strategic projects, supporting these projects and identifying similarities with other projects and programs in the organization. With these insights we hope that in the future members of the parent organization will be more engaged in knowledge transfer across strategic projects.

6.2. Limitations and future research

While this study offers useful insights, several limitations and questions remain, pointing to areas for future research. First, we focused in this research on a single in-depth case of a public organization, which can limit the transferability of our results. For example, the context of a public organization, including an often rigid parent organization and strong need to report to external stakeholders, can impact knowledge transfer practices (Mahura & Birollo, 2021). Future research is therefore needed to explore different cases, contexts and types of organizations to evaluate potential differences, for instance in organization size and the level of bureaucracy. However, in line with the suggestions and finding of others (Van Marrewijk & Van den Ende, 2022; Willems et al., 2020), we expect that private-sector strategic projects are also subject to the practices of members of the parent organization. Second, we focused in this research on an ongoing strategic project, enabling us to explore and observe the practices adopted by members of the parent organization. Future studies are needed to offer more longitudinal perspectives on knowledge transfer and explore their long-term impact on the success and contribution of strategic projects and programs to, for example, sustainability transitions (Winch et al., 2023). Third, we focused on cross-project knowledge transfer in this study. Next to knowledge transfer across projects it is also of crucial importance that the knowledge from strategic projects is transferred to and embedded in the parent organization (Beste & Klakegg, 2022; Bos-de Vos et al., 2022; Daniel, 2022; Martinsuo et al., 2022). While our results offered some insights into this process, future research is needed to further investigate this, for example by investigating multi-level learning loops (Wiewiora et al., 2020). Furthermore, an interesting area of study could be to further unpack the isolation practices adopted by members of the parent organization. Third, future research is needed to further explore interactions and power-dynamics between members of the parent organization, programs and projects. Our results highlighted that such power dynamics may have an influence on knowledge transfer. Future studies can analyse such power-dynamics in further detail, including for example how they may be shifted to enable sustainability transitions.

CRediT authorship contribution statement

Manon Eikelenboom: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft. **Alfons van Marrewijk:** Funding acquisition, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing.

Declaration of competing interest

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