The current issue and full text archive of this journal is available on Emerald Insight at:
https://www.emerald.com/insight/2040-8269.htm

Management
Research Review

Agility in virtual environments: the socio-technical approach of distributed agile teams

Giorgia Masili
Department of Economics, University Roma Tre, Rome, Italy

Daniele Binci, Corrado Cerruti and Andrea Appolloni
Department of Management and Law,
University of Rome Tor Vergata, Rome, Italy, and

Luca Giraldi
Department of Economics and Law, University of Macerata, Macerata, Italy

Received 21 March 2023
Revised 21 August 2023
11 May 2024
Accepted 22 July 2024

Abstract

Purpose – This study aims to understand how distributed agile teams (DATs), encouraged by globalisation, and recently accelerated by the COVID-19 outbreak, adopt agile practices to achieve project goals by working virtually.

Design/methodology/approach – This study developed a multiple-case study involving four companies undergoing several changes, especially during the COVID-19 pandemic. The authors collected data mainly through in-depth, face-to-face interviews with seven key informants. Moreover, this study operates data triangulation by referring to secondary data sources and developing a grounded theory data analysis.

Findings – The findings highlight three main categories associated with the DAT functioning, namely, "DATs' implementation issues", "elements supporting DATs' implementation" and "outcomes of DATs' implementation", that show DATs' primary triggers, critical aspects and supportive actions for team functioning.

Research limitations/implications – This paper produced valuable theoretical knowledge of DATs' dynamics within a socio-technical approach that distinguishes soft and hard variables supporting DAT implementation. Moreover, the evidence provides useful suggestions for managers about creating an objective-oriented virtual work environment based on DATs' self-organisation, digitally shared leadership and occasional on-site socialisation.

Originality/value – This paper provides new and interesting insights that bring to evidence the main variables related to DATs' adoption and dynamics, showing supporting activities that enhanced their operativity. It provides a valuable descriptive framework for academics and practitioners to understand DATs' functioning better and take action to improve their implementation.

Keywords Distributed teams, Agile practices, Virtual collaboration, Team management, Multiple-case study, Grounded theory

Paper type Research paper

© Giorgia Masili, Daniele Binci, Corrado Cerruti, Andrea Appolloni and Luca Giraldi. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at http://creativecommons.org/licences/by/4.0/legalcode

Management Research Review
Vol. 47 No. 13, 2024
pp. 69-86
Emerald Publishing Limited
2040-8269
DOI 10.1108/MRR-03-2023-0219

1. Introduction

The firms' need for innovation in new products, solutions, managerial tools and methods has never been more significant today because of the pressure of the dynamic environment and the market's rapid evolution, which are transforming and innovating project management and related teams' dynamics.

The agile culture is defined as a set of values and principles based on "consultation, participation, empowerment, consensus and compromises" and powerful factors such as "accommodation of volatile requirements, focus on collaboration between developers and customers, and support of early product delivery" by involving team members in a democratic and flexible organisation (Siakas and Siakas, 2007, page 607).

Most companies choose agile management to develop their projects as it helps them to face the turbulence of the environment by reducing the life cycle of the innovation process. Agile management is an approach based on short development iterations and daily meetings to encourage knowledge sharing, deliver successful products (Chau and Maurer, 2004) and achieve better performance in terms of cost, quality and time (Conforto *et al.*, 2014). It involves specific methodologies to support teams in delivering high-quality software, contrasting with the traditional waterfall approach (Ciric Lalic *et al.*, 2022) that, conversely, uses a linear and sequential development process in which each phase of a project must be completed before moving to the next (Aroral, 2021).

Over the years, the environmental dynamism triggered by globalisation and digital transformation has encouraged companies to develop innovative ways of organising teams, such as their geographical distribution, which consists of coordinating teams dispersed in different locations adopting digital technologies (Garro-Abarca *et al.*, 2021; Sharp *et al.*, 2012). Geographical dispersion implies managing employees nationally and internationally (Vecchi *et al.*, 2021) by increasing the adoption of technologies that make digital collaboration possible, even at long distances (Bellis *et al.*, 2022).

Recently, the COVID-19 pandemic caused an acceleration in the adoption of digital technologies because of the impossibility of workers meeting on-site, forcing companies' team members to work virtually (Klonek *et al.*, 2022). Therefore, agile companies that used to have co-located teams experimented with virtual teamwork and were forced to find solutions to maintain continuity in the business, helping employees face the pandemic's challenges (Vecchi *et al.*, 2021).

Accordingly, our study aims to understand DAT's characteristics and variables, whose relevance in the current business environment is because of their theoretical conceptualisation (Ciric Lalic *et al.*, 2022). Indeed, DATs are conceived to perform with the benefits of agile teams, in which flexibility and results are focused on high performance, together with the benefits of virtual teams that overcome the physical limits of remote working. Notably, these characteristics are aligned with the "new normal" post-pandemic needs in which flexibility, virtuality and result orientation should be integrated to make companies resilient to potential new crises.

Therefore, we want to answer the following research questions on implementing agile practices by considering team members' perspectives: *What are the main socio-technical variables that enable and limit DATs from the team members' perspective? What are the main interventions supporting DATs' implementation? How do DATs implement these interventions to deal with issues that limit their functioning?*

To answer the questions, we investigate DATs with team members working in different locations inside the same country and abroad (Sharp *et al.*, 2012). We adopt a multiple-case study approach (Yin, 2018) based on small, born-virtual companies and large ones to

understand DATs' dynamics better, contributing to the managerial literature and providing guidelines to practitioners.

The paper is structured as follows. Section 2 investigates the gaps regarding DATs' effectiveness, notably the socio-technical variables that affect their implementation, including the role of digital tools in supporting their virtual approach. Section 3 describes the multiple-case study developed through the adoption of the semi-structured interview to explore the research gap and the adoption of the grounded theory implemented for data analysis. Then, Section 4 shows the main results of the analysis: the DATs' implementation issues, the drivers supporting DATs and their outcomes. Section 5 highlights the main problems related to DATs' implementation, showing similarities and differences between companies and underlining their primary triggers and critical aspects. Then, Section 6 show the need to consider DATs a sociotechnical phenomenon and the practical ones for DATs' effective adoption. Limits in sample size and qualitative perspective of DATs' functioning are underlined, and suggestions for future research directions are provided. Finally, conclusions are reported in Section 7.

2. Literature review

2.1 The contextualisation of distributed agile teams

Agile methodologies have been increasingly adopted in the innovation management field as they "work very well in highly dynamic business and IT environment as they help the team to respond to change and continuously deliver business value" (Shrivastava and Rathod, 2015, p. 374). They are iterative, based on close collaboration and self-organisation between team members (Sharp *et al.*, 2012), as well as customer inclusion in the process of project development. The agile approach is flexible and non-linear, and it has been considered more efficient when implemented inside dedicated workspaces where small co-located teams work together (Ghani *et al.*, 2019).

Co-location represents one of the successful principles of the agile approach, as it promotes informal face-to-face communication, simplifying problem-solving and accelerating the decision-making process (Comella-Dorda *et al.*, 2020; Ghani *et al.*, 2019) and nurtures trust and cohesion among team members, allowing their cooperation and improving performance (Gregory *et al.*, 2022). However, agile companies more frequently decide to geographically distribute their teams to find new resources worldwide (Rizvi *et al.*, 2015) by accessing new and larger talent pools and relocating employees to lower-cost countries (Ghani *et al.*, 2019).

The geographical distribution of teams has been possible thanks to the development of new digital technologies that facilitate teams' virtualisation (Gallego *et al.*, 2021), encouraging agile companies to form teams "working together to accomplish project goals from different geographic locations" (Alzoubi *et al.*, 2016, p. 22). Such teams are identified as distributed agile teams (DATs), as they integrate two dimensions: a high level of agility (Troise *et al.*, 2022) and a high level of virtuality, defined as "geographic dispersion and technological dependence in work-related interactions among employees" (Klonek *et al.*, 2022, p. 186). They are the result of mixing the geographic distribution of teams, which operate according to virtual practices and procedures, with the agile culture implemented in a co-located workspace (Ciric Lalic *et al.*, 2022).

2.2 Challenges and open issues of distributed agile teams

By adopting DATs, companies can rely more on the virtual collaboration of team members, favouring the reduction of physical headquarters, production costs and time to market while increasing project quality and performance (Matalonga *et al.*, 2013).

DATs' functioning depends on different aspects, such as culture, time, knowledge and experiences, that trigger challenges related to communication, coordination, cooperation, collaboration and control (Alzoubi and Gill, 2021; Ghani *et al.*, 2019), which reduce cohesion and increase inefficiency (Comella-Dorda *et al.*, 2020). These mechanisms strongly impact the team's dynamics by threatening the team's life cycle and socialisation process, causing, for instance, barriers to trust development and the absence of team spirit (Šmite *et al.*, 2021), especially when teams are distributed worldwide and have "to rely heavily on electronic technology" (Klonek *et al.*, 2022, p. 187). Accordingly, the benefits of agile teams' co-location, such as face-to-face communication among members (Matalonga *et al.*, 2013; Ghani *et al.*, 2019), prompt feedback and updates (Sharp *et al.*, 2012; Rizvi *et al.*, 2015), mutual awareness, self-organisation, retrospectives (Shrivastava and Rathod, 2015) and frequent delivery of working software (Sharp *et al.*, 2012), could be harmed by distributing agile teams.

Recently, the adoption of virtual teams has been accelerated by the COVID-19 emergency (Tavoletti and Taras, 2023). Virtual Teams can be defined as "work arrangements where team members are geographically dispersed, have limited face-to-face contact, and work interdependently through the use of electronic communication media to achieve common goals" (Dulebohn and Hoch, 2017, page 569). Accordingly, agile co-located teams started collaborating in a virtual environment by adopting digital tools to contrast the effects of the physical distance that negatively impact their dynamics (Ghani *et al.*, 2019).

On the one hand, the pandemic has enabled the removal of geographical limits favouring offshoring and outsourcing processes, enhancing the progress of virtual collaboration in agile teams (Klonek *et al.*, 2022; Garro-Abarca *et al.*, 2021). For instance, Klonek *et al.* (2022) focus on the event's effect on teams' behavioural changes, discovering that, during the post-transition phase, virtual teams adapt their behaviour to the new condition by working more effectively in the virtual environment. In addition, Garro-Abarca *et al.* (2021) analysed the performance of agile software teams adopting a virtual approach. They identify communication, trust, leadership, empowerment and cohesion as determinants that affect it and suggest guidelines for developing post-pandemic virtual work strategies. On the other hand, the pandemic has also brought out different issues mainly related to the work–life balance, the performance of agile work practices, adoption of communication and collaboration virtual tools, the process of forming teams, team satisfaction, knowledge sharing and effective coordination (Wong and Van Gils, 2022; Garro-Abarca *et al.*, 2021).

A part of the literature suggests that relying on DATs can support better-quality product development and flexible and innovative solutions to achieve companies' business needs (Shrivastava and Rathod, 2015) by implementing innovative practices and tools to reduce the impact of physical distance, improve communication (Ghani *et al.*, 2019) and lower coordination and control issues (Sharp *et al.*, 2012). However, the combination of agility and teams' distributions brings evidence of the contrasting effects deriving from shifting from co-location to different levels of virtuality.

The broad range of DATs' results identified in the literature mainly focused on software companies and multiple teams distributed worldwide (Alzoubi and Gill, 2021). Less has been observed about teams with members dispersed across several sites within the same country (Sharp *et al.*, 2012).

Moreover, communication issues are the main aspects affected by teams' distribution (Gallego *et al.*, 2021; Ghani *et al.*, 2019). For this reason, they are the main variable analysed by researchers. Nevertheless, as underlined by Alzoubi and Gill (2021), the solutions to these challenges have been insufficient and still need to be improved.

In addition, some studies suggest agile practices, such as Scrum, as suitable for lowering teams' communication, coordination and control problems (Cucolaş and Russo, 2023).

The literature analysed suggests a fragmented view of DATs' functioning, suggesting that there is space to explore methods and working practices that can solve the problems related to implementing agile teams' distribution, enabling DATs' implementation. These aspects encourage us to explore the main issues and variables that companies deal with to form and support their DATs, increasing researchers' awareness about such a relevant topic and giving guidelines to practitioners on how to take action to improve DATs' implementation.

3. Research methodology

Given the lack of empirical focus on DATs and the idea of exploring behaviour and experiences (Creswell and Creswell, 2018), we chose exploratory research by developing a qualitative approach based on a multiple-case study (Saunders *et al.*, 2019).

3.1 Case-based research design

Case-based research enables the investigation of a contemporary phenomenon, compelling evidence and the overall robustness of results (Yin, 2018) to capture the richness and complex details of the phenomenon under investigation (Lindgreen *et al.*, 2021).

The case selection process followed the principle of purposive sampling (Etikan *et al.*, 2016), involving two young companies (A and B) and two well-established companies (C and D) located in different regions of Italy and belonging to different sectors (e.g. public services, software development). To be eligible as a selected case unit, each company had to have DATs.

To ensure data triangulation (Yin, 2018) and the validity of our findings, we collected data through a combination of semi-structured interviews (primary data), internal reports and documents provided by the interviewees, as well as articles and papers retrieved online and from companies' websites and professional social networks (secondary data).

Semi-structured interviews were explicitly designed to link the research question to the objectives of the analysis (Yeong *et al.*, 2018). The semi-structured interview track was developed following a specific protocol built and reviewed by the authors, who also collected consultants' feedback as experts on DAT management, making the interview more focused and effective. To increase the information power of our data, we selected a sample of interviewees through the purposive sampling strategy (Etikan *et al.*, 2016). More in detail, according to the theoretical setting of the research and the suggestions of the agile consultants, we identified a specific and relevant sample with adequate information power (Malterud *et al.*, 2016) composed of seven informants (see Table 1). The sample reflects the interviewees' role, knowledge and expertise in agile practices as part of DATs, assuring a detailed description of the relevant aspects of our research aim (Yin, 2018).

The interviews were conducted online over six months, ranging from 55 to 90 min. Each interview was digitally recorded and transcribed. The transcripts were checked against the recordings to allow for high-quality data analysis, making it possible to have a detailed description of the DATs. In total, we collected 30 pages of transcripts. At the end of the transcription, we sent each final report to the interviewees for a validity check, receiving a few comments that helped us to refine the report.

3.2 Data analysis

Data analysis was conducted using the NVivo computer-assisted tool for qualitative data. Data coding was carried out separately for each source, collected by two authors and then discussed among the other researchers. All researchers supported the analysis activities, and

Table 1. Companies and key informants' characteristics

Company	Number of employees	Core Business	Key informants: Interviewees role	Key informants: Business area
Company A	10–40	Software house for digital services	CEO – Country Manager	Strategy and Business Development
Company B	From 10 to 40 employees	Instalment payment on e-commerce	Tech Lead – Lean Software Developer	Software Development
Company C	More than 500	Multi-utility company	(1) Chief Product Owner (2) Chief Operating Officer – Scrum Master	Business Process Improvement
Company D	More than 500	Telecommunication	(1) Senior Project Manager (2) Product Manager (3) Senior Analyst	Project Management

Source: Authors' own work

regular meetings were convened to discuss and contextualise emerging interpretations, introducing a wide range of content perspectives.

The coding system was developed individually and through team meetings and discussions. The initial coding was generated inductively, while for the focused coding, we selected a set of central codes that we evaluated as the most prevalent and important for theory development. Finally, for the theoretical coding process, we refined and related the categories within the model.

Similarly to Guest *et al.* (2006), we reached data saturation after six interviews by evaluating the codebook stabilisation with the seventh interview. The opportunity to contact participants after the interviews to clarify the concepts and to conduct more interviews contributed to the refinement of theoretical concepts, thus forming part of the theoretical sampling. The constant comparative method enabled the analysis to produce a model in which more abstract concepts were related, and a social process was explained.

4. Multiple-case study evidence and results

The evidence collected from the multiple case studies highlights how the DATs operate by showing similarities and differences in their work approach. These dynamics are represented in Figure 1, which represents the dynamics of DAT functioning, indicating the issues identified during DATs' implementation, the elements adopted by companies to contrast issues and support DATs' operativity and the outcomes deriving from DATs' implementation.

4.1 Distributed agile teams' implementation issues

4.1.1 Drying up of trustful relationships. The physical distance between team members negatively impacted the agile core values, particularly trust and face-to-face connections, as it has withered human relationships. Indeed, team members suffered because of the lack of meeting each other on-site and socialising. On the one hand, data analysis shows that in Companies A and B, the DATs suffered during the pandemic because of the impossibility of team members to organise informal events and experiences (e.g. short holiday trips and

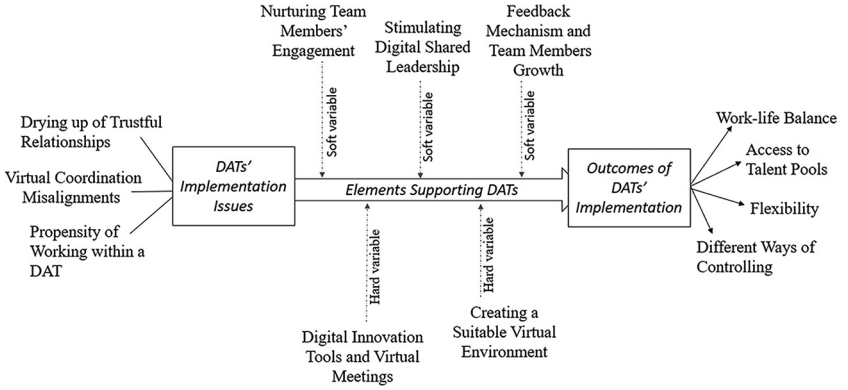

Figure 1. DATs' functioning and dynamics

dinners with respective families). On the other hand, Companies C and D had trouble maintaining a high level of engagement during work sessions. Indeed, the absence of physical breaks that generally happened on-site (e.g. coffee breaks) made professional interactions more complex. The lack of deeper and informal relationships negatively impacted the effective collaborations of the team members and the introduction of new entrants. New team members had difficulties fitting into the team and interacting effectively, being afraid to express their opinions during virtual meetings. In addition, the new entrants' lack of knowledge about the team hindered them from opening up to colleagues about their skills, making it more challenging to establish their own space in the team. This has caused a condition of distrust that impacted the development of projects. At the same time, old members preferred to carry out their activities alone as they knew nothing about their new colleagues' abilities.

4.1.2 Virtual coordination misalignments. Together with trust issues, in Companies C and D, where the pandemic forced the adoption of DATs, virtual coordination mechanism problems emerged because of a lack of face-to-face communication and the cross-national nature of the DATs. In addition, Company B suffered from a lack of verbal communication, which caused coordination misalignments and created a condition of ambiguity, where messages mediated by technology did not reach the team directly and triggered internal conflicts and communication misinterpretation between team members. On the contrary, company A has worked remotely since its inception and has not suffered from coordination problems.

Concerning Companies C and D, informal interaction was substituted by result-oriented communication, more focused on objectives than activities usually supported by personal relations. This substitution impacted DAT's daily activities, and companies started neglecting the importance of informal communication and unplanned team-building moments. This behaviour made it difficult for new team members to create connections and "harmony in communicating with [new] distant colleagues" (Company C).

Moreover, on the one hand, the lack of information sharing forced Company D to increase the frequency of meetings to maintain team alignment with the project's road map. However, this choice impacted the team's coordination and development activities because of a lack of time. On the other hand, starting new projects involving new members and partners who did not know each other was risky in Company C. In addition, the virtual modality made the

moments dedicated to innovation and ideas' creation (e.g. design thinking sessions) less proficient, causing a lack of coordination and slowdowns in the innovation process.

4.1.3 Propensity of working within a distributed agile team. The low propensity to work as a member of a DAT represented another critical issue, together with some of the companies' inability to explain the mechanism of DATs' functioning to new and potential team members. Indeed, opting to form a DAT implies transitioning from a system based on activity control, typical of a physical setting, to a result-oriented approach based on the self-organisation and independence of team members. Therefore, the companies needed to manage this transition and deal with team members' resistance. Company A, born from a merger of two companies, had to deal with the disagreement of some members in taking part in the DAT, who then decided not to be part of the new company. Therefore, the company had to search for new resources to replace those that left. In Companies B and C, working with people who had never met each other impacted the team's cohesion because of the difficulties of some members in implementing the agile methodologies in a virtual environment.

Moreover, the companies were sometimes unable to correctly explain their agile culture and virtual work philosophy to new or potential team members. Such inability made it difficult for new team members to stay in the team and for potential team members to consider joining.

4.2 Elements supporting distributed agile teams

In the analysis, we identified soft and hard variables among the elements supporting DAT formation and performance. Hard variables represent the more technical part of the DAT implementation that enables virtual collaboration, while soft variables represent the social side of DATs.

4.2.1 Hard variables

4.2.1.1 Creating a suitable virtual environment. As the DATs did not share a physical office, the companies needed to set up a virtual environment according to their specific needs. Companies A and B had already established it, as they formed the DATs since their foundation. On the contrary, Companies C and D had to make more effort to create and support it. For instance, Company D revised several procedures to create synergies between team members. In contrast, Company C changed its strategy to support value production. The predisposition of an appropriate virtual work environment has also been favoured by the transparency towards the team and the development of activities that have encouraged cohesion and trust, creating harmony and a sense of belonging. Transparency as a value has allowed Company C to align DATs at several levels (e.g. Scrum of Scrum, product's team, between Scrum masters) in developing projects and fixing the objectives to achieve the time scheduled.

Moreover, "the culture of error" represented one of the most significant changes in these companies. All the mistakes made represent points of departure for developing more effective products and processes to create an environment where DAT members are comfortable making mistakes without judgement.

4.2.1.2 Digital innovation tools and virtual meetings. To update or build their virtual work environment, companies have relied on digital tools that facilitate team members' daily work, support agile culture and allow a high level of engagement in projects' execution.

Company A adopted Slack and Trello as communication tools to exchange information and promote new initiatives. As secondary data sources confirmed, these digital platforms were adopted to exchange internal project-related information for stand-up meetings, iteration reviews and planning with customers and post initiatives. Instead, Company B

adopted Miro to drive design thinking sessions and Jira as a project management tool for everyday delivery development. Other tools adopted for online meetings are Microsoft Teams, Google Meet and Zoom, which have allowed the creation of virtual roundtables to have significant interactions. Accordingly, the DAT of Company B has developed mainly asynchronous communication by exploiting synchronous digital tools (e.g. Google Meet) to record the meetings and share them with absent members.

Concerning Company C, the efforts were more intense than in the past when informal meetings were more spontaneous as the team worked in the same room. Therefore, establishing dedicated moments for supporting interaction and alignment has been mandatory. On the contrary, the DATs of Companies A and B operate through "rituals" that help the team to stimulate the rhythm and velocity of the agile methodologies in a virtual environment. These rituals are similar to agile iteration meetings and favour a clear understanding of problems to solve and activities to develop concerning projects or internal organisational dynamics.

In Company D, the multiple group activities and one-to-one meetings that have stimulated informal communication triggered efficient synergies inside DATs and among them and the stakeholders. The need to improve communication has also increased the frequency of meetings to cope with the lack of spontaneous interaction. However, this has shown the necessity of running more productive formal and informal virtual meetings, causing the lack of time dedicated to individual activities. This situation has encouraged managers to decide where meetings could be scheduled by favouring the exchange of information using digital tools.

In addition, the need to run valuable online meetings and not waste time encouraged companies to adopt different methodologies to design their structure and introduce facilitators (e.g. coaches) to bring value to them for effective results. For instance, Company B adopted the LEGO Serious Play method to explore new strategies and organisational paths. As detected by analysing the secondary source of data (e.g. companies' reports), to be effective, this creative method generally starts with an initial "ice-breaker" using vertical activity for further investigation.

Moreover, to stimulate the innovation process, Companies A and B organise the "lean coffee" meeting to have meaningful discussions according to the company's vision (Company A) and discuss innovative practices and ideas (Company B). In more detail, Company B exploits the collective intelligence and the individual intuitions of team members (divergent phase) by inviting them to introduce and discuss their innovative proposals with the entire team. The innovative proposals are validated by team leaders according to specific goals (convergent phase).

4.2.2 Soft variables

4.2.2.1 Nurturing team members' engagement. The lack of trust has represented a problem inside DATs, especially in Company D, which adopted different techniques to cope with this issue, such as improving the frequency of informal group activities and one-to-one meetings to help members know each other better, nurturing their engagement.

Company C experimented with the virtual format necessary to encourage relationships and cohesion within DATs and between DATs and clients. Designing virtual informal meetings based on a relaxing and entertaining atmosphere (e.g. digital aperitifs, coffee breaks), virtual challenges and internal team contests help the new entrants and team members have a deeper knowledge of each other, have fun and work better. Indeed, scheduling activities that were generally more spontaneous (e.g. communication and information sharing) was essential for engaging the team by developing trust relationships.

Therefore, the cohesion of team members has been encouraged mainly by working on building trust between them.

In Company A, informal meetings are designed a couple of times a year, during which DAT members meet physically in a place where they work together and socialise. These meetings are documented, and the results are shared with the team. Accordingly, by analysing the company's webpage and social network channels, we found support for the importance of these events to sustain team building and human contact.

Similarly, DAT members of Company B occasionally meet to work together and socialise during the "long weekend events" dedicated to reinforcing their interactions, allowing them to go beyond the professional relationship, reducing conflicts and favouring trust and respect.

4.2.2.2 Stimulating digital shared leadership. By educating DATs on self-organisation and independence in managing projects, companies have been able to support their autonomy in daily activities and in making decisions, even when interfacing with external actors/partners.

The principle of self-organisation encouraged Companies A and B to set up a flat organisational structure to support DAT implementation. Accordingly, both companies have no organisational chart with a full (company B) or partial (company A) absence of Chief-level (C-level). Indeed, in Company B, the founders believe that having a flat structure is one of the prerequisites to support the fusion between agile methodologies and a distributed environment. Similarly, Company A is organised by functions with a "sole director" who acts more as a leader. Such an approach makes team members conscious of being part of the company, creating a sense of inclusion.

However, in the case of Companies C and D, more efforts were requested to promote self-organisation. In Company D, it was necessary to formally clarify the roles of each individual within the DATs to speed up the transition from control activities to self-organisation and help team members find the right direction in performing their activities. Company C involved the entire team in strategic decisions to align them with shared values.

The digital shared leadership and the result-oriented attitude were a natural consequence of the impossibility of companies to monitor the DATs' activities in every single step of the project because of the virtual work approach. It was facilitated by adopting digital technologies and tools, alternating with face-to-face meetings to maintain a solid relationship between team members. It supported the self-organisation culture more than a control activity-oriented approach. However, leadership has not naturally emerged in each company. For instance, in Company D, leadership is well identified and recognised by team members, as it guides them in developing the projects, committing them to activities that can stimulate collaboration and personal skills improvement. On the contrary, Company B has not recognised any leadership, but a group of people designed to ensure that the company's mission is respected, and the projects aligned with clients' requests. Furthermore, as the composition of this group changes every month, the process stimulates the emergence of new leaders.

4.2.2.3 Feedback mechanism and team members' growth. By addressing the reduction of control activities, companies reinforce DAT implementation by relying more on the feedback culture derived from the agile approach.

In Company D, the feedback mechanism is delivered from the top managers to the other levels and vice versa. As the interviewee said, "constant feedback helps us to understand how to improve to achieve great results". Moreover, in Company A, "the weekly feedback of the clients on the progress of the projects allows for the optimisation of the project development". Therefore, collecting client feedback supports DATs in developing projects and improving strategy. Similarly, Company B collects feedback by exploiting the close

relationship that some team members have with clients and partners. This mechanism helps acquire information about the client's needs and review priorities and roadmaps of the products' evolution. In addition, the internal feedback between team members is stimulated by a twofold approach: peer-to-peer feedback and the "non-requested feedback". The peer-to-peer feedback consists of internal sessions in which team members can ask for it from their peers to understand if they are respecting the objective and going in the right direction. The "non-requested feedback" is more natural, and it is supported by the team members. It consists of privately sharing their non-proficient behaviour with a colleague. As the interviewee explained, "the other members communicate it to that person, but it is up to him/her to understand how to improve it". Accordingly, by analysing secondary data sources (e.g. online documents), it has been possible to understand better the detailed process of collecting the feedback described during the interviews, which confirms the importance of transforming it into opportunities for team members' growth and project improvements.

Moreover, according to the feedback mechanism, the companies also invest in the growth of their resources. Accordingly, company A increased team members' independence, especially regarding the young ones and their attitude to work inside DATs by embracing the "working smarter, not harder" approach. In Company B, the new members recruited to join the team are initially supported by a mentor who gives them an overview of DATs' dynamics to soften the impact. Then, each member starts learning by himself, discovering all the other aspects and dynamics connected with the team's work.

In addition, Companies B and C introduced agile and lean coaches to guide team members, solve bottlenecks and find higher-performance processes to reinforce DATs' operativity.

4.3 Outcomes of distributed agile teams' implementation

4.3.1 Work–life balance and access to talent pools. Integrating agile methodologies and culture within a distributed team setting became invaluable for Companies A–D, favouring several improvements in team coordination.

Companies A and B formed their DATs from the beginning of their establishment to have a better work–life balance. Analysing companies' websites and blogs confirmed this aspect. Indeed, despite some initial problems related to the physical distance between DAT members, having the opportunity to work from anywhere favours a certain equilibrium between private and professional life without sacrificing team members' well-being by moving to another city (Company B) or spending time in traffic to go to the office (Company A). Such an approach has guaranteed the maintenance of high-quality work generated by each member individually and as a team. This, in turn, favoured good performance, which was also supported by the flexibility associated with different digital tools.

On the contrary, for Companies C and D, DAT implementation was dictated by the rules introduced to combat the COVID-19 emergency. In these cases, agile teams experimented with the new approach by appreciating its advantages. Accordingly, implementing agile methodologies in a virtual environment led them to a technological and cultural transformation by forming DATs to work on new projects. Such cultural transformation is also related to acquiring various skilled and talented resources (e.g. professionals and partners) from other locations in Italy and worldwide. The acquisition of talents with different professional cultures has represented added value for the DATs in all the companies as it encourages openness, flexibility and a different way of working with agile methodologies while being distributed. Expanding human resources research makes it possible to access talent pools (e.g. software developers) in other countries or relocate them to low-labour countries, enlarging DATs and improving their multidisciplinary nature. This way, DATs can expand, but companies avoid periodic payments for larger physical headquarters.

Accordingly, the financial resources saved are invested in organising different activities (e.g. on-site events) necessary to support the DATs and allow team members to periodically meet and reinforce interactions, nurturing professional and personal relationships.

4.3.2 Flexibility and different ways of controlling. Agile methodologies (e.g. Scrum) have been described as useful methods to maintain flexibility and face uncertainty. The DATs of Company A adopt the Scrum method without focusing on a specific "protocol" to follow but implementing it more flexibly according to the team's emerging needs. Similarly, by adopting Scrum, the DATs of Company C have been able to correctly respond to the "changes in the regulatory and normative environment that could not be responded to in the required timeframe" by respecting deadlines. Furthermore, agile values, such as transparency, trust, inclusion, respect and independence, helped companies to keep team members aligned at all levels by leading them to reach important objectives.

Relying on DATs has helped these companies to bring the business world closer to the digital solutions world, being more aligned to changes dictated by the digital transformation process and the increasing digital requests of clients. Such a flexible way of working, including synergies with stakeholders and clients, facilitates the achievement of the pre-fixed objectives by dedicating the appropriate amount of time and money to a project according to the client's requests and market needs.

Moreover, self-organisation is conceived according to a twofold point of view. On the one hand, the single individual is responsible for their activities, while on the other, the team has to reach specific objectives. Accordingly, team members reinforced self-organisation and trust building by eliminating (Companies A and B) or drastically reducing (Companies C and D) control activities by gradually reducing their rigid approach to adopt an objectives-oriented approach. For instance, Companies B and C operated by setting small objectives and measuring the increments during the sprints to understand why some achievements were not reached. This facilitates transparency while keeping team members focused on company goals and project objectives.

5. Discussion

Several opportunities and challenges related to DATs' adoption exist that companies should be able to address when implementing a sustainable distributed agile approach. Indeed, adopting DATs can represent a challenging choice that can affect employees' work engagement and the development of professional and informal relationships between team members. Compared to co-located teams, they can encounter several difficulties related to cultural differences, digital dynamics associated with the lack of trust, communication misunderstanding and difficulty in knowledge sharing and coordination mechanisms (Wong and Van Gils, 2022).

Our evidence highlights a series of interventions companies implemented to contrast their issues, encouraging solid DAT formation and remarking on the importance of an open, transparent and engaging work environment (Tyagi *et al.*, 2022). First, according to what Hoda *et al.* (2013) highlighted for agile teams, we confirmed the effectiveness of agile mentors also in guiding DATs to achieve high performance by encouraging collaboration and flexible behaviour in using agile practices.

Concerning cultural differences, as underlined by Šmite *et al.* (2021), social integration and dialogue can be a remedy to the intensification of teams' communication problems because of the presence of new team members from different geographical areas and with different cultural backgrounds. Accordingly, our study highlights the importance of such inclusion, as it has allowed companies to embrace different agile perspectives and encourage DATs' work quality. Moreover, it confirms the importance of adopting a hybrid format of events organisation by including virtual and non-virtual activities and on-site informal

meetings that encourage communication, strengthen collaboration and coordination, creating direct connections between team members.

Furthermore, involving clients and stakeholders in the projects' development process stimulates constructive feedback, which increases trust in distributed projects (Šmite *et al.*, 2021). Therefore, as we were able to note, the constant confrontation between team members improves their skills and contribution to the company objectives, reinforcing DATs' operativity and supporting the feedback mechanism.

Moreover, the impossibility of monitoring DATs' activities at every project step has encouraged digital shared leadership that stimulates DATs' active participation in company life and constant alignment with project objectives. Such an innovative approach has positive benefits for DATs' performance, as members have immediate access to information, also thanks to the adoption of technologies (Thornton, 2010). In addition, the widespread use of virtual collaboration technologies has led to constant research for new tools to support the development of agile activities in a virtual environment according to emerging needs.

To conclude, our analysis sheds light on the importance of implementing a hybrid format as it is more suited to support cohesion with positive impacts on job results. Indeed, focusing on both professional and informal aspects can promote team members' relationships, increase work-life balance satisfaction and encourage a positive attitude, setting preconditions for a more productive work environment. In addition, the flexibility in implementing agile methodologies according to emerging needs facilitated a significant alignment with clients, encouraging them to experiment with new activities that favoured the creation of synergies despite the physical distance.

6. Theoretical and practical implications

As our research highlights, academics and practitioners should consider different contextual factors influencing DATs' adoption, as it is not a one-size-fits-all process. DATs find fertile ground to be implemented in an organisational culture based on trust, self-organisation and a flat structure. In addition, team members with lesser knowledge and experience in using agile methodologies and a weak propensity for virtual work can make it difficult to set up a proper strategy based on DATs' adoption. Such conditions require companies to provide them with more training and constant support. Starting from such considerations, we identify several theoretical and practical implications that our evidence suggests.

From a theoretical point of view, the first implication points out the importance of considering DATs as a socio-technical phenomenon, including the social, organisational and technological variables supporting their implementation. On the one hand, as already mentioned in the literature, supporting the development of solid and reliable soft aspects of teams is fundamental for improving DATs' implementation. Accordingly, our study highlights the relevance of the agile culture, where people and their well-being are at the core, more than processes or technologies. Therefore, making team members more autonomous by digitally shared leadership favouring skills improvements and involving them in a constructive feedback mechanism (Šmite *et al.*, 2021) stimulates their engagement contribution as DAT members. On the other hand, the hard and soft variables should be better managed to support DAT implementation and create a suitable virtual environment.

The second theoretical implication concerns the impossibility of constant daily monitoring of DAT activities (Ghani *et al.*, 2019) and the importance of shifting towards an objectives-oriented approach, as shown in our results. Accordingly, setting an environment based on trust that can guide DATs in reaching their objectives is critical.

From a managerial point of view, DAT implementation represents an opportunity for companies despite its different limits and setbacks.

First, adopting digital tools makes it possible to contrast communication, collaboration and coordination issues by mitigating the impact of asynchronous interaction on team members' relationships. Indeed, the main technological challenges DATs face are related to adopting digital tools. Companies should be aware of the reliable ones that favour smooth and effective communication for different businesses. Moreover, making DATs able to conduct effective online meetings could be challenging. Accordingly, companies should invest in building harmonious virtual collaboration by fully exploiting the remote working opportunities and limiting its threats, team members up-skilling and re-skilling and feedback mechanisms to make digital tools effective for DATs' objectives.

This implies overcoming technical problems, optimising digital tools to face communication issues for effective online meetings and adequately reorganising teams' work by encouraging participation in remote work activities, developing self-organisation principles and the digitally shared leadership attitude. Involving the entire team in decision-making and strategic choice processes creates a sense of inclusion, as it makes them aligned to the shared values of the company and aware of being part of it. We recommend clarifying the roles of each individual within the DAT to help team members find the right direction in performing their activities and emphasise collaboration and shared decision-making, with equal distribution of authority, as every team member has unique competence and experience to contribute to the DAT performance.

Related to the above implication, the second one calls for selecting skilled people worldwide as a fundamental action to enlarge and build multidisciplinary teams. Introducing team members with different skills, perspectives, work cultures and a wider range of experiences with agile methodologies encourages creativity, innovation and the ability to think outside the box. However, it is fundamental for companies to set up indicators for the human resources selection process to explicitly evaluate the attitude degree of new team members to work in a distributed agile environment and, therefore, to be involved in a DAT. Indeed, as our study's evidence underlines, measuring such attitude can contrast the potential abandonment of the team in the short term (Bellis *et al.*, 2022).

Furthermore, by adopting DATs, companies shift from constant control of teams' activities to a flexible approach based on autonomy and trust. We recommend improving the frequency of informal group activities and one-to-one meetings to help members get to know each other and understand each other's abilities. Moreover, this transition implies the need to nurture DAT members' engagement. Therefore, periodically measuring the team's degree of collaboration and communication is necessary to monitor and evaluate the effectiveness of this intervention. Assessing the quality of interactions is required, and it could be done by establishing effective indicators, such as the responsiveness rate, the interaction frequency and the problem-solving effectiveness.

In addition, a virtual environment design is necessary to strengthen cohesion within DATs and between DATs and clients. Designing virtual informal meetings based on a relaxing and entertaining atmosphere (e.g. digital aperitifs, coffee breaks), virtual challenges and internal team contests help the new entrants and team members have a deeper knowledge of each other, have fun and work better. Indeed, scheduling activities that generally were more spontaneous (e.g. communication and information sharing) is essential for engaging the team by maintaining and developing trust relationships. Accordingly, to evaluate the effectiveness of this intervention, it is necessary to collect feedback constantly to measure teamwork satisfaction, communication and collaboration. Establishing the feedback mechanism is crucial and must be based on the active participation of DAT members and clients. It facilitates the identification of potential emerging project issues and considers changes to make to avoid unrecoverable contingencies. Therefore, it is essential to involve clients and dialogue with them to measure

their alignment in terms of satisfaction concerning the project's development and the effectiveness of communicating and collaborating with the DAT.

7. Conclusion and limitations

Our findings show that despite limits and setbacks, adopting DATs represents an opportunity for companies. Indeed, DATs focus on objectives rather than control-based activities, which can be ineffective because of their dispersed localisation.

The explorative nature of our study captures a qualitative perspective that allowed us to describe better the features and the mechanism of DATs' functioning. Indeed, we identify DATs as a way to rethink the teamwork approach towards a proper culture that relies on social, organisational and technological variables. Therefore, future research should focus on DATs' analyses, considering the interaction of human and technological aspects to give a more consistent contribution.

Starting from the results of this study, scholars should deeply explore concepts such as digital shared leadership, trust and digital engagement to increase managers' awareness of the importance of DATs' implementation. They might focus on the following research questions: How can digital shared leadership be stimulated to effectively develop and implement DATs? What factors increase DAT members' digital engagements? Indeed, enlarging the sample size to enrich the framework proposed in this paper could allow scholars to integrate our model with new variables, encouraging the analysis of more complex DAT dimensions. Researchers can consider adopting a mixed-method approach (Creswell and Creswell, 2018), collecting additional data on DATs' experiences from the different participants' points of view through semi-structured interviews. Then, by developing a survey based on the variables identified, they can test them quantitatively to understand the relationship between inputs and output variables and further elaborate the empirical framework, enabling the results' generalisation.

Furthermore, by focusing on the benefits highlighted in this paper, such as work-life balance, high-performance results and boosted creativity and initiatives, or on potential obstacles related to the trust-building process and work quality, researchers can decide to develop a longitudinal case study approach to detect DATs characteristics evolution over time, identify new contextual factors and challenges affecting their adoption by favouring a more holistic view of their performance (Rajagopalan and Solaimani, 2020). Accordingly, they can formulate additional suggestions for their management and provide new insights into the literature.

Finally, more profound attention should also be given to technological aspects, such as creating a virtual environment and the impact of digital tools in setting it up. Scholars should answer questions such as: What factors affect the creation and functioning of the virtual environment? What digital tools impact its creation the most? In answering these questions, they can consider developing a focus group with DATs to collect richer data compared to those obtained from interviews to explore the impact of digital technologies and their importance in supporting the digital environment, thus understanding further implications and providing practical suggestions to support DAT's dynamics.

References

Alzoubi, Y. and Gill, A. (2021), "The critical communication challenges between geographically distributed agile development teams: Empirical findings", *IEEE Transactions on Professional Communication*, Vol. 64 No. 4, pp. 322-337.

Alzoubi, Y.I., Gill, A.Q. and Al-Ani, A. (2016), "Empirical studies of geographically distributed agile development communication challenges: a systematic review", *Information and Management*, Vol. 53 No. 1, pp. 22-37.

Aroral, H.K. (2021), "Waterfall process operations in the fast-paced world: project management exploratory analysis", *International Journal of Applied Business and Management Studies*, Vol. 6 No. 1, pp. 91-99.

Bellis, P., Trabucchi, D., Buganza, T. and Verganti, R. (2022), "How do human relationships change in the digital environment after COVID-19 pandemic? The road towards agility", *European Journal of Innovation Management*, Vol. 25 No. 6, pp. 821-849.

Chau, T. and Maurer, F. (2004), "Knowledge sharing in agile software teams", In W. Lensky (Ed.), *Logic versus Approximation*, Vol. 3015, pp. 173-183. Springer Berlin Heidelberg, Berlin, Heidelberg.

Ciric Lalic, D., Lalic, B., Delić, M., Gracanin, D. and Stefanovic, D. (2022), "How project management approach impact project success? From traditional to agile", *International Journal of Managing Projects in Business*, Vol. 15 No. 3, pp. 494-521.

Comella-Dorda, S., Garg, L., Thareja, S. and Vasquez-McCall, B. (2020), "Revisiting agile teams after an abrupt shift to remote", available at: www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/revisiting-agile-teams-after-an-abrupt-shift-to-remote (accessed 4 July 2022).

Conforto, E.C., Salum, F., Amaral, D.C., da Silva, S.L. and de Almeida, L.F.M. (2014), "Can agile project management be adopted by industries other than software development?", *Project Management Journal*, Vol. 45 No. 3, pp. 21-34.

Creswell, J.W. and Creswell, J.D. (2018), *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed., Sage.

Cucolaş, A.A. and Russo, D. (2023), "The impact of working from home on the success of scrum projects: a multi-method study", *Journal of Systems and Software*, Vol. 197, p. 111562.

Dulebohn, J.H. and Hoch, J.E. (2017), "Virtual teams in organizations", *Human Resource Management Review*, Vol. 27 No. 4, pp. 569-574.

Etikan, I., Musa, S.A. and Alkassim, R.S. (2016), "Comparison of convenience sampling and purposive sampling", *American Journal of Theoretical and Applied Statistics*, Vol. 5 No. 1, pp. 1-4.

Gallego, J.S., Ortiz-Marcos, I. and Ruiz, J.R. (2021), "Main challenges during project planning when working with virtual teams", *Technological Forecasting and Social Change*, Vol. 162, p. 120353.

Garro-Abarca, V., Palos-Sanchez, P. and Aguayo-Camacho, M. (2021), "Virtual teams in times of pandemic: Factors that influence performance", *Frontiers in Psychology*, Vol. 12, p. 624637.

Ghani, I., Lim, A., Hasnain, M. and Babar, M.I. (2019), "Challenges in distributed agile software development environment: a systematic literature review", *KSII Transactions on Internet and Information Systems (TIIS)*, Vol. 13 No. 9, pp. 4555-4571.

Gregory, P., Strode, D.E., Sharp, H. and Barroca, L. (2022), "An onboarding model for integrating newcomers into agile project teams", *Information and Software Technology*, Vol. 143, p. 106792.

Guest, G., Bunce, A. and Johnson, L. (2006), "How many interviews are enough? An experiment with data saturation and variability", *Field Methods*, Vol. 18 No. 1, pp. 59-82.

Hoda, R.J., Noble, J. and Marshall, S. (2013), "Self-Organizing roles on agile software development teams", *IEEE Transactions on Software Engineering*, Vol. 39 No. 3, pp. 422-444.

Klonek, F.E., Kanse, L., Wee, S., Runneboom, C. and Parker, S.K. (2022), "Did the COVID-19 lock-down make us better at working in virtual teams?", *Small Group Research*, Vol. 53 No. 2, pp. 185-206.

Lindgreen, A., Di Benedetto, C.A. and Beverland, M.B. (2021), "How to write up case-study methodology sections", *Industrial Marketing Management*, Vol. 96, pp. A7-A10.

Malterud, K., Siersma, V.D. and Guassora, A.D. (2016), "Sample size in qualitative interview studies: guided by information power", *Qualitative Health Research*, Vol. 26 No. 13, pp. 1753-1760.

Matalonga, S., Solari, M. and Matturro, G. (2013), "Factors affecting distributed agile projects: a systematic review", *International Journal of Software Engineering and Knowledge Engineering*, Vol. 23 No. 9, pp. 1289-1301.

Rajagopalan, J. and Solaimani, S. (2020), "Lean management in indian industry: an exploratory research study using a longitudinal survey", *International Journal of Lean Six Sigma*, Vol. 11 No. 3, pp. 515-542.

Rizvi, B., Bagheri, E. and Gasevic, D. (2015), "A systematic review of distributed agile software engineering", *Journal of Software: Evolution and Process*, Vol. 27 No. 10, pp. 723-762.

Saunders, M.N.K., Lewis, P. and Thornhill, A. (2019), *Research Methods for Business Students*, 8th ed. Pearson, New York, NY.

Sharp, H., Giuffrida, R. and Melnik, G. (2012), "Information flow within a dispersed agile team: a distributed cognition perspective", in Wohlin, C. (Ed)*Agile Processes in Software Engineering and Extreme Programming*, *Lecture Notes in Business Information Processing*, Vol. 111, Springer Berlin Heidelberg, Berlin, Heidelberg, pp. 62-76.

Shrivastava, S.V. and Rathod, U. (2015), "Categorisation of risk factors for distributed agile projects", *Information and Software Technology*, Vol. 58, pp. 373-387.

Siakas, K.V. and Siakas, E. (2007), "The agile professional culture: a source of agile quality", *Software Process: Improvement and Practice*, Vol. 12 No. 6, pp. 597-610.

Šmite, D., Moe, N.B. and Gonzalez-Huerta, J. (2021), "Overcoming cultural barriers to being agile in distributed teams", *Information and Software Technology*, Vol. 138, p. 106612.

Tavoletti, E. and Taras, V. (2023), "From the periphery to the Centre: a bibliometric review of global virtual teams as a new ordinary workplace", *Management Research Review*, Vol. 46 No. 8, pp. 1061-1090.

Thornton, K. (2010), "The nature of distributed leadership and its development in online environments", in Yoong, P. (Ed.), *Leadership in the Digital Enterprise: Issues and Challenges*, pp. 1-14, IGI Global.

Troise, C., Corvello, V., Ghobadian, A. and O'Regan, N. (2022), "How can SMEs successfully navigate VUCA environment: the role of agility in the digital transformation era", *Technological Forecasting and Social Change*, Vol. 174, pp. 121-227.

Tyagi, S., Sibal, R. and Suri, B. (2022), "Empirically developed framework for building trust in distributed agile teams", *Information and Software Technology*, Vol. 145, p. 106828.

Vecchi, A., Della Piana, B., Feola, R. and Crudele, C. (2021), "Talent management processes and outcomes in a virtual organization", *Business Process Management Journal*, Vol. 27 No. 7, pp. 1937-1965.

Wong, S.I. and Van Gils, S. (2022), "Initiated and received task interdependence and distributed team performance: the mediating roles of different forms of role clarity", *AI and Society*, Vol. 37 No. 2, pp. 781-790.

Yeong, M.L., Ismail, R., Ismail, N.H. and Hamzah, M. (2018), "Interview protocol refinement: Fine-Tuning qualitative research interview questions for Multi-Racial populations in Malaysia", *Qualitative Report*, Vol. 23 No. 11, pp. 2700-2713.

Yin, R.K. (2018), "Case study research and applications", *Design and Methods*, 6th ed. Sage, Los Angeles.

Further reading

D'Innocenzo, L., Mathieu, J.E. and Kukenberger, M.R. (2016), "A meta-analysis of different forms of shared leadership–team performance relations", *Journal of Management*, Vol. 42 No. 7, pp. 1964-1991.

Malina, M.A., Nørreklit, H.S.O. and Selto, F.H. (2011), "Lessons learned: advantages and disadvantages of mixed method research", *Qualitative Research in Accounting and Management*, Vol. 8 No. 1, pp. 59-71.

Thesing, T., Feldmann, C. and Burchardt, M. (2021), "Agile versus waterfall project management: decision model for selecting the appropriate approach to a project", *Procedia Computer Science*, Vol. 181, pp. 746-756.

Corresponding author
Andrea Appolloni can be contacted at: andrea.appolloni@uniroma2.it

For instructions on how to order reprints of this article, please visit our website:
www.emeraldgrouppublishing.com/licensing/reprints.htm
Or contact us for further details: **permissions@emeraldinsight.com**