Creativity is a Journey, not a Destination: A Team Flow Theory Perspective for Service Workers

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Creativity is a journey, not a destination: A team flow theory perspective for service workers

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ABSTRACT

Teamwork, recognised for supporting employee creativity, is crucial to organisational sustainability and survival. However, the ways of unlocking teamwork for creativity remain an unrealised opportunity. By integrating team flow theory, we exemplify how flow can be activated in teams and give rise to creativity, adding to the nascent literature on teams achieving an optimal state. Using a creative problem-solving intervention, qualitative data was collected via participant observation and semi-structured interviews with front-line hotel managers. We show the creativity outcomes at the individual, team, and organisational levels resulting from team flow, with our data emphasising the longer-term impacts on individual creativity. Notably, we extend team flow theory with our model, contributing to the discussion of creativity processes and offering important insights into how the reciprocal relationship between teamwork and individual creativity can be achieved. Our findings have implications for business leaders seeking to drive high-performing, creative organisations.

1. Introduction

Employee creativity empowers organisations to deal with complex and dynamic challenges, leading to stronger organisational resilience (Ouyang et al., 2021; Lim & Lu, 2024). Opportunities to engage in more creative work facilitate the formation of a more motivated workforce with lower employee turnover (Lua et al., 2024). Teamwork has received recognition for its potential to harness immersive employee environments to support creative work (Byron et al., 2023) and is acknowledged as vital in leveraging organisational success (Stoverink et al., 2020). Despite this, previous research has failed to comprehensively examine how creativity can be conceptualised and orchestrated as a result of teams' creative efforts, such as creative problem solving (CPS) and team inclinations to do creative work (Brown & Latham, 2018; Garavan et al., 2019; Kulichyova et al., 2024). Team creativity and individual creativity are interconnected, namely team creativity is understood as a combination of individuals' creative effort, requiring people to work together to contribute and process each member's ideas for usefulness, novelty and value (Shin et al., 2012), leading to the emergence of fresh and worthy thinking within a social or business context (Cirella et al., 2014). However, little is known about the enablers of creativity at work (Edghiem & Mouzughi, 2018) at both individual and team levels (Kulichyova et al., 2024), with team-based elements potentially impacting and influencing creativity at the individual level and leading to individual and organisational creative outcomes.

Evolving research articulates that a shared flow experience via teamwork can enhance team performance (van den Hout et al., 2018; Feng et al., 2024). Csikszentmihalyi (1975) first proposed the flow concept, where individuals enter a state of deep immersion whilst undertaking an activity leading to an optimal individual experience. Team flow (TF), conceptualised by van den Hout et al. (2018, p. 400), extends Csikszentmihalyi's (1975) proposition and is defined as a "shared experience of flow derived from an optimised team dynamic during the execution of interdependent personal tasks." Effective team flow can facilitate improvements in work quality, effectiveness and efficiency (Vashdi et al., 2013) and workplace creativity (Boon et al., 2016).

In this study, we employ Team Flow Theory (TFT) to examine the role of teamwork and, in response to the lack of prior research (Edghiem

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& Mouzughi, 2018), its potential to facilitate individual creativity. Flow can be triggered through stimulus (Peifer et al., 2020), and by using a CPS intervention as a team-level stimulus, we argue that team learning, from which employees experience communication and dialogue and learn from the knowledge and expertise of others, can nurture individual creativity and promote new practices of ideation and problem-solving at work (Bam et al., 2019; Černe et al., 2018). Following this logic, we propose that developing individual creativity through teams is particularly important. From a theoretical standpoint, little is known about how team membership can trigger an individual's creative behaviour (Park et al., 2020; Yuan et al., 2024). In the context of this research, teams are defined as two or more individuals who engage, through their dedicated roles, in undertaking interdependent tasks and are committed to a shared purpose in fulfilling the organisation's goals (Kozlowski & Bell, 2003; Katzenbach & Smith, 1993). Authors such as van den Hout et al. (2018) have underlined the importance of investigating smaller teams in this context and also noted the challenge which larger groups may have in experiencing team dynamics and flow.

To address the knowledge lacuna on teamwork and creativity, our research contributes to the literature in four ways. First, by focusing on the whole TF approach, we advance knowledge of the complex and dynamic processes involved in achieving TF in work teams and thus extend the TF theory coined by van den Hout et al. (2018). Scholars need to have an enriched understanding of the whole TF experience to build further grounding theoretical conceptualisations that support organisations in achieving flow. This contextualisation of TF, as well as the dynamics and subsequent outcomes, have been identified as needing further elaboration (de Moura Jr & Porto Bellini, 2019; van Oortmerssen et al., 2022). Through our investigation, we provide a nuanced and holistic representation of how the various elements of team members' experiences interlink to lead to high-performing teams. Our TF model (see Fig. 2) presents a theoretical framework elucidating how the different aspects of TF interact, leading to outcomes for both the individual and the organisation, refining TF theory as a result (Feng et al., 2024; van den Hout & Davis, 2022; van den Hout et al., 2018).

Secondly, we contribute to the embryonic literature on TF in organisations, demonstrating that achieving a state of flow for an entire team depends on how members respond to experiencing stimuli (Feng et al., 2024). This is distinct compared to individual flow, where specific antecedents are known to facilitate flow. Moreover, the literature does not elaborate on the interventions that enable organisations to maximise team efficiency, while others have been unsuccessful (van den Hout & Davis, 2022). Using CPS as the stimuli allows us to establish how TF can be operationalised and the potential outcomes it generates, enabling us to comprehend the multi-faceted nature of TF. In practice, few teams have been able to develop and execute creativity in addressing challenging organisational concerns, and very few teams have been able to develop and execute such an approach in a timely and cost-effective manner (Razinskas et al., 2022). Using TF theory allows us to go deeper to examine the mechanisms and processes that might facilitate this to enhance our understanding of how to implement a TF strategy.

Thirdly, our research responds to van den Hout & Davis (2022), who call for greater insights into how TF is developed in real-time and how team members subsequently reflect on their experience. A shortfall of existing studies is that they have either embraced a conceptual stance (Pels & Kleinert, 2023) or the research and analysis of TF in work contexts has been based upon cross-sectional analyses (Feng et al. 2024; van Oortmerssen et al., 2022). The data collection methods employed in this study, namely participant observation and in depth interviews, allowed us to explore and explain more deeply the TF concept by refining, extending and updating the knowledge on how to effectively build successful creativity in performing teams.

Finally, we respond to the call for a more nuanced and granular understanding of this relationship and discuss the role of the TF creative experience within a specific sectoral context. In this paper, we examine this phenomenon within the tourism and hospitality sector, where

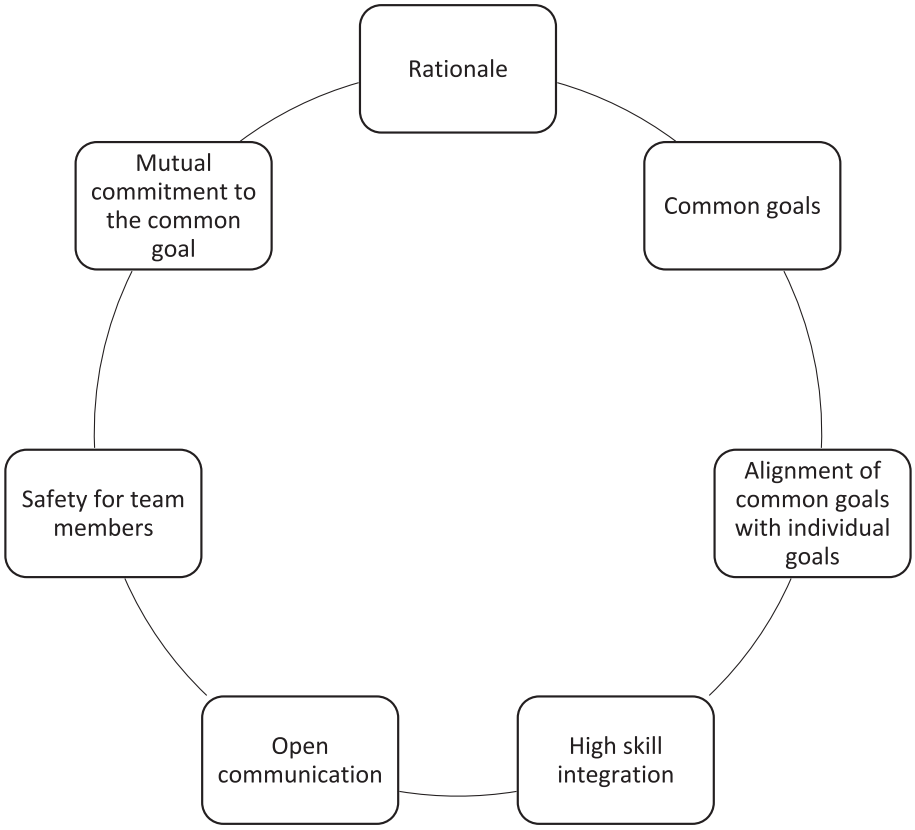

Fig. 1. Seven requirements for team flow (adapted from van den Hout & Davis, 2022; van den Hout et al., 2018).

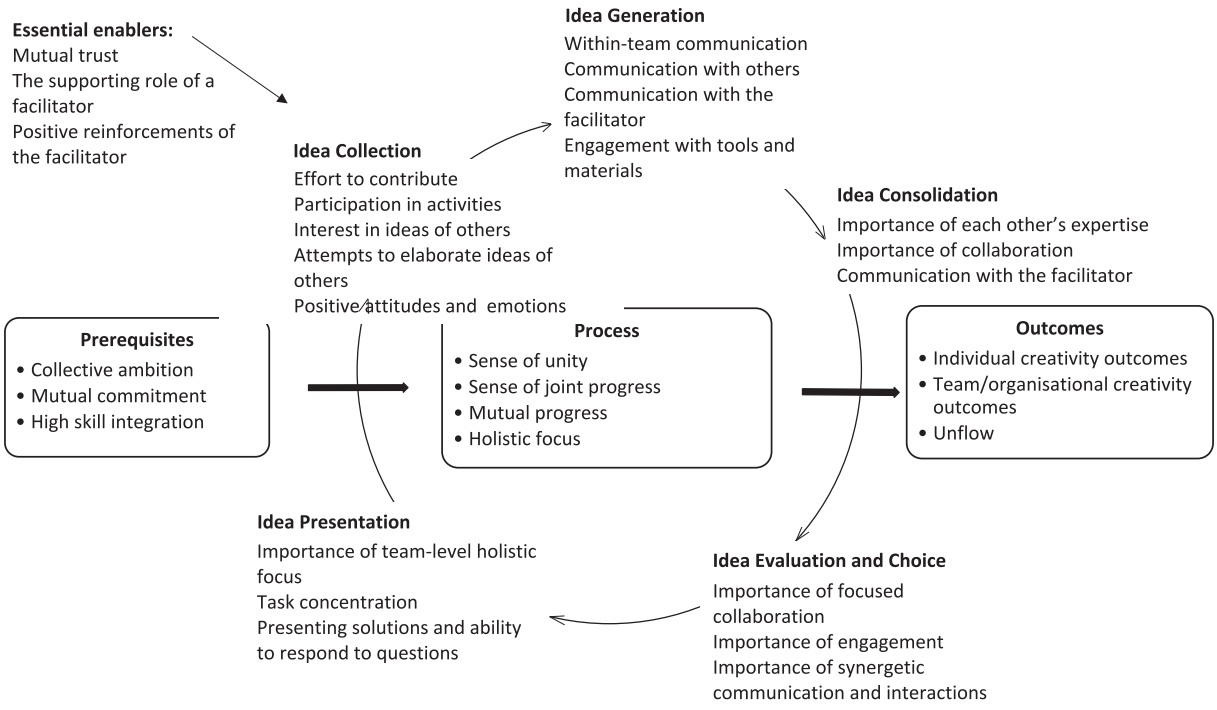

Fig. 2. Team flow model.

innovation and creativity are key to enhancing customer experiences, operational efficiency and financial performance (Kabangire & Korir, 2023), making it an ideal setting for this investigation (Bavik & Kuo, 2022; Lim et al., 2024).

The article unfolds by situating our research within the broader discussion of TF theory. The methods section explains the sample, data collection, and analysis. The findings are then presented, followed by a discussion of the theoretical and managerial implications of this study and identification of the limitations and directions for future research.

2. Literature review

2.1. Team creativity

Creativity is defined as the production of new and useful ideas by individuals who, either individually or as a team, work on complex problems (Amabile, 1988). Various authors have underlined how working as a team rather than alone results in more workplace creativity (Anderson et al., 2014; Hon et al., 2013). However, existing research is focused on the social process arising from teamwork, such as when individuals work collaboratively and share ideas and knowledge in attempts to come up with creative ideas (Jeong et al., 2024; Perry-Smith, 2006). At the same time, the process of individual learning from teamwork is less understood (Baer, 2010). This limitation is significant because enabling individual creativity and, subsequently, team creativity, is not straightforward and can be associated with barriers, such as little awareness of individual creativity, a lack of knowledge and practical skills to come up with creative ideas (Isaksen, 2020), communication barriers and willingness to challenge own viewpoints and consider ideas from different perspectives (Brown & Latham, 2018). It is believed that the process of learning can help to address the barriers (Scott et al., 2004), for example through the activation of individual thinking and cognitive processes (Isaksen, 2020). This happens when individuals as a team interact with each other, share their knowledge and ideas, and integrate other's perspectives and opinions in the process of learning (Parboteeah et al., 2015). Hence, the results of learning at the level of teams can translate into individual creative practice and expertise (Bam et al., 2019; Beltrán-Martín & Bou-Llusar, 2018). Enabling team creative behaviours requires a stimulant activity, such as a learning activity or an exercise that guides individuals through the learning process (Osborn, 1953).

CPS approaches, known as activities for applied creativity, have widely been used in creativity research (Scott et al., 2004) for their potential to effectively initiate divergent and convergent thinking processes, and stimulate novel and useful ideas (Birdi, 2016). Experiencing CPS can lead to a greater team flow as participants are immersed in their activities, and it changes the teamwork dynamic through active experimentation and revision, contributing to a more equitable team effort and positive organisational, team and individual outcomes (Primus & Sonnenburg, 2018). Moreover, evidence indicates that flow tends to be most rewarding through positive social experiences such as teamwork and spreading knowledge and practice from one individual to another (Aubé et al., 2014; Walker, 2010; Primus & Sonnenburg, 2024). Previous research attempted to explore the triggers of flow (van den Hout, 2016); however, there is a dearth of knowledge on mechanisms and practices that can create a shared experience of flow at the level of teams, which this study is set to explore.

2.2. Team flow theory: Requirements and characteristics

TF refers to team members having a shared flow experience by concentrating on achieving interdependent tasks for the team's benefit (de Moura Jr & Porto Bellini, 2019; van den Hout & Davis, 2022; van den Hout et al., 2018). Indeed, according to van den Hout & David (2022) and as seen in Fig. 1 and elaborated upon in Table 1, TFT identifies seven requirements for TF to emerge: rationale, common goals, alignment of common goals, high skill integration, open communication, safety and mutual commitment.

The interaction between these seven requirements, as outlined and described in Table 1, is believed to facilitate a TF experience and optimum collaboration (van den Hout & Davis, 2019), leading to (1) a sense of cohesion; (2) mutual trust (3) psychological safety and (4) a holistic focus in achieving their goals. These characteristics feed the collective ambition and strengthen the TF experience (van den Hout & Davis, 2019; 2022) fostering positive outcomes for teams (organisations) and individuals (Landhäußer & Keller, 2012; Aubé et al., 2014; Gloor et al.,

Table 1
Description of the seven requirements for the emergence of team flow (adapted from van den Hout & Davis, 2022; van den Hout et al., 2018).

Requirement	Description
Rationale	A clear purpose and rationale for team formation. The presence of this serves to stimulate connectivity between team members (van den Hout & Davis, 2022). The purpose is also understood as setting shared, meaningful and common goals (Locke & Latham, 2006; Sawyer, 2007).
Common Goals	Creation and articulation of shared and meaningful objectives that drive team efforts (Locke & Latham, 2006; Sawyer, 2007).
Alignment of Goals	Close alignment between the common goals of the team and the personal goals of the individual. Alignment in this regard serves to enhance team flow, motivation and engagement (Locke & Latham, 2006; Nakamura & Csikszentmihalyi, 2009).
High-Skill Integration	Individuals are able to undertake the work required with their skills and competencies matching the challenges faced. This helps to foster unity and cohesion within the team (Aubé et al., 2014; Sawyer, 2007; van den Hout & Davis, 2019, 2022).
Open Communication	The presence of and the opportunity to avail of clear, constructive feedback and the ability to accept and utilise it for goal fulfilment (Salanova et al., 2014).
Safety	Team members possess psychological safety allowing them to perform without fear of failure or embarrassment (Sawyer, 2006). The presence of such safety builds trust and resilience within the team.
Mutual Commitment	Team members committed to their roles and the achievement of common goal(s). Individual accountability and interdependence among team members ensure each member's success contributes to the common goal (van den Hout & Davis, 2022; Aubé et al., 2014).

2022) such as increase performance (Landhäußer & Keller, 2012) and enabling new work practices and behaviours (Aubé et al., 2014; Gloor et al., 2022). These post-flow benefits might be enhanced when flow is experienced at the team level due to their shared experiences resulting in individual outcomes of well-being and happiness (van den Hout & Davis, 2019; 2022).

Prior work acknowledges a dearth of research investigating the concept of flow in organisational settings, with the focus being limited to creative industries and education (van den Hout et al., 2020; van Oortmerssen et al., 2022). While attempts have been made to address this gap (Duff, et al., 2014; Feng et al., 2024; van Oortmerssen et al., 2022), these published studies focused mainly on the antecedents of flow. These existing accounts do not adequately discuss or analyse the whole TF concept, considering the characteristics and outcomes, which ultimately signals an absence of research designed to understand TF holistically. Furthermore, it is only relatively recently that authors have asserted that a collective flow experience can occur from being part of a team (Feng et al., 2024).

Other conceptualisations of TF, more commonly known as group flow, exist, namely, Sawyer's (2006; 2007) group flow concept, which was advanced by Gaggioli et al. (2011) and Duff et al.'s (2014) multimodal model of flow. Of these, only Sawyer's (2006; 2007) work was partially tested empirically (Pels & Kleinert, 2023). Furthermore, these analyses insufficiently acknowledged the whole team collective flow by concentrating on the individual flow experience in a team setting (van den Hout et al., 2020; Gaggioli et al., 2011; Heyne et al., 2011).

In response to the above, we focus on TF theory (van den Hout et al., 2018), as it offers a sound theoretical foundation. van den Hout et al. (2018) examinations were one of the earliest studies that confirmed the pre-requisites and conditions for TF, developed from a thorough conceptual review of key concepts such as collective (Quinn, 2005), team (Sawyer, 2015), and social flow (Walker, 2010), which were subsequently applied in organisational settings, and tested through empirical and qualitative testing.

2.3. Team flow in tourism and hospitality (T&H)

The use of flow theory in the T&H literature is emergent, with most research drawing on Csikszentmihalyi's (1975) conceptualisation. Kim et al. (2019) engaged with flow theory in restaurants to examine if it can impact customer engagement with social media, highlighting that flow led to increased customer intention to interact with social media, justifying that creating flow can enhance customer engagement. Investigating the hotel sector, Brunner-Sperdin et al. (2012) used flow theory to understand leisure experiences and customer emotions when measuring tourist satisfaction. They determined that flow experience strongly influences the emotional state of customers and, in essence, satisfaction. Similarly, using data collected from international tourists visiting Myanmar, Chen et al. (2017) found that flow was positively related to tourist satisfaction, stressing the need for destination marketers to create flow experiences for tourists.

Although such studies are interesting, they serve to illustrate that flow theory's application in T&H primarily focuses primarily upon understanding how organisations can create better tourist experiences. This is reinforced by a more recent systematic review which sought to extend flow theory's application to T&H, but again the authors concentrated on tourist experiences and behaviours, and did not investigate how flow can support T&H service workers in organisational settings (da Silva deMatos et al., 2021). Whilst some attempts have been made to understand T&H employees (Watson et al., 2018), such studies have been limited in their attention, treating flow as an individual phenomenon to understand motivation and citizenship.

Indeed as shown above, the focus has been on tourist / customer experience with for example, Larsen (2013) noting that the family holiday can be considered a social experience resulting from a family (team) flow process. Likewise, Kolar and Čater (2018) investigated TF for escape room visitors, establishing that whilst all the proximal conditions are critical for the flow experience, not all might be equally important within the T&H context. While these papers foreground the importance of the group (team), the focus remains on the consumer, and they have not addressed flow as a collective team experience for employees. Ultimately, our review illustrates that very few studies have considered flow at the team level in T&H, and none of these have studied employees and how TF can influence their work.

Moreover, working in all industries requires some level of cooperation. However, this is intensified in T&H due to characteristics of intangibility, heterogeneity and inseparability. This creates work which naturally involves employees highly engaging in interdependent tasks, as can be seen in the example of restaurants, where the guest is greeted by a host, but both the front of house and back of those teams are working together to produce an outstanding guest experience (Jung et al., 2023). This prominent level of interdependency amongst T&H workers creates an environment where team flow can be activated as the rationale for team formation is clear as all members are working towards meeting and exceeding guest expectations. Therefore, the dearth of literature on team flow in T&H, alongside the high propensity for team flow to be stimulated, signals that the T&H industry is an ideal context for understanding team flow generation and its outcomes.

3. Methods

3.1. Creative TF experience

To explore the linkages between teamwork and creativity in service workers, we organised and delivered a creative TF experience – an immersive and dynamic CPS training session designed with the purpose of enhancing creative knowledge, skills, and abilities (KSAs). The delivery and structure comprised professional and personal introductions (Brem, 2019). This was followed by a theoretical component that framed the meaning and importance of creativity in hotels and key approaches to CPS. The remainder of the training session involved the process

component, which crafted the practical applications of CPS using the 'Circle of Opportunity' stimulus exercise (Michalko, 2010). This involved providing the statement of the organisational problem, drawing a circle on flipcharts and numbering it 1–12 like a clock, brainstorming 12 problem attributes and locating them around the clock, identifying two problem attributes using a pair of dice, brainstorming the links between these two problem attributes and the organisational problem, selecting best ideas from the brainstorming sessions to create solutions, and delivering solutions in front of the facilitator and other teams. To support this, a series of warm-up exercises and tasks were used to simulate TF. Appendix A details the key stages of the CPS training session.

The facilitator—the first author—who organised and delivered the training was central to maintaining an enabling environment, which supported trials and mistakes but also ensured that participants kept their focus. Each session lasted two hours, was delivered on participating hotels' premises, and was resourced with relevant materials, such as flip charts, markers, and a pair of dice.

3.2. Context and sample characteristics

The sample included 50 front-line managers representing four Northern Ireland hotels working in key divisions: Marketing, Sales, Food and Beverage and Reception. These hotels were similar in their characteristics, namely part of major hotel groups, employing between 50–100 staff, classified as three and four-star and typically targeting an upper-midscale clientele. We worked with three hotel representatives (gatekeepers) who did not complete the training but were instrumental in co-creating the problems before the training session, identifying and recruiting the participants and providing details on teamwork and CPS before and after the TF experience.

Training sessions were open to all full-time front-line managers, irrespective of their age, gender and tenure, who were interested in learning about creativity. Our inclusion criteria were informed by the characteristics of T&H organisations, where high turnover rates, recruitment and retention challenges were prevalent (Dogru et al., 2023). No additional incentives were used in participant recruitment.

Each training session comprised 10–13 managers. Firstly, we randomly split the teams by their age, gender and tenure as inconsistent findings have been reported on the relationship between demographic characteristics of study participants (Gilson & Shalley, 2004). For example, research suggests that longer tenure can reduce training completion time (Reagans et al., 2005) and have detrimental effects on innovative work behaviours for some employees (Woods et al., 2018). Secondly, we had small teams of 4–5. Whilst there is no predefined size for team experience (Stewart, 2006), smaller teams are more likely to experience better communication, more productive behaviours and higher quality work outcomes (Aubé et al., 2014). Hence, our focus was on participants' involvement in the learning process and learning from each other, which are stronger predictors of creativity (Ma et al., 2023). Details of the sample can be found in Appendix B.

3.3. Data collection

3.3.1. Phase 1: Participant observation

Due to limited knowledge of the TF application, participant observation was used to create a deeper understanding of the context in which people interact and learn (Yin, 2018). This method helps to provide in-depth information about the group under investigation (DeWalt & DeWalt, 2011). 'The observer as participant' (Kawulich, 2005, p. 9) approach allowed the researcher to share in activities as the facilitator, but their primary role was to collect data. An observation protocol was created to capture the data on the TF and team creativity dimensions: (a) prerequisites of 'flow' such as mutual commitment and open communication (van den Hout et al., 2017), (b) the 'flow' process, including engagement in the CPS stages, mutual trust, and holistic focus (van den Hout & Davis, 2022) and (c) team dynamics such as emotions and affective states (Feng et al., 2024; Primus & Sonnenburg, 2018). Participant observations, including team communications and team dynamics, were recorded verbatim during the training sessions as the study participants were completing each stage of the CPS intervention. Due to participants' requests, audio and video recordings were not possible.

3.3.2. Phase 2: Semi-structured interviews

Three months after the intervention, 23 semi-structured interviews were undertaken with managers who completed the training and gave consent. The purpose was to investigate the influences of TF on individual and team creativity (Brinkmann, 2014) using individual experiences and perceptions. During the interviews, participants were asked questions relating to TF and creativity, such as their experiences of working together as a team, team dynamics, and what elements they enjoyed and used most from their learning in the training session. Interviews lasted 40–60 min and were transcribed verbatim.

3.4. Data analysis

Our approach to analysing the participant observation and interview data was abductive, involving multiple interactions between empirical evidence and theory. We referred to the stages of the CPS process and followed key insights from the flow theory to understand the flow prerequisites and flow process. The key stages of 'codebook thematic analysis' (Braun et al., 2019) were followed. First, we read the observation protocols and transcripts to familiarise ourselves with the data. Second, the coding framework was introduced, which encompassed the CPS stages (Birdi, 2016) and the flow processes from observation and interview data (Appendix C). A list of first-order codes was developed, which was derived from the literature on creativity, flow, and training. In the process of reiteration (Locke et al., 2022), the codebook was continually revised, and second-order categories were established. The codebook evolved as the coding framework was tested against each interview transcript. NVivo 12 software supported the analysis.

4. Results

Using flow theory as a guide, the key themes emerging from the data analysis are presented below: flow prerequisites, the flow process, and outcomes.

4.1. Flow prerequisites

4.1.1. Collective ambition

The data revealed that participants strongly desired to collaborate and work as a team at both the personal and team levels. At the personal level, participants referred to becoming more effective leaders, addressing daily issues using CPS skills, and inspiring others. At the team level, they indicated their desire to learn from others, overcome challenges, and increase organisational performance. The Duty Manager Ho3 stated, '*we were all interested to see what creative solutions we could identify as a team, and this supported our sense of unity and involvement in the task*'. Overall, personal and team goals were consistent with each other and with the shared collection ambition, forming a basis for the 'flow' experience (van den Hout & Davis, 2019).

4.1.2. Mutual commitment

Evidence of mutual commitment at the start of TF included participants' full attention, assigning team roles, dividing the tasks, encouraging and keeping others on track, managing time and fulfilling the tasks. The observation highlighted that '*the study participant* [Ho1] *tried to get everybody involved in developing twelve problem attributes, by asking questions 'What do you think?'* or *'Why do think this problem makes sense to our challenge scenario?'*.

The Marketing Manager Ho4 highlighted, '*it is usually hard for us to*

work as a team when developing solutions. However, we were all focused on the task, so increased commitment and attention really helped to keep each other on track'. This brought to the fore managers' understanding of the task and illustrated the importance of creating a sense of mutual commitment, as evidenced by Human Resource employee Ho2 who stated that *'we initially did not understand what you meant by the problem with [gift] vouchers in the hotel… we even did not know they existed'* [after the problem was clarified],'*the dynamics improved, and we felt more confident in what we were doing and also committed to the problem in hand'*.

4.1.3. High-skill integration

Observation data collected during warm-up exercises revealed that 24 % of participants considered themselves naturally creative, 66 % thought their organisation encouraged them to be creative, and 77 % believed they encountered creativity in the past, i.e. in the form of music, sports or arts. During the interview, participants revealed they were motivated to undergo the training; reported a similar level of engaging with creativity and CPS and had a strong desire to learn about how to be more creative. For example, the Head of Reception Ho1 reflected, '*I never participated in such a training opportunity before. Creativity and CPS are now the requirements of hotel jobs, I have to start from the basics'*.

4.2. The flow process

4.2.1. Sense of unity

A sense of unity and cohesion emerged during the idea-collection stage of the collective TF. It was observed that participants actively engaged in the creative TF, contributed to teamwork with a range of problem attributes and ideas, were interested in their peers' ideas and showed attempts to elaborate on their ideas. The idea-collection stage gave rise to playful attitudes and acted as an ice breaker, as each person as a team member, demonstrated a desire to roll and throw the dice. The teams enjoyed this process as they actively communicated, laughed, and exchanged ideas. For example, in the process of group discussion, Restaurant Manager Ho4 said he would keep the problem attribute '*weather in Northern Ireland*' because, in his opinion, '*it was relevant to the challenge and the customer demand'*. All other team members started to laugh as a reaction, as the weather is always a topic of discussion in Northern Ireland.

4.2.2. Sense of joint progress

The CPS session sought to initiate perceptions of collective action and collective awareness of individual roles and contributions (see Appendix A). During the idea generation stage, participants worked as a team to roll the dice and choose the two problem attributes. We observed examples of within-team communication to explore ideas between the problem attributes, communication and interaction with other teams for inspiration, engagement with the CPS materials, and communication with the facilitator for feedback and support. The observation data from Team 2 in Ho2 suggests, '*The team member was interacting with a study participant from another team, namely they exchanged some ideas in relation to the problem attributes and also discussed the task forward'*. In addition, some teams were more likely to interact with other teams for support than the facilitator.

In terms of the idea consolidation stage, the interview data indicates the participants' collaborative journey and the importance of each other's expertise in selecting ideas from the idea generation stage and identifying relationships with the organisational problem. Duty Manager Ho1 highlighted that *'we came from different departments and job roles… to me, it was very interesting to see others' perspectives on the problem. And their perspectives were very different to mine… together, we were exploring and challenging other perspectives, and that was the most interesting part of the workshop'*.

The participants also emphasised the engagement with the facilitator for feedback and further instructions. The observation data suggested that '*the team called the facilitator and asked for feedback on their ideas. They shared various ideas and wanted to know how to improve them even further. They also wanted to know if their ideas made sense and had a creativity component'* (Team 1, Ho4). Interestingly, the interaction with other teams decreased in the idea consolidation stage as the teams were more focused on their final ideas and engaged with the facilitator if needed.

During the idea evaluation and choice stage, the observation data highlighted the focused collaboration and engagement of the team members in developing their final solutions. Team 3 from Ho3 '*seemed deeply focused on collaborating and refining their final ideas. All team members were actively involved in discussing the practicalities of their ideas,* i.e. *how they could be implemented in the organisation. They also made notes during the process. A lot of buzz here'*.

Regarding collective awareness of individual roles and contributions, the interview and observation data highlighted that the CPS task led to synergistic interactions between the participants. Decisions on personal contributions to teamwork happened organically, rather than as a result of collective agreement. Participants in Team 2, Ho2 '*decided on their roles without any prior agreement or discussion with the team… some participants took charge of the flip charts whilst others were more involved in discussing and developing ideas. All team members wanted to roll the dice and come up with numbers'*. Similarly, for participants in Team 2, as noted by Ho4 '*seem[ed] to have been more focused on the task than discussing individual roles. They started to work together straight away'*.

4.2.3. Mutual trust

The observation and interview data revealed the importance of mutual trust as an enabler of TF. First, the findings suggest two types of mutual trust: (a) between study participants as part of a team and (b) in conversation with the facilitator. For example, *'some study participants were very active in generating and developing ideas, they were also able to explain their ideas and get support from their team members. Those ideas were then used in the later stages of the training session'* (Team 2, Ho2). The HR employee from Ho2 added that *'we had a few people who were very good at developing ideas, and in our team, we generally thought that those ideas were actually very good and made sense for the organisation. And those ideas were also a good driver for us to proceed through the training and develop solutions'*. In terms of conversations with the facilitator, trust emerged as an important component, as it involved establishing an open and trustful dialogue with teams, delivering instructions and respecting each other's contributions. Duty Manager, Ho1 emphasised the value of the facilitator '*who was very knowledgeable about the subject and provided clear instructions about the creative process';* whilst Marketing Manager, HoCo4 said that '*you* [the facilitator] *have been there, and we trusted and relied a lot on your instructions to generate ideas'*.

4.2.4. Positive reinforcements

Positive reinforcements such as continuous communication with the facilitator and continuous feedback emerged as important enablers of TF because they supported participants' task engagement and their sense of joint process. Duty Manager Ho1 commented that *'any time we needed help with creativity, you were at hand for us to ensure we got everything we needed, or our concerns were resolved. I am sure that everybody else in my team would agree that continuous communication with yourself* [the facilitator] *made a whole difference to our learning process and our final idea'*.

Our findings highlight that continuous communication and feedback were difficult to achieve and faced several barriers. In particular, participant observations from Ho2 showed that some teams were more comfortable communicating with each other rather than the facilitator. In addition, *'one of the teams turned quiet as the facilitator approached and offered help. Instead, they seemed to prefer to speak to the participants from other teams and get help from there'* (Team 3, Ho2).

4.2.5. Holistic focus

The CPS task, particularly the stages of idea divergence and

convergence, gave rise to a focused environment which encouraged team members to concentrate on the task and develop definitive solutions. What we found here as more significant was the emergence of flow and team-level holistic focus during the training session, as Marketing Manager, Ho1 highlighted, '*I liked the training session… it went so quickly, I lost track of time!'* Similar insights were suggested by Training Manager, Ho2, who thought that '*the range of activities helped to keep the team focused on the task…. and develop the final solution'*. Duty Manager, Ho1, also highlighted that their team *'was focused on the task in hand… We were learning from each other as we discussed various ideas. I was surprised the session passed by very quickly'*.

4.3. CPS and creativity outcomes

All teams successfully developed, presented and responded to questions about their creative solutions. Whilst we did not set to measure the creativity outcomes, the observation results identified that the teams were involved in evaluating creative solutions of other teams. Team 2 as expressed by Ho3 noted how, *'your ideas* [Team 1] *are really creative and interesting!'* whilst, in Team 1 as conveyed Ho1 suggested, *'I like the depth of your thinking and the idea of thematic dinners to attract non-residents to our property… I think this is a very good and creative idea'*.

4.3.1. Individual creativity outcomes

Our findings point to important TF experience outcomes, such as creativity KSAs, involvement in day-to-day creativity behaviours, and involving others in creativity. The flow process helped to challenge established attitudes to personal creativity, whereby the participants felt that they developed a stronger understanding and knowledge of creativity and acquired new skills in how to work more creatively. Training Manager Ho2 said that *'before the training, I was sceptical about my own creativity… and did not know how to be creative. The training session provided me with a firm understanding that anybody, including myself, is creative and can do creative work'*. Furthermore, the flow experience transferred to other colleagues in the hotel, as explained by Assistant General Manager Ho2, *'The training session was enjoyable and engaging. I am currently using your slides in my departmental meetings with the staff as I try to encourage their creative thinking'*. Similar reflections were shared by the Marketing Manager Ho1, '*I am doing a similar type of training with staff in my department, and we already came up with a few ideas to our problems'*.

4.3.2. Team/organisational creativity outcomes

The interviews highlighted important team and organisational creativity outcomes as a result of the TF experience, such as learning from each other, improving communication and implementing workplace creativity practices. Participants commented that they reconsidered the value of teamwork for personal and organisational learning since *'we would normally get together as a team during our departmental meetings. The training session showed that we have much to offer each other and learn from each other… if there are more people to work with, for me anyway, I work a lot better'* (Marketing Manager, Ho4).

The Duty Manager (Ho1) said that *'creativity has become a big focus following the training session… I think it also improved our communication and understanding of each other and also showed that although we are from various departments, we are facing similar issues at work. To me, it was extremely interesting to learn from others and their perspectives'*. Perceptions of improved communication and understanding of each other were further commented upon by HR Manager Ho1, who confirmed that *'we plan to keep the practice of teamwork for problem-solving for as long as we can'*. The findings indicate that involvement in creative TF experiences led to new initiatives in participating organisations such as internal departmental events (Ho2), new incentive schemes and marketing campaigns (Ho1), and new training and development opportunities (Ho4).

4.3.3. Unflow

Our findings also point to instances of 'unflow', such as behaviours and issues which were detrimental to the flow process and discouraged participation. Examples of such behaviours included communication problems, limited task involvement, and difficulties coping with the task. The observation data from Ho3 highlighted that *'the participants do not communicate much with each other. There are three people in the team; two people knew each other well and discussed work-related issues rather than the CPS challenge. The third participant is not involved in this communication. Even after the facilitator interfered, these two participants resumed their conversation'* (Team 4).

The results of the interviews shed more light on communication problems, particularly *'this training helped us realise we had a big communication problem in our organisation. We have arranged another training programme for the staff which serves to improve communication'* (HR Manager, Ho4). Observation data highlighted that some teams were struggling with the task and the CPS, which were detrimental to their flow process. Head of Reception Ho3, commented that *'you* [the facilitator] *could perhaps consider any other tasks or activities for your future CPS training, since some tasks were really challenging to follow'*.

5. Discussion and conclusion

5.1. General discussion

Drawing on TFT, we sought to establish the significance of teamwork for individual creativity, which can be harnessed through a shared TF experience. Whilst this research is timely and applicable to all organisations, it has a particular impact on service-based organisations such as the T&H industry as it clearly articulates the importance of teamwork in individual creativity and illustrates how this can be harnessed via TF. There has been a lack of empirical insight into how a team's creative effort can encourage individual learning and stimulate their creativity, bringing benefits to themselves and the workplace (Garavan et al., 2019; Lau et al., 2017). These findings reinforce previous research illustrating the fundamental importance of team members possessing collective ambition, which in turn supports other pre-requisites for effective learning and sets the stage for TF (Primus & Sonnenburg, 2018; 2024; van den Hout & Davis, 2022; van den Hout et al., 2017). A key finding here is that organisations need to be clear and robust in reinforcing collective ambition to ensure that the flow process can be fully realised.

In line with prior research (van den Hout et al., 2018), our findings highlight that experiencing TF is a complex and multifaceted process which requires external stimuli such as training interventions. We contribute with our TF Model (see Fig. 2), which illustrates essential prerequisites, processes, and outcomes. In addition, we highlight important enablers such as mutual trust, the supporting role of the facilitator, and positive reinforcements of the facilitator that can lead to stronger flow experiences. Our findings also provide examples of 'unflow' – a phenomenon which has not yet been well understood in prior research.

We add to the academic understanding that TF requires time, which was enabled by the space of the training session. Adequate time serves as an important creativity vehicle (Amabile & Pratt, 2016) as it fosters assurance and safety between individuals. While all teams started with collective ambition, it was a journey that was not linear. The length of time spent on each of the elements varied by team. Hence, the time investment was important in enabling TF to stimulate creative outcomes. Similar findings were recorded by Primus and Sonnenburg (2024) in implementing design thinking in teams, observing that time is necessary for developing and stabilising TF.

This research established that all the elements of TF were essential for flow to emerge (van den Hout et al., 2017), leading to creative outcomes. In our study, the main disruptor to achieving flow was a lack of mutual commitment in some teams, which led to some teams, even though they all started from a shared collective ambition, displaying

'unflow' tendencies characterised by communication breakdown and inactive participation despite interventions from the facilitator. Our findings allude to the significance of ensuring team members take responsibility for their role in any activity leading to task engagement.

Our research contributes to the significance of the facilitator in supporting TF, which, to our knowledge, has not been investigated beyond Wróbel et al. (2021) which focused more generally on facilitation and team processes. We show that the process of arriving at individual and organisational creative outcomes is formed through the structure and approaches of the facilitator. While adding confirmation to existing research on the importance of the trainer as a facilitator in supporting the creative process (Hughes et al., 2018), our findings explicate that the facilitator can enable creative settings through interactive approaches and artefacts. Participants valued the competency of the facilitator in organising and guiding the process, which helped to build trust (Puccio et al., 2020) and cohesion (Byron et al., 2023). Any resistance was also managed to keep participants engaged with the process.

The study's results found that change in individual creativity was also supported by the forces in the TF experience, such as warm-up exercises during the training, various creativity tools and post-training engagement with creativity. Such forces can stimulate individual creativity and support long-term individual creative transformation through training and development (Karwowski et al., 2022). This finding adds to the literature on training engagement theory (Sitzmann & Weinhardt, 2018) which postulates that teamwork, as a temporal work unit, can facilitate workflow and coordinate individual efforts for transformation in the event of training.

5.2. Theoretical implications

This research deepens the insights into the relationship between TFT, teamwork and individual creativity and augments previous studies on creativity (Gong et al., 2013) as earlier research neglected to examine how working in teams can stimulate individual creativity in the workplace (Maimone & Sinclair, 2014; Puccio et al., 2020; Wu & Chen, 2018). Our research illustrated that individuals gain additional cognitive resources and learn from each other through the shared experience of flow at the team level, boosting confidence in their ability to be creative during teamwork. This process emerges through the diversity of knowledge and perspectives present within the TF experience (Tang & Werner, 2017). The literature on organisational creativity highlights the significance of these social interactions between colleagues (Chua et al., 2012; Perry-Smith, 2006) in driving individual creativity (Amabile, 1988; Zhou et al., 2012). However, existing research typically focuses on how individual creativity can support group/team creativity rather than vice versa, as is the case here.

The knowledge sharing resulting from TF improves an individual's ability to solve problems creatively and, in essence, their own idea generation (Carmeli et al., 2013). Our findings highlight that team learning can translate to individual learning and, ultimately, individual creativity through self-awareness, developing new KSAs, learning how to influence and negotiate and embedding these tenets into employees' daily work. In addition, these processes can lead to bottom-up creativity post-training as part of individual or collective creative efforts. With our model of TF (Fig. 2), we contribute to an important theoretical gap with insights into how the reciprocal relationship between teamwork and individual creativity can be achieved. We also provide a clearer understanding to T&H leaders on developing such skills in their employees.

Additionally, we contribute to understanding the relationship between teamwork and bottom-up creativity. Our findings revealed that during the TF experience, creativity skills were gained through a CPS session, a supportive work environment (Li et al., 2018) and the transfer of skills (Carmeli et al., 2013; Slåtten & Mehmetoglu, 2011). Creativity was transferred out of the team context, and individuals applied this learning in their work areas to develop creative approaches to issues (Maimone & Sinclair, 2014) and involved others in this process. Limited attention has been paid to this perspective as the literature focused on how individuals contribute to organisational creativity by working collaboratively. Our research, therefore, advances the literature on creativity by identifying the reciprocal and mutually beneficial role of teamwork and the TF in supporting organisational creativity through individuals, which then permeates the business.

Lastly, we make a contextual contribution to the creativity literature in T&H by clearly identifying the importance of creative teamwork for individual creativity. Teamwork is essential to any T&H operation, but research is limited (Guchait & Hamilton, 2013) and previous T&H research failed to undertake in-depth investigations into creativity stimulants in service workers (Edghiem & Mouzughi, 2018; Hon & Lui, 2016). Teamwork is intensified in T&H because working individually cannot achieve organisational goals. Our findings elucidate how T&H leaders can fuel the dynamic energy already occurring from teamwork and TF to stimulate further creativity, which is critical for any T&H business. Van den Hout et al. (2018) asserted that further research is required to investigate TF in business environments, which is significant in supporting creative output. Our findings demonstrate how creativity can be harnessed and sustained through stimulating TF via CPS for individual and organisational benefits. To the researchers' knowledge, this is the first study to provide an empirical understanding of TF for organisatons in the T&H sector.

5.3. Practical implications

The analytical results articulate how CPS in teams can stimulate employees' creativity and how they apply this to their everyday work. Our findings indicate that investing in team creativity provides non-financial rewards to employees, which has a lasting impact on their own creativity. Hence, organisational leaders should adopt a goal-setting approach (collective ambition). Specifically, the focus should be developing CPS teams based on organisational goals related to the department's function or sub-teams. Efforts should be made to ensure that this becomes part of the everyday work of the organisation, not just a one-off activity. For instance, this can be built into the induction process for new employees, as part of continuous on-the-job training or be integrated into departmental meetings. As an example, creativity in teams can be used within T&H in the housekeeping department to develop new methods to save time in cleaning guest rooms and room inspection or developing new ways to meet the hygiene requirements of guests, which then transfers to the individual aspects of the housekeeper's work.

5.4. Limitations and future directions

Although every effort was made to ensure the richness and completeness of the findings, we recognise the ensuing limitations and offer new research directions. Whilst objective measures have been used to assess the determinants of team flow (van den Hout et al., 2019), this study was not conceptualised to test or ascertain these per se. The focus was on the learning process (Ma et al., 2023), informed by participant evidence. Using these findings as a grounding, new investigations can further unpick the enablers and outcomes such as mutual trust, unflow and individual creativity either stand-alone or with other team flow measures such as team positivity and performance of happiness (van den Hout et al., 2019). Evaluative approaches can test the creativity changes pre and post-team flow. Particularly, we call for more evidence of 'unflow' as the communication issues may have resulted from participants needing individual time to explore their own ideas in the TF experience (Zenk et al., 2022).

The findings were collected using in-person training arrangements and involved the onsite recruitment of participants. Training modes have shifted with digital technologies (Abi Saad & Agogué, 2023). Using this research as a basis, we encourage scholars to investigate alternative

TF training forms in onsite, online, and hybrid environments further.

We also reported the results of only one training method. The frequency and types of methods used in training sessions can affect training outcomes (Woods et al., 2018). Thus, more evidence is needed to examine the most effective training methods and arrangements for TF and outcomes. Studies on team composition, creativity and TF outcomes require further investigation.

Whilst detailed care was taken to capture the conversations and overall dynamics during the TF sessions, a range of insights might have been lost. In future studies, scholars are encouraged to use technology, including cameras or more labour-intensive research arrangements, to capture further insights. Our findings also highlight the important role of the facilitator, who acted as an enabler of TF for some teams but also as an inhibitor for other teams. Studies into facilitator roles constitute an important avenue for future studies to enrich our understanding of effective leadership styles and behaviours for TF and training.

Lastly, the generalisability of the results needs to be considered, as our qualitative sample was limited to the hotel sector. Applicability can be seen in service-based organisations where creativity and innovation are core factors underpinning the customer experience. We cannot discount that our findings might vary in different industries and cultural contexts due to how they approach CPS and experience TF (Feng et al., 2024; Razinskas et al., 2022). Future studies would benefit from collecting a wider range of perspectives on the effectiveness of TF, involving both those who undergo training and those who experience the outcomes of training.

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We confirm that we did not use Generative AI and AI-assisted technologies in preparing this manuscript.

CRediT authorship contribution statement

Anastasia Kulichyova: Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Alisha Ali:** Writing – review & editing, Writing – original draft, Visualization, Methodology, Formal analysis, Conceptualization. **Martin McCracken:** Writing – review & editing, Supervision, Resources, Conceptualization. **Judith Woods:** Writing – review & editing, Supervision, Resources. **Sandra Moffett:** Writing – review & editing, Supervision, Resources.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jbusres.2025.115448.

Data availability

Data will be made available on request.

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