

Kind of Blue

The alchemy of creativity in project teams.

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1. Introduction

Constantly trying to do things in a different way and doing things differently and do it in a kind of perceived innovative way and you are making and striking a difference in being out there and showing yourself doing interesting crazy ideas that has that snowball effect....

Technical director of a creative agency.

Creativity is a desirable dynamic in many modern project environments and creative enterprises are increasingly seen as important drivers of economic development (Foord, 2009; Halkos, 2021). The creative industries are said to create symbolic goods of ideas, experiences, and meanings (Bilton and Leary, 2002). A brand of employee, the creative, has emerged who has traits and properties that drives the conceptual stretching of imagination and possibilities within a project team. For the project manager, the challenge is how to appoint and manage a team of individualistic people that value their creative autonomy whilst generating the *esprit de corps* that creates the sort of superior value and “*new fields of knowledge*” that are not predefined at the scoping and planning phase of the project (Gillier, Hooge and Piat, 2015:947). It requires novel creative configurations within a conceptual space of creative liberties and managing that space in a meaningful, viable and valuable way. By configuration we mean assembling professional skills and personal attributes in a way that enables creativity to emerge of the order that is more than simply the sum of team members. Our interest is in a) understanding the emergent properties of a creative project team by firstly defining the domains and quality dimensions that make that conceptual space, b) mapping how those quality dimensions may operate and interact and c) simulating those interactions in an artificial project environment.

2. Literature review

Creativity can happen through new combinations of familiar ideas based on innovative new configurations, convergence, and creative associations (Boden, 2005). The new idea must be relatable, it must have some “*intelligible conceptual pathway for the new combination to make sense*” (Boden, 2005:3). Conceptual pathways or spaces provide stable structures within which creativity happens but with constraints. Chess is a game of infinite creative possibilities but always constrained by the reality

of 64 squares and the rules of the game. Stravinsky's *Rite of Spring* or Schönberg's *Pierre Lunaire* are radical musical innovations that are still constrained by the rules of musical notation and at least to some extent by musical convention. The possibility exists of radically transforming the conceptual space so making the impossible possible (Boden, 2005). Consider adding manoeuvres to chess pieces that adds new dimensions and dynamics to the game. Thinking creatively is thus the pursuit of fresh perspectives and new dimensions whilst being open to the unexpected and the possible. Creativity has been explained as a problem-solving process of blind variation and selective retention (Campbell, 1960; Simonton, 1998, 1999). In this view, creativity combines the generation of variation and selection based on external inputs and internal experiences and "*chains of associative thoughts*" (Simonton, 1998:312). The process may create several possible solutions, in other words there may be equifinality or several creative routes to a solution although one will likely be preferred. Measures of creativity aim at assessing intelligence, divergent thinking and associational abilities as well as identifying the personality traits that support creative achievement. Core traits include *intuition*, *confidence*, *broad interests*, *interest in complexity*, *independence*, and *aesthetic appreciation* (Barron and Harrington, 1972).

The investment theory of creativity (Sternberg, 2006), states creativity requires six distinct but interrelated resources, *intellectual abilities*, *knowledge*, *styles of thinking*, *personality*, *motivation*, and *environment*. In this scheme, intellectual abilities are especially important as a) the ability to view problems in new ways and not constrained by convention, b) the ability to assess the value of an idea and c) the ability to convince others of the value of an idea. How and when those skills converge and diverge is also important in terms of balance and timing. Bousinakos and Halkos (2021) propose certain characteristics that may drive creative procedures at the individual and collective levels. At the individual level, traits such as knowledge of sector and of the problem and related decisions are important as is the will to be open to reinterpretation and alternative views.

The componential theory of creativity (Amabile, 1982, 1983) integrates personal creative traits and properties with intrinsic motivation and social influences. It has been especially valuable in assessing team and organisational creativity and it has been used to assess team creativity relevant processes including improving creative collaborations and making the most of diverse skills (Amabile and Pillemer, 2012). The social and contextual view of creativity considers how the individual is influenced by the social environment through skills transfer and by motivational components (Amabile and Pillemer, 2012). Creativity does not happen in a social vacuum but is the outcome of talent, training, imagination and influences the effect of which can be studied through networked associations (Smith-Perry and Shalley, 2003).

3. Managing creative project teams

Creative role expectations drive people to internalise creativity as a personal quality and identity that is enacted in creative action and through social interaction and positive feedback from creative peers (Liu, Vriend and Janssen, 2021; Josefsson, 2015). In a project environment, this can create tensions when a creative and exploratory identity is curtailed by expectations of deadlines and deliverables (Gotsi *et al.*, 2010). Promoting creativity, identifying motives, encouraging exploratory behaviour, collaborative problem solving whilst taking advantage of the individual's internal motivation are all management strategies that aim at increasing the creative output of teams. This is a challenge where the manager must weigh, select, and strike a balance between creative skills, team dynamics and organizational intent and how those interact to simultaneously optimise the creative quality of a team whilst serving organisational interests (Bissola and Imperator, 2011). Management theories are wanting when it comes to describing what happens in the field as the project manager works to stoke the creative energy of a team. Conventional tools such as position power and organisational intent, are not conducive to managing creative people whereas expertise and creative problem-solving skills command the respect of a project team (Mumford, 2000; Mumford *et al.*, 2002). Simon's (2006) syntheses of managing creative projects sees the project manager acting as *sense maker*, *web weaver*, a *game master*, and a *flow balancer* and emphasises being creative in the management of creativity. Others advocate a compromise where the manager takes on the role of *versatile*, *creator*, *manager*, and *technician* (Bérubé and Demers, 2019; Bérubé and Gauthier, 2021). A focus on time constraints (Khedhaouria, Montani and Thurik, 2017), and methodological choices (Blaskovics *et al.*, 2023; Olszewski, 2023) are examples of work that is tethered to a core philosophy of control, a focus on the how rather than the who. All target the tension between artistic values and project management values where the angles of control and creativity seem to naturally collide (DeFillippi, Grabher and Jones, 2007). Managing such tensions requires understandings and strategies that emphasise both the differentiation and integration of different identities (Gotsi *et al.*, 2010).

4. The analogy of jazz

Jazz music is often created based on rudimentary sketches of scales and melodies that became the conceptual space for improvisation and jamming. It balances autonomy with interdependence to borrow from Eisenberg who also states jamming is *transcendent*, *embracing diversity*, is *risky* and *fragile*. Eisenberg (1990:139) proposed the concept of jamming, a fundamental phenomenon in jazz and other improvisational arts, as "*fluid behavioural coordination that occur without detailed knowledge of personality*" that could also apply to organisational communication noting that some communicative improvisations do not follow the values and norms of communicative clarity but are nevertheless a very effective way of organising action. A jazz band is a creative team that continuously stretches that conceptual space of music making, experimenting with new musical configurations and creative expressions. Jazz is about spontaneous improvisation within a conceptual

space of musical structures and rules that determines what can and cannot be done and enables the creative jazz musician to assess spontaneously what will or won't work whilst synchronising with the interpretations and intentions of the other members of the band (Bastien and Todd 1988).

Bastien and Todd describe how jazz bands rely on structural and social constraints and communicative codes for orientation but also on centring, a sort of common denominator what Bastien and Todd call a “*relatively placid environment for musical invention*” (p:596), a similar concept has been proposed in organisational studies (Weick, 1979, 1995). A jazz band is a system of agents, distributing tasks, learning, alternating provocations, and support (Barrett, 1998) that when done well creates total immersion, transcendence, and commitment to the act of creation i.e., flow (Csikszentmihalyi, 2014). It also has a significant social element e.g., socialising with other musicians and during performances dynamically negotiating the trajectory of the jazz. Jazz musicians look to create new music without having a clear prescription for what that music will eventually sound like, and they usually require the collaboration of other jazz musicians. A jazz band can be said to constitute the means or test bed for the individual to try out different musical ideas and to demonstrate musical competence. In return the jazz musician must support other members in their endeavours. Jazz appears flexible but is subject to complex underlying rules of rhythms and keys. When errors occur, the entire band learns. The music dissipates and members try to run through the sequences that led to the error. The very best jazz bands are often spontaneous gatherings of talented individuals whose brief collaboration creates outstanding pieces. All of this could also be said to apply to creative project teams that perform within such a conceptual space of improvisation based on rules, norms, and tacit understandings. The management problem is how does one select the individual that one thinks will positively contribute to superior performance when combined with other members of a creative team. By superior performance we mean the emergence of something that is more than simply the sum of the skills of members. In the case of the jazz band, all members are competent musicians, but this alone does not lead to a superior performance. Other creative, social and relational elements must be present.

5. Research approach

Research has produced comprehensive maps of creative components (Amabile, 1983; Jordanous and Keller, 2016) and conceptualized creativity as a phenomenon (Boden, 2005), however we know less about how those components can be combined to maximum effect. Inspired by (Gardenfors, 2004:7) we frame a creative team as a conceptual space of domains that are made of dimensions of properties whose “*primary function is to represent the various qualities of [team members]*”¹. Domains represent the fundamental professional domains of the team e.g., the creative, the data scientist, the software engineer, the project manager. Some domains are essential, the rhythm section, to continue the jazz analogy, others may have no practical role other than having a motivating and binding effect

¹ Gardenfors uses the term objects in his more abstract rendition of quality dimensions.

on the team, a kind of social adhesive. Quality dimensions are the building blocks of domains e.g., the qualities each profession brings to the team. A property describes how a quality dimensions functions, and under what conditions. So, we have three units of analysis within the conceptual space of a creative team, i.e., what domains are necessary, what are the quality dimensions we desire from team members, and what are the properties of those dimensions. We propose to explore the potential of this conceptual model through a combination of action research and agent-based modelling (ABM). The defining feature of ABM is that “*fundamental structures emerge from interaction of individual agents*” (Axtell and Epstein, 1994:28), interactions that are based on empirically grounded assumptions about the individual traits and social properties of the agents that the researcher interprets and translates into behavioural rules. Our research will integrate insights from ABM research on creativity, e.g., (Spencer, 2012; Kahl and Hansen, 2015) with work on the management of creativity in projects, e.g., (Townley, Beech and McKinlay, 2009; Blaskovics et al., 2023; Olszewski, 2023).

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