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Creating and sustaining space for play as leeway for innovation

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ABSTRACT

Large established organizations face the 'paradox of institutionalizing spontaneity'. While they recognize the need for innovation and create enabling structures to support it, these very structures can inadvertently constrain the spontaneous qualities essential for breakthrough innovation. This longitudinal ethnographic study explores how organizational members navigate this paradox by following six innovation projects over three years at a multinational technology company. Our processual analysis that combined participant observation, interviews, diaries, and project-related documents reveals that innovation projects progress through tactically re-created 'spaces for play'—temporary leeway that innovators create for themselves within existing organizational structures. We show how these spaces develop through recurring patterns of opening, maintaining, and reconstituting and how project teams employ situated tactics to creatively leverage specific organizational structures to open and sustain them. Projects advance by realigning with company strategy to re-open space for play, while those failing to connect either stop or pivot. Our findings suggest that innovation-enabling structures alone are insufficient. Innovators must continuously use tactical combinations to create and sustain temporary space for play as leeway for innovation, generating emerging impacts that influence organizational contexts and shape subsequent project developments. We also contribute both conceptual refinements and empirical grounding to the mainly theoretical body of knowledge on organizational entrepreneurship and space for play.

1. Introduction

Large established organizations (LEOs) today face the 'paradox of institutionalizing spontaneity'. Leading companies recognize the need for innovation to maintain competitive advantage and create enabling structures to support it. Yet, the very act of institutionalizing innovation introduces formal requirements, processes, accountability measures, and strategic alignment expectations that can inadvertently constrain the spontaneous, emergent, and serendipitous qualities often essential for innovation. Christensen (1997) characterized part of this complexity as the 'innovator's dilemma,' where organizational success creates challenges for exploring new opportunities, leading organizations to establish innovation programs that must then navigate their own structural requirements.

Prior research characterizes several practices innovators use to leverage and work around organizational structures, including strategic framing (Burgelman, 1983; Dougherty and Heller, 1994; van Dijk et al., 2011), networking (Burgelman, 1983; Dougherty, 1990, 1992; Garud et al., 2011), mobilizing resources (Burgelman, 1983; Garud et al., 2011; Kannan-Narasimhan, 2014; Kannan-Narasimhan and Lawrence, 2018; Sonenshein, 2014), and translating and engaging others in the development of novel concepts (Dougherty, 1992; Howard-Grenville, 2007). Yet we lack understanding of how these practices are combined to enable innovation in LEOs, as well as the recurring patterns and impacts of these efforts over time. We consider organizational entrepreneurship and the notion of 'space for play' (Hjorth, 2004, 2005, 2012) a useful lens for understanding how organizational members use various tactics to deal with the paradox of institutionalizing spontaneity on a practical day-to-day basis. However, we lack empirical studies of this theoretical framework in real-world industry settings.

We conducted a longitudinal ethnographic case study at MultiTech UK Research, Technology and Innovation, a partially uncoupled strategic innovation capability in a multinational technology company. We followed six innovation projects on-the-ground as they unfolded over three years. We asked: *how do organizational members navigate the paradox of institutionalizing spontaneity by working around and leveraging established organizational structures to foster innovation, and what are the impacts of these efforts over time?* Our processual analysis combining participant observation, interviews, diaries, and project-related documents shows that the innovation projects progressed through tactically

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re-created 'spaces for play' that enable temporary leeway for innovators within existing organizational structures. These spaces develop through a recurring pattern of opening—moments of legitimization, maintaining—moments of developing new understandings, and reconstituting—moments of consolidation and feedback. We identify six tactics employed by project teams to creatively leverage and work around particular organizational structures, with certain tactics foregrounded at these distinct times in the project development process. Projects advanced by realigning with the company's strategic interests when reconstituting space for play, while those failing to connect with the company strategy at this moment either stopped or pivoted. The efforts generated micro-level emerging impacts that influence organizational contexts and shape subsequent project developments.

Our study highlights how innovation-enabling structures alone are no guarantee for innovation. Innovators must continuously use combinations of various tactics to create and sustain temporary space for play as leeway for innovation. We bring together knowledge of previously explained innovation practices into a framework of sustained innovation work, illustrating how they are tactically used at certain times to creatively leverage and work around specific organizational structures and how these efforts generate emerging impacts that influence organizational contexts and shape subsequent project developments. We also contribute both conceptual refinements and empirical grounding to the mainly theoretical body of knowledge on organizational entrepreneurship and space for play.

This paper is structured as follows. The first section explores the paradox of institutionalizing spontaneity in LEOs. We review known practices for navigating established organizational structures to foster innovation that informed our investigation. We introduce organizational entrepreneurship and the notion of 'space for play' as a framework for exploring how organizational members use various tactics to deal with the paradox of institutionalizing spontaneity on a practical day-to-day basis. Following this, the case study and results from our analysis are presented. We conclude with a discussion of our results in light of current research.

2. Theoretical framework

2.1. The paradox of institutionalizing spontaneity

LEOs present particularly complex environments for innovation. On one hand, established organizations have many advantages that enable innovation such as greater knowledge of customer behaviors and needs through regular interaction (Chandy and Tellis, 2000), established trust with their customer base so potential customers may be less apprehensive about adopting novel offers from them (Chandy and Tellis, 2000; Obal, 2013), rich funding and technical capabilities (Chandy and Tellis, 2000; Rosenbloom and Christensen, 1994), and superior market power over distribution channels to reach end consumers (Mitchell, 1989). On the other hand, LEOs present particularly challenging environments for innovation, exhibiting what might be termed "innovation constraining DNA." Their structural characteristics (hierarchical organization, well-defined workflows, and stringent accountability mechanisms) prioritize efficiency and stability over experimentation and risk-taking (Christensen and Raynor, 2003; Henderson, 2006). Managers are incentivized to prioritize investment in continuous improvement and cost reduction initiatives over risky new projects they are ill-equipped to exploit, avoid cannibalizing their core business, and ensure shareholder returns (Christensen and Overdorf, 2000; Danneels, 2002; Denning, 2012). Furthermore, organizational filters purge information that is irrelevant to LEOs' strategic imperative to address their customers' current needs, encouraging narrow focus on their local market peak and discouraging trade-off of exploitation gains to engage in market exploration (Danneels, 2003; Levinthal, 1997). The very features that enable operational excellence can simultaneously inhibit innovative efforts.

This creates an innovation paradox: organizations recognize the need for innovation but struggle to integrate it into core operations. This tension reflects broader organizational paradoxes where competing demands coexist and persist over time (Smith and Lewis, 2011). Paradox has been defined in organization studies as 'the simultaneous presence of contradictory, even mutually exclusive elements' (Cameron and Quinn, 1988). The interrelated poles of a paradox are separately coherent but seem incompatible in conjunction (Lewis, 2000; Smith and Lewis, 2011). Organizational actors have a natural tendency to try to resolve paradoxical tensions by pursuing one pole over the other, but this course of action causes the paradox to endure and increase in intensity (Lewis, 2000). Organizations increasingly face persistent contradictions between exploration and exploitation, flexibility and efficiency, and competition and cooperation (Schad et al., 2016). Paradoxical tensions are a natural part of organizing with latent potential that organizations can tap into by handling them constructively (Clegg et al., 2002). When worked through rather than avoided, contradictory logics of exploitation and exploration demands can support sustained organizational performance (Smith and Tushman, 2005).

Yet, many innovation scholars advocate that LEOs should pursue innovation initiatives separate from their core business operations because they are incongruent with their established ways of working. They suggest that LEOs form separate teams and funding buckets at corporate level, invest in external incubators and start-ups, leverage collaborations, or enable spin-offs to foster innovation (Campbell et al., 2003; Christensen and Raynor, 2003; Claude-Gaudillat and Quélin, 2006). These innovation-supporting structures provide essential resources, coordination capabilities, legitimacy for innovation efforts, and dedicated time and space for creative work (Burgelman, 1983; Henderson, 2006). However, they also create their own constraints through formal processes, reporting requirements, milestone expectations, and strategic alignment demands. Firms often develop sophisticated innovation support systems while simultaneously creating evaluation criteria and approval processes that may inadvertently filter out radical or unconventional ideas (Danneels, 2003). Innovations tend to require different ways of thinking and doing that violate prevailing organizational practices in LEOs. Despite best efforts, innovations often fall victim to the tyrannies of current strategy, served markets, established business model, and current organizational structure (Leifer et al., 2000).

Organizations today struggle with supporting innovation while preserving the spontaneous qualities that make breakthrough innovation possible. de Paoli and Ropo (2017) argue many formal creative initiatives fail in their purpose, reinforcing existing power structures rather than fostering genuine creativity. Symbolic approaches (colorful furniture, game rooms, whiteboards) may create illusions of freedom while leaving fundamental evaluation criteria and power dynamics unchanged. Even well-intentioned innovation structures may struggle with this paradox: the very act of formalizing support for creativity and providing resources can introduce requirements and expectations that constrain the spontaneous exploration they aim to enable. As Brown and Duguid (1991) observed in communities of practice, formalizing informal learning often destroys the conditions that make it effective. Similarly, standardizing innovation processes can create what Boje (1995) calls "performative spaces", environments that simulate creativity while constraining it through measurement and control. Navigating the paradox of institutionalizing spontaneity requires understanding the delicate balance between providing organizational support for innovation while preserving room for genuine experimentation and creative exploration.

2.2. Known innovation practices for navigating established organizational structures

Recent studies of on-the-ground innovation work in LEOs characterize several practices innovators use to leverage and work around organizational structures. Connecting to and exploiting the strategic

context is important for securing sponsorship and legitimacy for innovation projects. Burgelman (1983) and Dougherty and Heller (1994) highlight how innovators in established organizations pursue championing and strategic framing efforts to link innovation initiatives to corporate contexts. Van Dijk et al. (2011) demonstrate how innovators pursuing radical innovation projects in mature companies exploit micro-institutional affordances, such as a heterogeneous institutional context, multiplicity of institutional demands and ambiguity of interests to find sponsors who perceive their work as legitimate and embed their projects within established practices and structures. Leifer et al. (2000) also highlight the importance of senior sponsorship to provide protection and encouragement for innovators pushing radical innovation projects in established organizations and that these actors should maintain regular contact with the core business to secure continued support for their work.

Previous research also shows how innovators engage with key internal and external communities to understand market opportunities and connect relevant knowledge to identify new business opportunities. Burgelman (1983) describes how innovators carry out linking processes, assembling both external and internal knowledge to create solutions for unmet market needs. Dougherty (1990) describes how innovators pursuing new product efforts in large organizations undertake cycles of market knowledge creation to develop market understanding essential for commercial success of new offers. Dougherty (1992) further highlights how effective technology-market linking is critical for the success of new product innovation and collaboration across technical, marketing, manufacturing and sales departments is necessary to synthesize relevant expertise in large organizations. Garud et al. (2011) describe how innovators at 3M showcase emerging technologies to different organizational groups at technology fairs as well as engage with external users, customers and other industry actors to foster interactions and enable cross-fertilization of ideas.

Resource mobilization is necessary for innovators to carry out innovation work. Burgelman (1983) describes how innovators often act as scavengers, utilizing hidden and overlooked resources to demonstrate viability of ideas. Kannan-Narasimhan (2014) identifies that in the early stages when project success is highly uncertain, innovators use covert methods to acquire resources for their projects and only tend to seek managerial attention when they can show capability and feasibility. Sonenshein (2014) documented strategic improvisation cases where innovators use informal networks and hidden slack resources to bypass bureaucratic barriers, creating temporary freedom spaces within rigid systems. At 3M, innovators leverage discretionary time and slack resources to explore new ideas (Garud et al., 2011). Kannan-Narasimhan and Lawrence (2018) further reveal how organizational actors seeking support for ill-fitting innovations that challenge the organization's strategy make important choices in selecting, reframing and connecting firm resources along with framing external opportunities to get decision-makers to allocate resources to their projects.

Tailoring communication of ideas is needed for engaging relevant stakeholders in realizing innovation opportunities. Dougherty (1992) emphasizes that collective action is essential for successful implementation of innovations, which requires innovators to undertake efforts to create shared understandings among disparate 'thought worlds' within specialist departments. Howard-Grenville (2007) found organizational members introduced environmental considerations into the design of new manufacturing processes at a high-tech manufacturer by strategically positioning environmental issues within the dominant schemas of key stakeholders, subtly introducing novelty and generating attention and action from them. They gained stakeholder support by adapting their language to resonate with established priorities while shrewdly stretching boundaries.

These studies commonly demonstrate that successfully leveraging and working around organizational structures to progress innovation projects is highly localized and situational, requiring both tactical intelligence and deep organizational knowledge. The exploitation of conditions is a situated accomplishment and reflexivity is central to successfully deploying the right approach at the right time in response to changing circumstances (Howard-Grenville, 2007; Kannan-Narasimhan and Lawrence, 2018; Leifer et al., 2000; van Dijk et al., 2011). This current research documents well how particular practices are used to overcome challenges in situated contexts. However, it provides limited insight into how these various approaches are continuously used together to leverage and work around structures and the impacts of these efforts over time. We know little about how innovators adjust moves when encountering obstacles, their cumulative learning from experiences, and whether innovative practices persist or fade over time (Dougherty and Heller, 1994; van Dijk et al., 2011).

2.3. *Organizational entrepreneurship and 'space for play' as leeway for innovation*

Drawing on de Certeau's (1984) work on The Practice of Everyday Life and (Foucault, 1986) concept of heterotopia, Hjorth (2004, 2005) describes how entrepreneurial actors in organizations creatively use dominant organizing forces to generate 'space for play'. Classical managerial thinking and practices in organizations are associated with 'official' strategies (de Certeau, 1984), generalized policies developed and enforced by elite institutional groups who lack localized knowledge of the lived experience of their use in practice (Hjorth, 2004). Influenced by the industrial revolution, senior leaders in organizations enforce managerial practices and processes designed to enact an organization's existing vision of the future as efficiently as possible (Hjorth, 2012). On the other hand, entrepreneurial tactics are the 'art of the weak' (de Certeau, 1984) used to manipulate strategic forces (Hjorth, 2004). Driven by desire rather than short-term economic interest, entrepreneurial actors self-reflexively employ tactics to locally withdraw from the reigning managerial order to enact new paths of creative action that are within the space of but different from strategically imposed places in organizations (Hjorth, 2004). By tactically utilizing official strategy devised by management structures, organizational members entrepreneurially create space for play (Hjorth, 2004, 2005).

We understand 'space for play' as the leeway innovators create for themselves using various tactics to leverage and work around organizational structures. Spaces for play are environments within organizations that provide employees with freedom to engage in creative activities, experiment with new ideas, and push boundaries while remaining within defined structural limits (Beyes and Steyaert, 2011; Hjorth, 2005, 2012). These spaces function as "worlds within worlds", reflecting yet simultaneously disrupting existing organizational systems (Foucault, 1986; Johannisson, 2011). New practices that arise within spaces for play impact strategic management forces in organizations, offering a conduit for change and innovation (Bazin and Naccache, 2016; Hjorth, 2005, 2012; Johannisson, 2011). Organizational strategies and the entrepreneurial tactics used to leverage them constantly influence one another—existing strategies shape tactics used in practice and, in turn, what is actually practiced impacts the dominant organizing forces that shape the next iteration of entrepreneurial activity (Hjorth, 2012). This dialectical relationship creates productive tensions that can transform organizational practices over time (Beyes and Steyaert, 2011; Johannisson, 2011).

Organizational members create spaces for play all the time by working to get things done within everyday organizational constraints (Hjorth, 2005). However, with the allocation of resources dedicated to carrying out pre-determined activities prescribed by the organization's set vision, organizational members find little support for entrepreneurial activities that connote risk, uncertainty and unpredictable outcomes (Hjorth, 2012). To foster innovation, organizations need to embrace these already existing entrepreneurial activities that generate new ways of organizing and disrupt normalizing organizational forces (Hjorth, 2005). However, because organizational members must make use of managerial strategies in organizations, the field of possibilities for

innovation to arise is limited by the existing management order (Hjorth, 2012).

We consider organizational entrepreneurship and the notion of 'space for play' as leeway for innovation a useful lens for understanding how organizational members use various tactics to deal with the paradox of institutionalizing spontaneity on a practical day-to-day basis. However, we lack empirical studies applying this theoretical framework. As a mainly theory-driven body of research, these concepts have rarely been explored in real-world industry settings (see Hjorth, 2004; Hjorth, 2005 for exceptions).

2.4. Research gaps and approach

LEOs face the paradox of institutionalizing spontaneity. While they possess significant advantages —customer knowledge, technical capabilities, funding, and market access—they also have legacy management systems and ways of working that can inadvertently constrain innovative work. Even innovation-enabling structures develop their own constraints that create fundamental tensions for organizational members working to foster innovation in these contexts. Prior research of on-the-ground innovation work in LEOs characterizes several practices innovators use to leverage and work around organizational structures. Yet we lack understanding of how these approaches are combined to create leeway for innovation in LEOs. Furthermore, we know little about how these practices are used over time as well as the impacts of these efforts. We consider organizational entrepreneurship and the notion of 'space for play' as leeway that innovators create for themselves a useful lens for understanding how organizational members use various tactics to deal with the paradox of institutionalizing spontaneity on a practical day-to-day basis. However, we lack empirical studies of these concepts in real-world industry settings.

3. Research setting and method

Our study takes place at MultiTech, a multinational technology leader recognized as a Top 100 Global Innovator. At the time of this study, MultiTech comprised 60,000 employees across 56 countries specializing in complex systems for defence, aerospace, security, transportation and space sectors. In January 2015, the UK subsidiary of MultiTech embarked on a transformational change 'Organizing for Growth' triggered by both internal and external organizational factors. Internally, MultiTech set an aggressive growth agenda that UK stakeholders recognized would not be achievable by relying solely on organic growth. Externally, their core markets were also changing with many of their key customers beginning to look beyond their traditional industry partners to co-develop novel solutions to their challenges.

As a market leader, MultiTech possessed many advantages to support its growth ambitions: established trust with key customers, deep technical and domain expertise, global reach, and dedicated research and development (R&D) funding. However, like most established organizations, it had existing projects and programs to deliver to current customers and near-term sales targets that were often prioritized over long-term opportunities for growth. The company's established solutions were also predominantly technical and product-focused, shaping a particular cultural mindset when it came to imagining new offerings. The company also struggled with bureaucracy, rigid processes, siloed operations and internal politics, particularly operating in safety and security critical contexts and having grown through acquisitions across diverse markets. Despite dedicated R&D resources, these funds were finite and the company was risk-averse toward allocating resources to novel activities with uncertain outcomes alongside demands for profitability.

As part of its transformation, MultiTech UK established a corporate Research, Technology, and Innovation (RTI) function to catalyze growth. RTI is a partially uncoupled strategic-level innovation capability, detached from core delivery governance processes yet still part of the organization's overall infrastructure. Beyond incremental innovation owned by the UK business units, RTI investigated new markets and sought transverse opportunities. Its operation was supported by mixed funding: as part of the company's international research network, an annual levy on UK business units based on overall sales, corporate seed funding, securing external research funding, and providing specialist technical support to business domains. RTI supported all MultiTech UK business areas that expected return on investment on financial contributions. This context provided a unique opportunity to examine day-to-day efforts to foster innovation within a large multinational technology company seeking to enable space for exploration and change within established structures.

3.1. Research design and data collection

Using a longitudinal ethnographic case study approach, we followed six innovation projects at MultiTech over three years to capture the spontaneous, informal, and contextual nature of innovation processes in real time (Hoholm and Araujo, 2011; Langley et al., 2013). This approach enabled us to observe everyday, processual, and performative actions through which innovation is enacted. We immersed ourselves in MultiTech's newly formed RTI function. The first author was a full participant observer, gaining first-hand experience of the team's innovation efforts (Emerson et al., 2011; Fayolle, 2003). This insider access provided deep insights into how members navigated established organizational structures to cultivate innovation in their day-to-day work.

Innovation projects were the nodes of our study to de-center the individual actors and foreground the collective practical activity occurring (Lindgren and Packendorff, 2003). The focal projects, selected in consultation with senior leader sponsors of our study, targeted understanding emerging customer needs in new markets to develop new innovative products and services. Beyond analyzing daily project activities, we examined the broader social context using Nicolini's (2012) iterative method of 'zooming in' to observe specific practices and 'zooming out' to assess broader organizational effects. This approach illuminated how situated innovation efforts shaped larger, seemingly

Table 1
Project profiles.

Project name	Domain	Incumbent position	Emergent customer need/market
Trust	Digital Security	Major European leader in cyber security, worldwide leader in data protection	Internet of Things, cyber threat, digitalization, automation
Civil UAS	Air Traffic Management	#1 worldwide in Air Traffic Management	Commercial use of unmanned aerial systems
Counter UAV	Defence Countermeasures	#1 in Europe for defence electronics	Control of unmanned aerial vehicle misuse
Mindful Journeys	Transport	#2 worldwide in signaling and supervision of rail networks	Intelligent mobility, Smart cities, personalized data services
Bridgwater	Critical Infrastructure Protection	Leader in secure communications and information systems (#2 worldwide in military tactical communications)	Construction of new nuclear power stations
Training	Training and Simulation	Global leader in simulation solutions	Cost-effective training solutions for collective preparedness, generation z digital native learning preferences

UAS: Unmanned Aerial Systems; UAV: Unmanned Aerial Vehicles.

stable structures. Table I summarizes the project profiles.

The first author combined introspective reflections with outward observations of innovation efforts (Alvesson, 2009). She attended 87 project-related meetings and events, collected 52 documents, 4 videos, and 129 pictures, and conducted 48 interviews with organizational actors advancing the projects, plus 20 interviews with other RTI function members and customers. Additionally, 36 diary accounts were collected from RTI colleagues, and the first author maintained a diary with 162 personal accounts. This multi-method data collection provided both depth and breadth, capturing personal experiences and diverse perspectives. Interviews explored participants' perceptions of innovation efforts and significant events, while diaries recorded inherent routines and personal reflections non-intrusively. Additional interviews provided insight into broader impacts of innovation efforts (Nicolini, 2012). Documents contextualized these efforts and outcomes over time.

During project interviews, participants described their projects, challenges, strategies for overcoming obstacles, expectations, and planned next steps. Quarterly repeat interviews tracked project progress. Participants also submitted diary entries, typically half to one page via email, responding to questions about activities, challenges, and expectations. Other RTI members and customers were asked about project experiences, highlighting successes, areas for improvement, and expectations. All interviews, lasting 45–60 min, were conducted by the first author in private hub rooms at the company's various UK locations.

Each project had funded teams at some stages while at other times one or two actors worked to progress them. The first author was a member of the Trust and Training project teams and was proximately involved in the Counter UAV project, naturally attending meetings and collecting artifacts as part of her work. For other projects, she relied on project actors sharing artifacts and inviting her to key events. Table II provides a breakdown of the data corpus by project.

At study outset, the research sponsors announced that the first author would participant-observe MultiTech's innovation efforts. An email detailing her role and the study's purpose was sent to potential participants. Participants were selected based on involvement with the focal innovation projects. Participants were informed that involvement was voluntary, they could withdraw anytime without repercussions, and data would remain confidential and anonymous.

Table 2
Data corpus.

Project name	Total number of core business stakeholders involved	Total number of project level actors	Data corpus
Trust	33	18 (min. 1, max. 10 active at a given time)	52 events attended 26 interviews 23 diaries 24 documents 1 video 68 pictures
Civil UAS	16	9 (min 2, max. 7 active at a given time)	1 event attended 18 interviews 2 diaries 4 documents
Counter UAV	18	9 (min 2, max. 8 active at a given time)	7 events attended 15 interviews 18 diaries 10 documents 1 video 24 pictures
Mindful Journeys	15	12 (min 1, max. 6 active at a given time)	1 event attended 12 interviews 7 diaries 2 documents
Bridgwater	5	3 (min 2, max. 3 active at a given time)	1 event attended 4 interviews 2 videos
Training	17	8 (min 1, max. 3 active at a given time)	32 events attended 9 interviews 7 diaries 12 documents 41 pictures

Note: Some interviews, diaries, events and pictures cover more than one project.

3.2. Data analysis

We drew on available guidance for theorizing from process data to derive theoretical insight from the data corpus (Langley, 1999). See Fig. 1 for an overview of our analytical approach. We initially used a grounded theory strategy (Gioia et al., 2013) to make sense of the first year of data collected. Codes emerged to describe the organizational context, tactics the project actors used to overcome challenges they faced in advancing their innovation projects, and the outcomes they achieved from their efforts. Similar codes were clustered based on code co-occurrence and the first author's ethnographic impressions to develop first-order concepts. The development of the emergent concepts was supported by the analysis of videos, documents, pictures and the first author's general observations. Iteratively consulting the innovation literature, the first-order concepts were organized into second-order themes and then further abstracted into aggregate dimensions based on our conceptual framework.

Next, we engaged in in-depth analysis of the project material to conduct a structured investigation of the interactions between the dynamic elements we identified in our initial analysis. We wrote case narratives drawing on the variety of forms of project data collected to generate a detailed account of each of the projects incorporating multiple different viewpoints (Langley, 1999). We used the constructs that emerged from our initial analysis, but also kept open to the emergence of new themes in our engagement with the full three-year data set (Langley, 1999). Quotes, document, video and picture material were embedded in the text as well as excerpts from the first author's own and her colleagues' diary accounts to substantiate the case stories. The case stories ranged in length from 62 to 219 pages, culminating in 723 pages in total.

Then we divided the six case stories into sequential episodes to organize the events that occurred over the course of each project and make sense of the project journeys. We used temporal bracketing to group the case story episodes into phases of recurrent activity for each project and systematically analyze how occurrences in one period produce contextual changes that affect subsequent happenings in later periods (Langley, 1999). We further used a visual mapping strategy to distil within-case recurrent patterns of activity on the projects (Langley, 1999). We plotted the project episodes on a series of curves that represented the recurrent opening and closing of spaces for play through time based on our conceptual framework. We engaged in an in-depth plotting of the development of each project over time and noted emergent changes that were generated within each space for play and how they influenced subsequent activities. Each of the projects progressed through between two and four phases over the course of the three-year study.

As a final step of our analysis, we aimed to produce an overall process model and associated situated practices for the innovation activities grounded within the multiple case data (Langley, 1999). We examined the within-case patterns we identified as a whole across the different project cases (Langley, 1999). We also looked into the everyday sayings and doings the project actors engaged in to open and sustain the spaces for play. We created a series of tables for each of the projects and looked in detail at what the project actors said and did when initially opening,

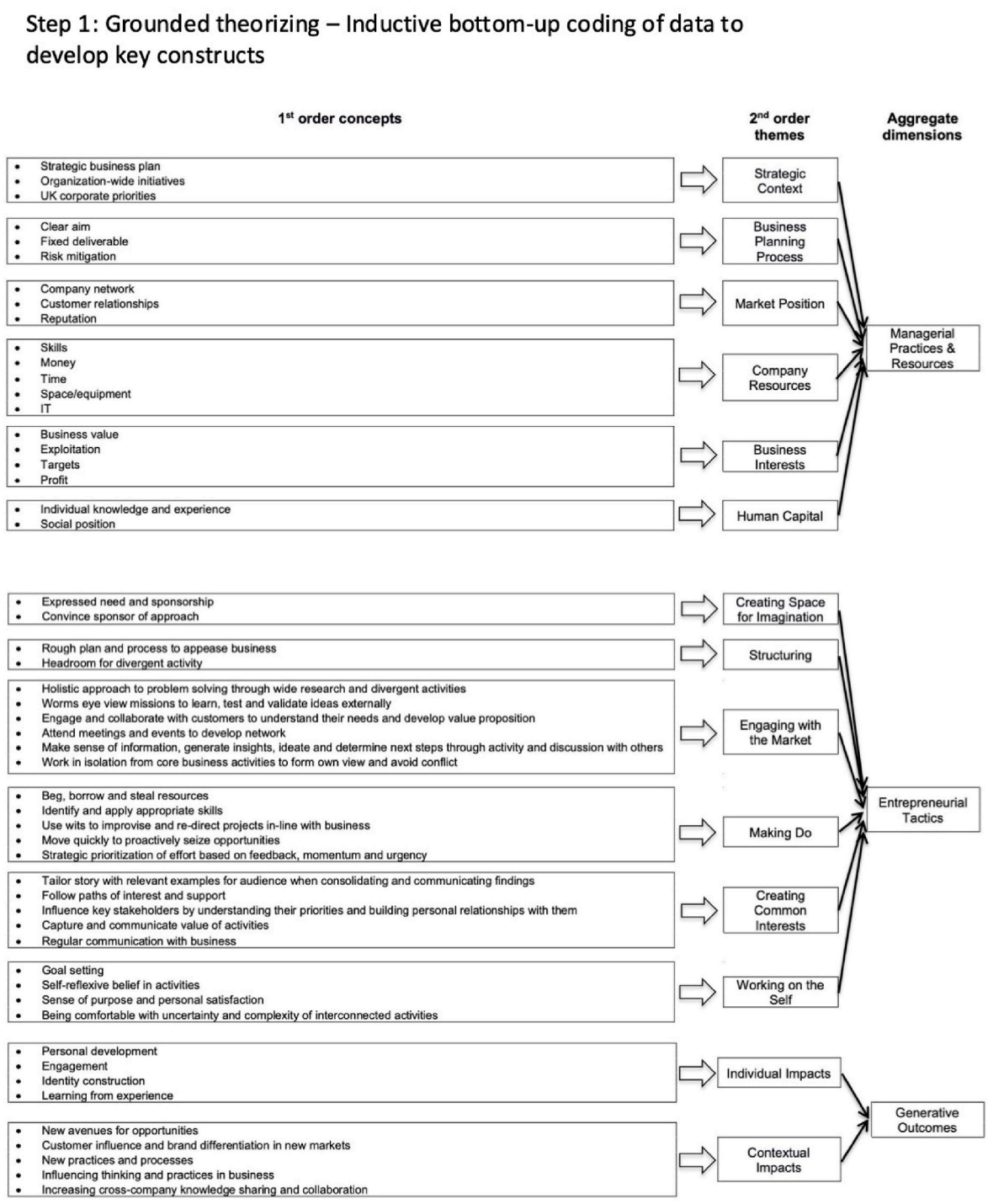


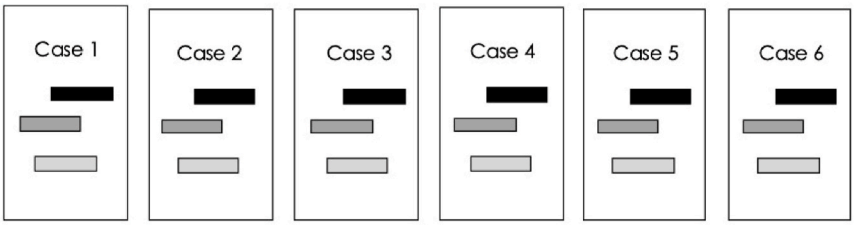
Fig. 1. Analytical approach.

maintaining, and reconstituting the recurrent spaces for play. These project tables were 60 pages in length. We then looked for patterns of activity in the table series for each project and then across projects and clustered similar happenings. We created a consolidated table of clustered activities that were carried out in each space for play across all of the projects. As a final step, we went back through the series of tables for each project to validate the consolidated table of activities across the six project cases.

4. Findings

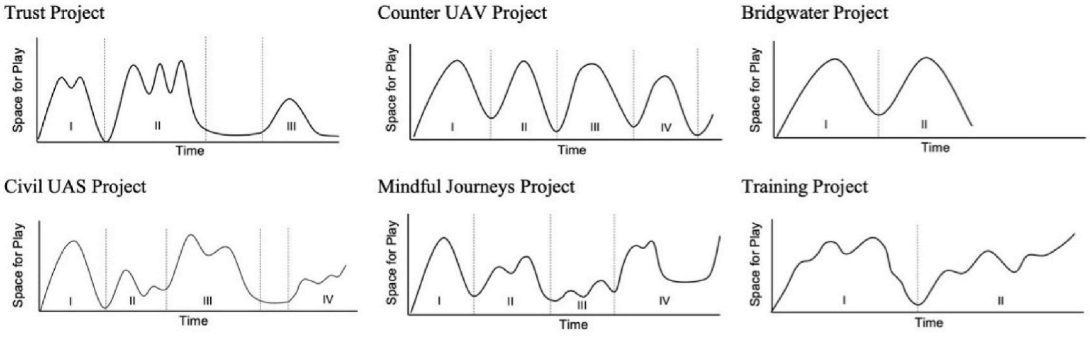
Our study explored how organizational members navigate the paradox of institutionalizing spontaneity by working around and leveraging established organizational structures to foster innovation and the impacts of these efforts over time. Our detailed processual analysis shows that the six innovation projects we followed in our study progressed through tactically re-created 'spaces for play' that enable temporary leeway for innovators within the existing organizational structure. These spaces develop through a recurring pattern of: *opening*—moments of legitimization, *maintaining*—moments of developing

Step 2: Case narratives – Composed using key constructs to reconstitute events into narrative account for extended analysis



Step 3: Temporal bracketing – Break down case narratives into episodes of distinct time periods where outcomes/results are input for next episode

Step 4: Visual mapping – Represent data using visual displays



Step 5: Case comparison – Use evidence from across cases to develop overall process model to illustrate patterns observed

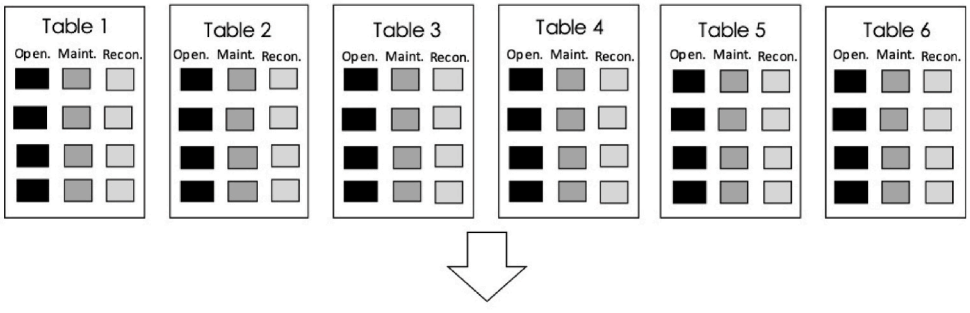


Fig. 1. (*continued*).

new understandings, and *reconstituting*—moments of consolidation and feedback. Established managerial practices at the company both imposed disbanding pressures on the projects and were creatively leveraged by the project teams to open and sustain leeway for the innovation projects to progress. Projects advanced by realigning with the company's strategic interests when reconstituting space for play, while those failing to connect with the company strategy at this moment either stopped or pivoted. The efforts generated micro-level individual and contextual impacts that influenced the organizational context and shaped subsequent project developments. Fig. 2 illustrates the recurring microdynamics of opening and sustaining space for play as leeway for innovation that we observed throughout our study.

We identify six different tactics employed by project teams to leverage and work around particular organizational structures to create and sustain space for play: *creating space for imagination*—cultivating internal sponsorship support for new and different ways of doing things leveraging the company's strategic context; *structuring*—establishing basic structure for project activities in relation to the company's business planning processes; *engaging with the market*—developing and testing ideas with customer and market stakeholders leveraging the company's market position; *making do*—creatively using available resources at hand and improvising in response to unexpected occurrences; *creating common interests*—expending political and practical effort to transmit transformational ideas to diverse stakeholder communities in line with business interests; and *working on the self*—constantly self-reflecting and adjusting activities based on learning from experience.

While the teams had to engage in all these tactics throughout the project journeys, certain tactics were foregrounded at different times; when initially opening, maintaining, or reconstituting space for play as leeway for innovation, as summarized in Table III.

Our findings derive from analyzing all six projects in our study, but we present the Counter UAV case to illustrate our key insights in-depth. This project progressed through four development phases, during which the team re-opened space for play to sustain their work. Fig. 3 provides an overview of the Counter UAV project trajectory. See Appendix for figures of the other project trajectories.

First, we focus on the project's initial Market Exploration phase to demonstrate how the team employed specific tactics, leveraging managerial practices and resources to open, maintain, and reconstitute space for play. We also show how this space was re-opened through realignment with company strategy and the emerging impacts from the team's initial efforts.

4.1. Cultivating space for play

Opening space for play. The Counter UAV project began in autumn

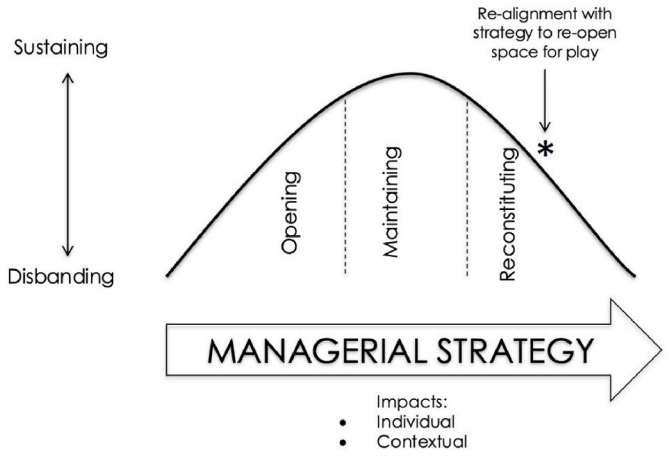


Fig. 2. Microdynamics of cultivating space for play as leeway for innovation.

Table 3
Tactics used to create and sustain space for play as leeway for innovation.

Entrepreneurial tactic/ Managerial practice or resource leveraged	Opening	Maintaining	Reconstituting
Creating space for imagination	• Align with strategic priorities • Convince business sponsor(s) of 'different' approach	• Regular communication with business sponsor(s) • Maintain understanding of/shape strategic priorities	• Align project findings/ideas with strategic priorities • Manage business sponsor(s) expectations of ideas • Only pursue activities with business sponsorship
Strategic context	Strategic business plan, organization-wide initiatives, UK corporate priorities		
Structuring	• Agree aim/ purpose of project • High level project plan • Physical space/tools/ role definition	• Stakeholder mapping • Regular team meetings/ breakdown project goals into individual tasks • Visualisation/ discussion to make sense of accumulated learning/ideate	• Constraints to maintain project momentum/keep up with pace of market • Consolidate project findings/ recommendations
Business planning process	Clear aim, fixed deliverable, risk mitigation		
Engaging with the market	• Identify emergent customer need/ potential market opportunity	• Engage with market stakeholders to understand future market needs • Secondary research • Attend/host industry events • Test learning/ ideas	• Present information/ideas validated with credible sources • Use network developed to capture feedback on activities • Use network developed to identify and pursue potential partnerships for next steps of development
Market position	Company network, customer relationships, reputation		
Making do	• Secure resources/ appropriate skills/people • Accept compromises to get project going (adjust as needed later)	• Make do with available resources • Draw on network to fill gaps in knowledge/ capabilities • Prioritize activities that achieve project aim/have momentum/are urgent • Use wits to improvise when unexpected challenges occur	• Identify needed skills/resources for next steps of development • Justify resource investment in next stage of development • Keep up project momentum • Pivot if necessary

(*continued on next page*)

Table 3 (*continued*)

Entrepreneurial tactic/ Managerial practice or resource leveraged	Opening	Maintaining	Reconstituting
Company resources	Skills, money, time, space/equipment, IT		
Creating common interests	• Engage with relevant stakeholders to understand/ influence interests • Buy in of relevant stakeholders to value of activity/ approach	• Align key stakeholder interests • Spend time with target stakeholders to understand language/ connect with 'their world'	• Socialise project findings/ recommendations with target stakeholders (output event/ presentation to key stakeholders) • Tailor story to target audience interests/improve narrative based on interaction • Communicate widely about value of project activities
Business interests	Business value, exploitation, targets, profit		
Working on the self	• Belief in value of activity/ 'right thing to do' (vs. business as usual approach) • Comfortable with uncertainty of unknown project outcome	• Continual reflection that doing right activities to achieve overall project aim • Make decisions/ adjust goals and activities based on accumulated learning • Belief in potential of ideas • Comfortable with uncertainty/ complexity of emergent learning on project	• Belief in findings/ recommendations ('right thing' vs. tactical activity/ quick win) • Comfortable with delivering challenging messages • Consider possible outcomes/open to possibility of greater potential • Carry forward learning in next steps of development
Human capital	Individual knowledge and experience, social position		

2015 when Doug, a Strategy Director in the Land and Air Systems (LAS) business unit, approached RTI to identify opportunities for leveraging existing defence countermeasure capabilities to address an emerging market need: controlling unmanned aerial vehicle (UAV) misuse in civil aviation. While Doug sought help developing a technology roadmap for a product solution, RTI team members Patrick and Eli believed it was essential to first explore the stakeholder environment and understand customer needs before committing to a solution. Drawing on a successful market-focused approach used for a similar issue in the nuclear sector, Patrick and Eli worked with Doug to define a project scope incorporating both technology workshops and market exploration.

> "We showed them what we had done in the nuclear sector and we tried to convince them of the approach that they wanted to take. Because they much more wanted a technology roadmap type process and developing technology and we proposed what we had done in the nuclear sector and they went 'well it looks interesting, could you apply the same approach in aviation?'" - Patrick, RTI [interview, 2016.02.01, Counter UAV, Phase I]

> "We ended up doing the technology workshop as part of it to sort of help shape the internal technology and also mainly to make sure that we were fulfilling that requirement for the customer. And then say we'll also do this bit on the side, which we thought was the main value-add." - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

Patrick and Eli created space for imagination by aligning their work with company's strategic priorities, gaining support for a project that deviated from the organization's traditional emphasis on technology and products. They noted that Doug and the other senior stakeholders they engaged to mobilize their project were uncomfortable with their bottom-up approach. While company stakeholders preferred a detailed, step-by-step plan leading to a clear end goal, the team proposed a more exploratory approach:

> "it's normal in the business to have a strategic plan, about how you go about doing these things and you know a stakeholder interaction plan. We're going to speak to these people, then these people, then these people and that will give us this and we will speak to them and then we'll get to the end and we'll become the strategic partner and we'll make loads of money. You know, put that whole plan together. And we don't really have that plan." - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

To overcome this tension, Patrick and Eli leveraged their understanding of MultiTech's established business planning processes to agree high-level deliverables for their activities. This structure helped alleviate the stakeholders' concerns about risk, while also allowing the team to maintain flexibility in their approach on the project.

> "The plan is a bit of smoke and mirrors to keep some of these people happy. And I think we're saying the plan is we will deliver you a report in six months. And then they go ah, that's a deliverable. And that's them happy. That's the extent of the plan." - Patrick, RTI [interview, 2016.02.01, Counter UAV, Phase I]

In initially opening space for play for the Counter UAV project, Patrick and Eli faced disbanding forces including technical and product mindset, focus on exploiting current capabilities for near-term sales, and discomfort with uncertain outcomes. However, they leveraged the company strategic context and business planning processes to create a permissive environment for exploring opportunities in controlling UAV misuse in civil aviation.

Maintaining space for play. Once open, the space for play provided the project teams with leeway to explore the civil aviation customer and market landscape. Patrick and Eli mapped industry stakeholders they believed would help them better understand the problem space and uncover potential business opportunities. They utilized the company's internal network to connect with these identified stakeholders:

> "We drew up a table of all the different stakeholders it would be useful to speak to and then we just tried to speak to them. Mainly we got through, mostly through internal references … You can get to almost anybody through the organization if you ask the right person." - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

Over the course of a few months, Eli and Patrick engaged with the market by meeting with target stakeholders to learn, isolate and test assumptions. They also conducted desk research and attended industry conferences and events to understand future customer needs.

> "we try and understand basically what the problem is in the aviation sector with regards to UAVs and how that translates into a MultiTech solution or potential MultiTech opportunities … we are doing lots of hypothesis testing, and trying to isolate you know what our assumptions are about the market and testing those." - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

While some formal resources were dedicated to the project, they were finite. Thus, Patrick and Eli had to creatively make do with the

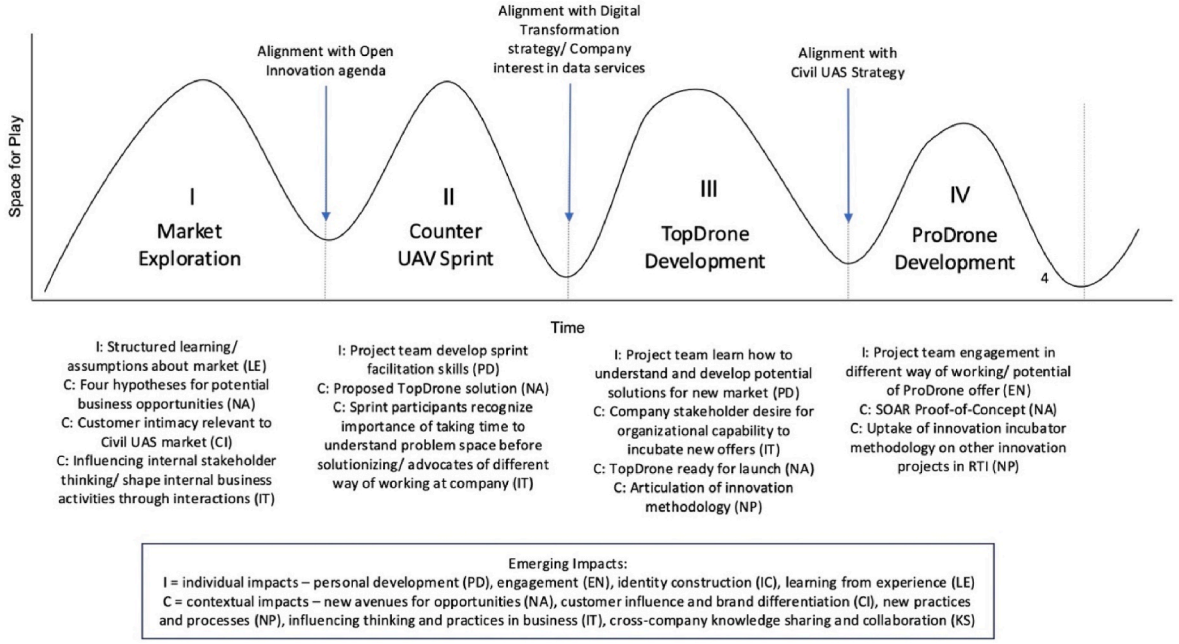


Fig. 3. Counter UAV Project trajectory.

resources available to them to position the project for the future. They focused their efforts in areas that had the greatest momentum and they believed most potential.

> This project may have limited direct financial payoff, but it has gained significant traction within the company. My focus is on leveraging this momentum to position us for a larger opportunity. Rather than focusing solely on generating revenue from Counter UAV, (which I anticipate will be challenging) … I aim to use this as a stepping stone into the broader Commercial UAS market. I'm thinking about how we can capitalize on our current strong position before internal interest wanes, using the insights gained to pivot towards bigger opportunities. - Eli, RTI [diary, 2016.02.29, Counter UAV, Phase I]

In addition to strategically utilizing formal project resources, the teams secured extra resources through informal channels. They tapped into internal leadership development programs and graduate, specialist, and expert communities with more flexible time allowances. They also leveraged internship and contract roles, civil service and educational industry placement schemes, and external industry partners to fill capability gaps and draw in additional resources. Finite resources and preconceived technical and product solution ideas were common constraints while maintaining space for play. However, they overcame these challenges by utilizing the company network to draw in additional support and access external customer and market stakeholders to develop new understandings about the problem space beyond internal organizational knowledge.

Reconstituting space for play. Ultimately, project teams had to reconnect with core business operations to secure additional resources and support. After their market engagement efforts, Eli and Patrick consolidated their learnings and shared insights internally at MultiTech. They carefully crafted a narrative to communicate findings and recommend next steps, aiming to gain continued support to further develop their ideas.

> "it started out with all external work, going out and speaking to industry. But most recently it's been internal, just getting it together and socializing it … basically creating presentations. And constantly developing the presentations and then giving presentations." - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

> "it's going to be different by project, by customer, by stakeholder and what you are trying to achieve, but it's how you do it, really thinking about how you're trying to get across the message." - Patrick, RTI [interview, 2016.02.01, Counter UAV, Phase I]

They created common interests by tailoring their communication to align with the company's business interests, gaining buy-in and support to advance their work. The project teams leveraged their knowledge, experience, and social position to pursue novelty. They believed in the value of their work and engaged in activities they felt were "the right thing to do" for the organization. On the Counter UAV project, Patrick and Eli described how their efforts were generating intangible benefits, such as enhancing customer perception of MultiTech and preventing resource waste on new technologies without clear market need. However, this value wasn't easily recognized in traditional business terms:

> "I continue to be frustrated by people's expectations about what these projects will deliver for the bottom line for [MutliTech]. I know that we have the right approach and what we are doing is the right thing to shape the organisation for the future." - Patrick, RTI [diary, 2016.01.15]

> "I believe we are doing the right thing and that this approach will add value to the organization over the long-term … What is the value of this project? At the moment it is hard to quantify. We're not bringing in any money, the customer thinks we are better than they did before, internally we might not waste money." - Patrick, RTI [interview, 2016.02.01, Counter UAV, Phase I]

The project teams drew on their embedded knowledge of the company's traditional ways of working to make sense of and apply their learning to generate new value for the organization. Working-on-the-self was most apparent when reconstituting space for play, as they confronted traditional company thinking to secure additional resources and support. However, they embraced learning by doing and believed in the value of their work throughout the projects.

4.2. *Re-aligning with the company strategy to re-open space for play*

Projects advanced and sustained space for play by realigning with the company strategy. At the end of the first phase of the Counter UAV

project, Patrick and Eli proposed four solution hypotheses to tackle the issue of controlling UAV misuse. However, the low-cost, high-volume solutions they suggested did not align with MultiTech's established operations, making it difficult for them to secure continued support for their work:

> "it is so evident that we are an organization that is uncomfortable in this sort of area, and these kind of findings … they find us coming to some conclusions that they don't like and are quite quick to go it's not [MultiTech], and that is frustrating … It's no quite quickly because of traditional thinking." - Patrick, RTI [interview, 2016.02.01, Counter UAV, Phase I]

Patrick and Eli experienced several disbanding pressures on the project at this time, including preconceived ideas about technical and product solutions, focus on near-term sales targets, rigid organizational practices, and risk aversion. To keep their project going and re-open space for play, Patrick and Eli aligned their work with the company's Open Innovation agenda:

> "we're talking about low-cost high-volume type solutions and that doesn't really align … we have to think cleverly around that in terms of if it doesn't align then we have to think like Open Innovation, for example, might be perfect! And that opens a new door because [MultiTech] is trying to push Open Innovation … We can push it that way." - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

By aligning with MultiTech's ambition to be more open and collaborative with SMEs (small and medium-sized enterprises) and other partner organizations, they sidestepped many disbanding pressures by identifying a potential alternative exploitation route for their non-traditional solution ideas. They secured sponsorship to host a 4-day Sprint event in April 2016, involving representatives from across the business to test one of their solution hypotheses. The goal was to develop a concept solution that the company could co-develop and bring to market with an external partner.

4.3. Emerging impacts

During each phase, the project teams produced localized, micro-level individual and contextual impacts that influenced the established organizational context and shaped subsequent project developments. In the first phase of the Counter UAV project, Patrick and Eli deepened their understanding of the Counter UAV landscape within the aviation market and built a network of key industry stakeholders. They also shaped the perspectives and practices of core business stakeholders by regularly engaging with them about technology development plans and sharing insights gained from market interactions:

> "going market, technology, market, technology, market, technology backwards and forwards, iterating between was actually very useful … we understand the technology better, we can propose more solutions, which might fit into the business units better but also you start pulling them towards you" - Eli, RTI [interview, 2016.02.01, Counter UAV, Phase I]

> "if nothing else, it has started to rattle the cage in getting other parts of [MultiTech] Globally to communicate with one another about this issue … it has been beneficial, not quite in the way that we had originally anticipated … let's hope that it now takes off, and it takes off as a Group, rather than countries and CBUs [Country Business Units] in countries doing their own thing." - Doug, Strategy, LAS UK [interview, 2016.02.01, Counter UAV, Phase I]

Next, we zoom out on the overall Counter UAV project process, showing how the patterns we observed in the first phase recurred in subsequent phases of the project. We illustrate how space for play was sustained, the ongoing tensions with established company practices, and the cumulative effects of the team's efforts.

4.4. Continuous tactical leveraging of organizational structures, strategic re-alignment and cumulative effects of emerging impacts

While project teams overcame disbanding forces in early phases, they re-encountered them throughout the project journey and needed to continuously respond to their evolving context. For instance, although Patrick and Eli managed to overcome resource challenges in the first phase of the Counter UAV project, they faced similar obstacles in the second phase. They believed it was important to involve people from various company areas in the Counter UAV Sprint because the problem affected multiple business units and diverse perspectives would stimulate divergent thinking. However, they struggled to secure participation as delivering major projects to existing customers remained the priority:

> we have been struggling to get attendees for the Sprint. The CBUs [Country Business Units] are interested but are struggling with the concept of freeing somebody up for 4 days to join us on the Sprint. - Eli, RTI [diary, 2016.02.29, Counter UAV, Phase II]

They overcame the challenge by targeting resources with more time flexibility, such as the graduate, specialist and expert communities, as well as highlighting the personal development benefits to the line managers of those individuals. They also leveraged the business units' interests in understanding if there were Counter UAV market opportunities for their business area and learning about the Sprint methodology to potentially apply it to other challenges in their domain. In carrying out the Sprint, Patrick and Eli also leveraged the network established during the first phase of the project to organize a series of customer and market interactions, enabling the Sprint participants to test the hypothesis and develop an understanding of the market.

At the end of the second phase, the Sprint participants proposed developing a data-driven mobile phone app to encourage the public to safely operate UAVs, presenting it to a panel of senior stakeholders at MultiTech. While the team was uncertain about how the panel would respond to this unconventional solution, it was well-received because it aligned with the company's digital transformation agenda. As a result, the project team gained continued support to further develop the project:

> *"We presented our solution idea and the development process to senior stakeholders at [MultiTech], receiving positive feedback and a mandate to continue its development. This was especially rewarding, considering the solution was quite unconventional—a data-driven service, which isn't typically [MultiTech]'s focus. However, it gained traction because it aligns with [MultiTech]'s interest in leveraging data more effectively" - Eli, RTI [interview, 2016.06.09, Counter UAV, Phase II]*

The Sprint activity had a notable impact on the participants' perspectives. For instance, one participant highlighted how they came to appreciate the value of spending time to thoroughly understand the problem before rushing to devise a solution:

> "The trick is not to try and come up with a solution immediately. Being able to go out to stakeholders, interview them, ask them meaningful questions, consider what they've said, try and understand where that fits in the bigger picture, and then come up with a solution based on that. Otherwise, it's kind of conjectious the way that you come up with a solution. You could miss the point entirely." - Quincy, Engineer, DMS (Defence Mission Systems) UK [Counter UAV Sprint video, April 2016, Counter UAV, Phase II]

Patrick and Eli formed a small team of graduates and interns to build and test a minimum viable product (MVP) of the app. Between August–December 2016, they completed three cycles of iterative development and user testing. By December, the app was ready for hobbyist UAV pilots. However, the organization resisted launching it since, as a B2B provider, they did not typically release products directly to consumers and lacked infrastructure for a software-as-a-service model:

"the company's generally uncomfortable with launching for the general public. It's not really our market … It's not seen as a core part of our strategy." - Eli, RTI [interview, 2016.12.12, Counter UAV, Phase III]

"the business model that you would need to support that kind of application doesn't align well, I would suggest, with how [MultiTech] is set up to do business. And you'd be talking about innovative business models, which is something the business should be looking at but I am not convinced we are set up at the moment to do that." - Kieran, Technical Directorate, LAS UK [interview, 2017.01.12, Counter UAV, Phase III]

Among others, Patrick and Eli re-encountered the disbanding forces risk aversion, product mindset, and rigid organizational practices. Knowing that MultiTech was interested in the emerging Commercial UAV market, Patrick and Eli tried to convince the company stakeholders that launching the app would be valuable learning to exploit for pursuing the Commercial UAS market. They were unsuccessful at convincing MultiTech to launch the app, but they successfully pivoted the project by incorporating their work into the company's Commercial UAS plans. They merged their work with another innovation project investigating business growth opportunities in the emerging Commercial UAS market:

"We've since then more aligned with the Strategic Growth project in Civil UAS … It was just a nice wedge of pivots on different projects." - Patrick, RTI [interview, 2017.02.02, Counter UAV, Phase IV]

The project team sustained space for play to develop an MVP of the app solution for the Commercial UAS market by combining the methodology from the Counter UAV project with the Civil UAS project team's insights into the Commercial UAS market. Focusing on the Commercial UAS market more closely aligned with the organization's traditional markets and B2B relationship with customers. The pivot served to appease concerns associated with launching products directly to the public, but the solution still required a software-as-a-service business model that would be challenging for the organization to deliver.

In collaboration with the Civil UAS project team, Patrick and Eli mobilized a 3-month project to develop an end-to-end drone operations product for the Commercial UAS market. The aim was to build a proof of concept to both convince the company to buy into the software-as-a-service ProDrone concept and have something real to test and iteratively develop with customers. The ProDrone project was led by Anna, who was based in RTI and part of the strategic growth team leading the Civil UAS project:

"It would be a software-as-a-service business model, which [MultiTech] does not and has not ever done … if we are going to prove it to the business we have to show them … And the other thing is to have a proof of concept that we can take back to some of the customers we talked with, test it with them, be agile then in redesigning it." - Anna, RTI [interview, 2017.06.21, Counter UAV Project Phase IV/Civil UAS Project, Phase III]

At the end of the project, the ProDrone team scheduled a showcase event to demonstrate the proof of concept and convince senior executives at the company to further invest in the project. The team carefully crafted their pitch presentation to resonate with the interests of the target business stakeholders. Anna explained that she leaned on key members of the RTI team who had strategic knowledge of what is required for senior stakeholders at the company to approve the level of investment they were seeking:

"I know enough to know what people need to be in the room, what they need to see … you know a cost analysis, pricing … [But] Unless you have strategic knowledge of higher up in the business it's incredibly difficult … they've seen it happen, they've seen it work, and they've seen it haven't." - Anna, RTI [interview, 2017.06.01, Counter UAV Project Phase IV/Civil UAS Project, Phase III]

While the team was unsuccessful at securing support from one of the UK business units to take on the concept they presented and develop it into a product, they did unlock funding from the organization for business development effort to identify a customer to co-develop the solution. The organization was still unsure about the software-as-a-service business model and was used to their traditional market customers fully funding the manufacture of defence capabilities based on early concept demonstrations but was enticed by the market opportunity. The project team's fast-paced approach also inspired the business stakeholders they engaged at the showcase event:

"I love to see that fast paced let's get a concept together and let's start to see where it can go. It's quite refreshing from a normal MultiTech development cycle." - Morgan, Head of ATM (Air Traffic Management) Business Line UK [interview, 2017.03.15, Counter UAV Project Phase IV/Civil UAS Project, Phase III]

Over the course of the Counter UAV project, Patrick and Eli documented their insights into the innovation process and developed a methodology for effectively managing innovation projects within the organization. The methodology the team developed on the Counter UAV project was adopted and applied to other projects within the RTI function at MultiTech UK.

"what we've done is built a methodology base … what have you learnt, where are you, what could you do, what are the gaps, what do you need to build on in more of an iterative process … work packages that go, right we've got to push the customer angle, or we've got to push the business, or we've got to push the technology on … do much more smaller iterative projects and then have pause and reviews more regularly." - Patrick, RTI [interview, 2017.06.29, Counter UAV Project Phase IV]

5. Discussion

Our research explored how organizational members navigate the paradox of institutionalizing spontaneity by working around and leveraging established organizational structures to foster innovation and the impacts of these efforts over time. Our longitudinal study following the three-year development of six innovation projects at MultiTech UK reveals that even within formally designated innovation structures innovators need to create leeway for themselves to foster innovation within existing organizational structures. We show how these 'spaces for play' develop through a recurring pattern of opening, maintaining, and reconstituting that comprises a critical moment of re-aligning with the company's strategy to sustain project progression. We further illustrate six tactics employed by project teams to leverage and work around particular organizational structures, with certain tactics foregrounded at distinct times and how these efforts generate emerging impacts that influence organizational contexts and shape subsequent project developments.

Our findings contribute to understanding how LEOs can deal with the paradox of institutionalizing spontaneity in four key ways: (1) innovation-enabling structures are no guarantee for innovation in LEOs. They both enable and constrain innovation processes, requiring innovators to engage in micro-political innovation work to leverage and work around structures to create leeway for themselves. (2) leeway is temporary—innovators go through multiple cycles of (re)creating space for play as leeway for innovation. We show a recurrent temporal pattern of opening, maintaining, and reconstituting space for play and that strategic realignment is crucial for re-opening leeway for innovation projects to progress. (3) Space for play is (re)created through combinations of various tactics. We bring together knowledge of previously explained innovation practices into a framework of sustained innovation

work and demonstrate how particular innovation practices are tactically used at certain times to creatively leverage and work around specific organizational structures. (4) We illustrate micro-level emerging impacts of ongoing tactical efforts to create and sustain space for play as leeway for innovation that influence organizational contexts and shape subsequent project developments. We also contribute both conceptual refinements and empirical grounding to the mainly theoretical body of knowledge on organizational entrepreneurship and space for play. Below, we elaborate on our central contributions.

5.1. The need for space for play as leeway for innovation

Our findings reveal that innovation-enabling structures alone, such as separate teams and funding buckets at corporate level, external incubators and start-ups, collaborations, or spin-offs separate from core business operations (i.e.Campbell et al; Christensen and Raynor, 2003; Claude-Gaudillat and Quélin, 2006) do not guarantee innovation. In our case, MultiTech UK RTI function's semi-autonomous structure provided needed resources, legitimacy, and dedicated time and space for teams to explore new opportunities for growth. However, those teams also faced pressures for return on investment and relied on the core organization for customer and market knowledge, capabilities, expertise, and routes to market for new offer development that required ongoing tactical navigation. Our research highlights how even formally designated innovation structures simultaneously enable and constrain innovation processes, requiring innovators to engage in micro-political innovation work to create temporary freedom to progress innovation projects within established organizational structures.

Drawing on paradox theory (Smith and Lewis, 2011), we demonstrate that LEOs cannot simply choose between providing organizational support for innovation or preserving spontaneous exploration; they must embrace both contradictory requirements simultaneously. The project teams at MultiTech exemplified what paradox scholars term "both/and" thinking, employing integration strategies that enabled them to work within formal innovation structures while tactically creating spaces for genuine experimentation. For instance, Patrick and Eli demonstrated both/and thinking when they worked to incorporate market exploration into the technology roadmap project scope in the initial phase of the Counter UAV project. Later on, the team again integrated their Counter UAV work with the Civil UAS project, both carrying forward novel aspects of the TopDrone concept and orienting it towards the more organizationally aligned commercial UAV target market. Rather than viewing organizational constraints as barriers to overcome, the teams demonstrated paradoxical cognition, the ability to recognize, process, and embrace contradiction, by creatively leveraging the same structures that could potentially constrain them. The paradox of institutionalizing spontaneity represents a persistent organizational tension that cannot be permanently resolved but must be continuously managed through dynamic balancing strategies.

We further illustrate how this is a collective process where innovators need political and tactical skills to continuously negotiate and subtly introduce innovation within organizational structures that go beyond individual creative abilities (Gartner, 1988; Lindgren and Packendorff, 2003). Over the course of the Counter UAV project, the team tenaciously aligned their work with the company's strategic interests while simultaneously creating leeway for novel approaches. They began by integrating market exploration into a technical roadmap, then leveraged the company's open innovation focus to organize a Sprint event, before proposing a mobile app solution that aligned with the company's emerging interest in data services. Throughout this process, the team drove the organization in new directions while generating fresh insights and learning opportunities that would have been impossible if they had either fully complied with or completely rejected established organizational practices. This covert approach facilitated a productive balance between semi-autonomous operation while maintaining alignment with organizational goals and preserving legitimacy, enabling newness and change without undermining organizational control (Chia and Holt, 2009). Our study highlights that organizations cannot simply 'design' innovation spaces—they must be tactically created and continuously re-created through on-the-ground entrepreneurial efforts, and this more nuanced approach can offer a more facilitative way of introducing innovation in LEOs.

5.2. Necessity to sustain space for play as leeway for innovation

Cultivating space for play as leeway for innovation is not a one-off occurrence. The project teams needed to continuously sustain space for play to keep their projects going. We demonstrate a recurring temporal pattern where innovation projects cycle through opening, maintaining, and reconstituting space for play over time, highlighting the cyclical nature of innovation work. Our findings extend previous studies of innovation work in LEOs that focus on discrete problem-solving episodes such as responses to individual legitimacy crises and one-time strategic integration (Burgelman, 1983; Dougherty and Heller, 1994; van Dijk et al., 2011), one-time resource acquisition and re-framing for adoption decisions (Kannan-Narasimhan, 2014; Kannan-Narasimhan and Lawrence, 2018), and one-time influence success in issue-selling effectiveness (Howard-Grenville, 2007). While these studies provide valuable insight into how decision-makers can be successfully influenced at specific moments, our research highlights how these are only temporary achievements that require ongoing tactical accomplishment. Patrick and Eli re-encountered legitimacy, resourcing and buy-in challenges throughout the Counter UAV project, including ongoing struggles with the non-conventional solutions they were proposing, making do with limited resources, and countering focus on delivery and near-term sales to secure support for their work. Rather than being fully resolved, the challenges evolved as projects progressed and organizational priorities shifted, requiring the project team to continuously adapt and respond to them.

Furthermore, our study demonstrates how strategic realignment is critical. We identify a predictable inflection point where the project teams needed to repeatedly reposition their work in line with the company's strategic interests to re-open space for play as leeway for innovation. Projects that failed to achieve this strategic coupling requirement either stopped or pivoted. While the Counter UAV project progressed through successive spaces for play, there were periods of sustained reconstitution on many of the projects when it took time for the project teams to open a subsequent space for play, such as between the second and third phases of the Trust project and third and fourth phases of the Civil UAS project. Additionally, not all project teams were successful at keeping their projects going for the duration of the study. The Bridgwater project stopped after two phases of activity when the business area's strategic priorities changed and lost interest in investing in the project. Our findings resonate with, deepen and contextualize Dooley and Van de Ven's (2017) conclusions of how the temporal sequence of organizational innovation can be characterized as a meta-pattern of recurrent cycles of divergent and convergent activities. Our research illustrates on-the-ground dynamics of opening and sustaining space for divergent discovery and exploration and highlights that reconnecting with organizational priorities is crucial for connecting periods of convergence with a subsequent period of divergence. Our insights further respond to Dougherty and Heller's (1994) call for understanding whether innovation practices persist or fade over time. Our study reveals a repeated temporal pattern of practices that persists across six different projects and a recurrent predictable inflection point that determined the continuation or fading away of this pattern of practices.

5.3. An integrated framework for cultivating space for play as leeway for innovation

Our research offers an integrated framework for how previously

characterized innovation practices are used together to leverage and work around organizational structures to cultivate space for play as leeway for innovation. While prior research illustrates how isolated practices are used in situated circumstances (Burgelman, 1983; Dougherty, 1990, 1992; Garud et al., 2011; Howard-Grenville, 2007; Kannan-Narasimhan and Lawrence, 2018; Sonenshein, 2014; van Dijk et al., 2011), we integrate those insights into a broader framework of sustained innovation work. Our findings highlight how creating and sustaining leeway for innovation is not just about gaining legitimacy and strategic integration (Burgelman, 1983; Dougherty and Heller, 1994; van Dijk et al., 2011), networking (Burgelman, 1983; Dougherty, 1990, 1992; Garud et al., 2011), securing resources (Kannan-Narasimhan, 2014; Kannan-Narasimhan and Lawrence, 2018; Sonenshein, 2014) or influencing key stakeholder perceptions (Dougherty, 1992; Howard--Grenville, 2007) on their own. We illustrate how all these innovation practices are relevant at particular times in the ongoing tactical work required to progress innovation projects. We identify that legitimacy work is most prominent when opening space for play when project teams need to secure sponsorship support for their work and buy-in for different ways of working. Resource management and networking efforts are associated with maintaining space for play when project teams utilized company resources and established market position to carry out their projects. Influencing stakeholder perceptions and strategic integration is forefront when reconstituting space for play when project teams need to effectively articulate the value of their work to gain buy-in and support from key stakeholders to further develop their ideas. Our findings pull together previously dispersed and fragmented understandings of innovation practices into a coherent framework of sustained innovation work.

We further advance our understanding of previously characterized innovation practices by conceptualizing them as tactical activities (de Certeau, 1984). Building on the knowledge that effectively utilizing these innovation practices is a highly localized and situational endeavor in response to continuously changing circumstances (Howard-Grenville, 2007; Kannan-Narasimhan and Lawrence, 2018; Leifer et al., 2000; van Dijk et al., 2011), we show how these individual practices are consistently used at certain times to creatively leverage and work around particular organizational structures. We demonstrate that strategic context and business planning organizational structures are heavily leveraged when carrying out legitimization work during efforts to open space for play as leeway for innovation. Organizational resources and market position are predominantly leveraged while maintaining space for play and the company's business interests and human capital are primarily used in undertaking efforts to influence key stakeholder perceptions when reconstituting space for play. Considering previously recognized innovation practices as tactical activities sheds light on how they are used at certain times to creatively leverage organizational structures utilizing requisite skills, organizational knowledge and persistence.

5.4. Impacts of ongoing efforts to create and sustain space for play as leeway for innovation

We show how the project teams' ongoing tactical efforts to create and sustain space for play generated micro-level emerging impacts that influence organizational contexts and shape subsequent project developments. We illustrate individual impacts, including personal development, engagement, identity construction and learning from experience, as well as contextual impacts, involving customer influence and brand differentiation, influencing thinking and practices in the business, stimulating cross-company knowledge sharing and collaboration, as well as generating new avenues for opportunities and development of new practices and processes. Our findings extend previous studies of innovation work in organizations that tend to focus on localized project-specific outcomes of problem-solving episodes (Burgelman, 1983; Dougherty, 1990, 1992; Dougherty and Heller, 1994; Howard-Grenville, 2007; Kannan-Narasimhan, 2014; Kannan-Narasimhan and Lawrence, 2018; van Dijk et al., 2011) to consider broader and long-term emergent change processes that these micro-level changes affect.

Our findings resonate with Usher's (1954) model of innovation as cumulative synthesis—a collective and distributed process where acts of insight generate novelty that set the stage for subsequent acts of insight to build upon. In the Counter UAV case, Patrick and Eli's work on developing an app for hobbyist UAV operators, while unsuccessful in its original form, became crucial in creating a minimum viable product for the Civil UAS market. Our findings demonstrate how the emergent changes generated by the project team's initial efforts are valuable—-even 'failed' projects generate organizational learning and capability development as well as future innovation possibilities. As Chia and Holt (2009) suggest, embracing emergent possibilities enhances organizational development and adaptability even when specific entrepreneurial efforts don't result directly in new products or services.

5.5. Organizational entrepreneurship and space for play in LEOs aiming to foster innovation

Our findings enhance understanding of organizational entrepreneurship and space for play in LEOs by providing both conceptual refinements and empirical grounding for this predominantly theory-driven body of knowledge.

5.5.1. Conceptual developments

Our study refines the theoretical understanding of these concepts in three important ways. First, we reconceptualize spaces for play as temporally bounded and cyclical heterotopic spaces. Our findings reveal a temporal fragility in how these spaces must be continuously re-created through tactical effort and are subject to closure and reconstitution based on shifting organizational priorities. Second, we challenge aspects of the binary opposition between managerial strategies and entrepreneurial tactics that appears to underpin much of the original framework. Our findings suggest sustainable spaces for play cannot exist in pure opposition to managerial logic but must serve both entrepreneurial and organizational objectives simultaneously. The critical inflection points we identify, where projects must realign with company strategy, reveal that spaces for play require ongoing sophisticated strategic coupling with organizational interests to remain viable. Third, current theory focuses on how new ways of working arising within spaces for play impact strategic managerial forces inside organizations. We illuminate how spaces for play can incubate the development of new products and services that can have external market impacts in addition to internal changes to established ways of doing things in organizations.

5.5.2. Empirical developments

We provide a practical understanding of micro practices and processes of cultivating space for play as leeway for innovation in LEOs. We characterize managerial practices and resources, everyday entrepreneurial tactics, generative outcomes and micro-dynamics of spaces for play as leeway for innovation in LEOs that have not been empirically explored in this mainly theory-driven body of knowledge. Furthermore, our case empirically illuminates grey areas in what has often been characterized as a dyadic relationship between managerial and entrepreneurial forces. We show how 'official' strategies can be entrepreneurial in nature, providing resources and legitimacy for innovation, while innovation-enabling structures produce requirements that innovators must entrepreneurially navigate on-the-ground. This nuanced understanding highlights how managerial and entrepreneurial forces interweave in practice.

6. Conclusion

Our three-year longitudinal ethnographic case study at MultiTech

UK RTI, a partially uncoupled strategic innovation capability in a multinational technology company, highlights how innovation-enabling structures alone are no guarantee for innovation. Innovators must continuously use combinations of various tactics to create and sustain temporary leeway for innovation. We bring together knowledge of previously explained innovation practices into a framework of sustained innovation work illustrating how they are tactically used at certain times to creatively leverage and work around specific organizational structures and how these efforts generate emerging impacts that influence organizational contexts and shape subsequent project developments. We also contribute both conceptual refinements and empirical grounding to the mainly theoretical body of knowledge on organizational entrepreneurship and space for play. Our findings likely apply to organizations with three specific characteristics: (1) established bureaucratic structures that create innovation constraints, (2) innovation units with partial autonomy but dependent on core organization resources, and (3) pursuing transformational innovation efforts. The framework may not apply to small or medium-sized enterprises (SMEs) with more agile organizational practices and processes, LEOs with fully autonomous R&D units, or organizations focused on incremental innovation or continuous improvement initiatives.

Further research could explore whether the entrepreneurial practices and processes we identify at MultiTech UK translate to other organizational settings. Many large organizations have institutionalized managerial and business practices like those at MultiTech and therefore may exhibit similar patterns. However, MultiTech is unique in its diversity of operations and complex multinational structure, as well as the nature of its work, primarily providing critical safety and security solutions to large government customers. The company's diversity of operations and complex structure provides a varied strategic and stakeholder landscape for innovation teams to find 'hooks' for their projects and multiple possibilities to leverage stakeholder interests and resources. The customer and market-driven approach that was considered new and different, as well as the business-to-customer software-as-a-service offers deemed highly risky in this context, might have been perceived differently in other more consumer-oriented organizations. RTI also had a unique operating model as a partially embedded strategic innovation capability supported by mixed funding. Other innovation practices and processes may be emphasized in other innovation-enabling models with less complex funding structures and greater autonomy of operations. Finally, the projects we followed were all transformational innovation efforts. It would be interesting to explore whether different entrepreneurial practices and processes are observed in the case of incremental or continuous improvement innovation initiatives.

CRediT authorship contribution statement

Lisa Whitelaw: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Lucia Garcia-Lorenzo:** Writing – review & editing, Writing – original draft, Supervision, Data curation, Conceptualization.

Declaration of interests

We have nothing to declare.

Appendix

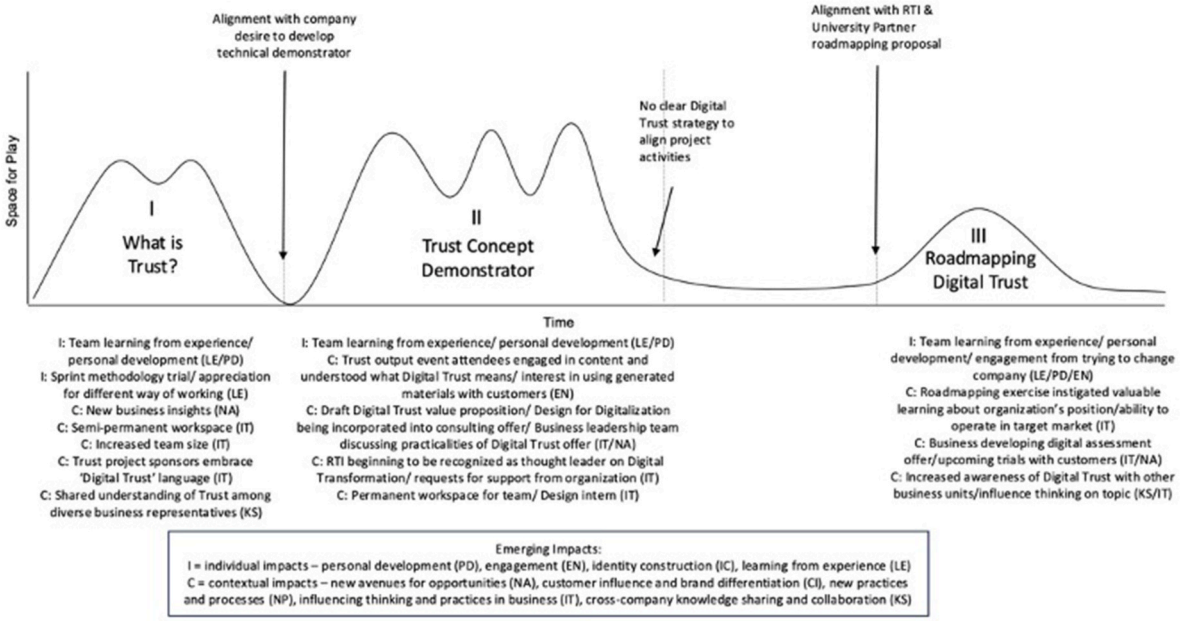


Fig. 1. Trust Project Trajectory

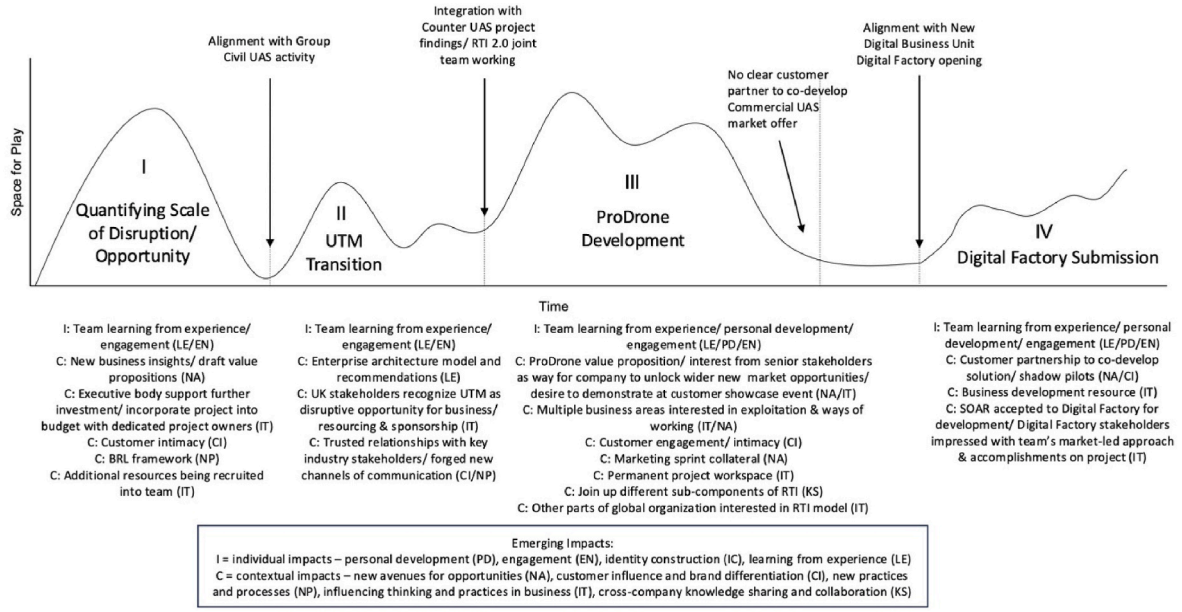


Fig. 2. Civil UAS Project Trajectory

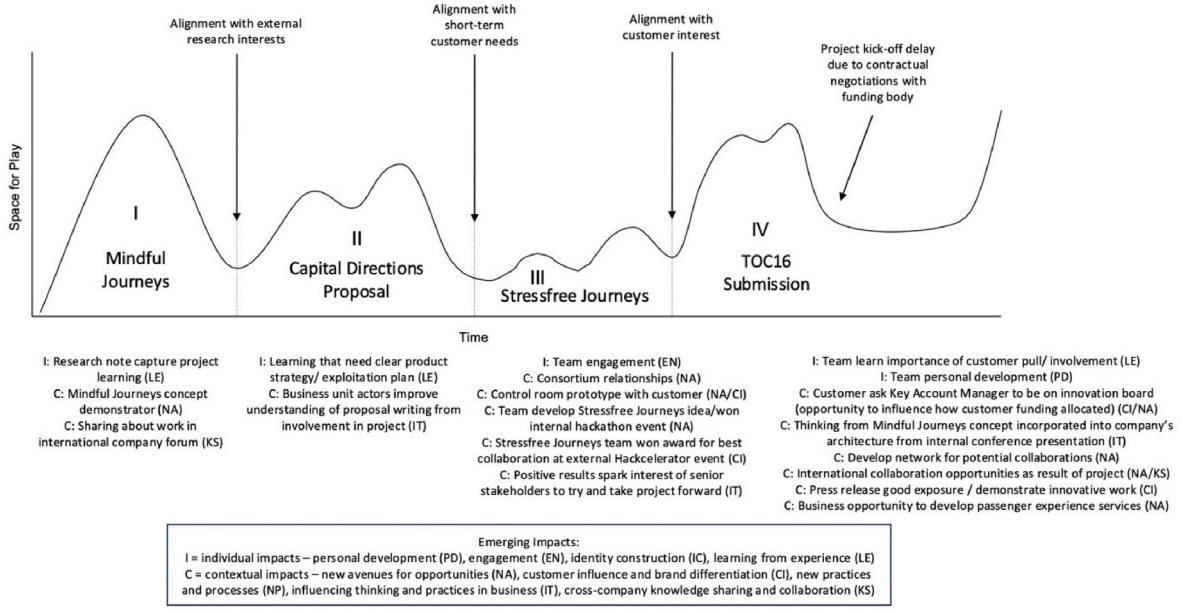


Fig. 3. Mindful Journeys Project Trajectory.

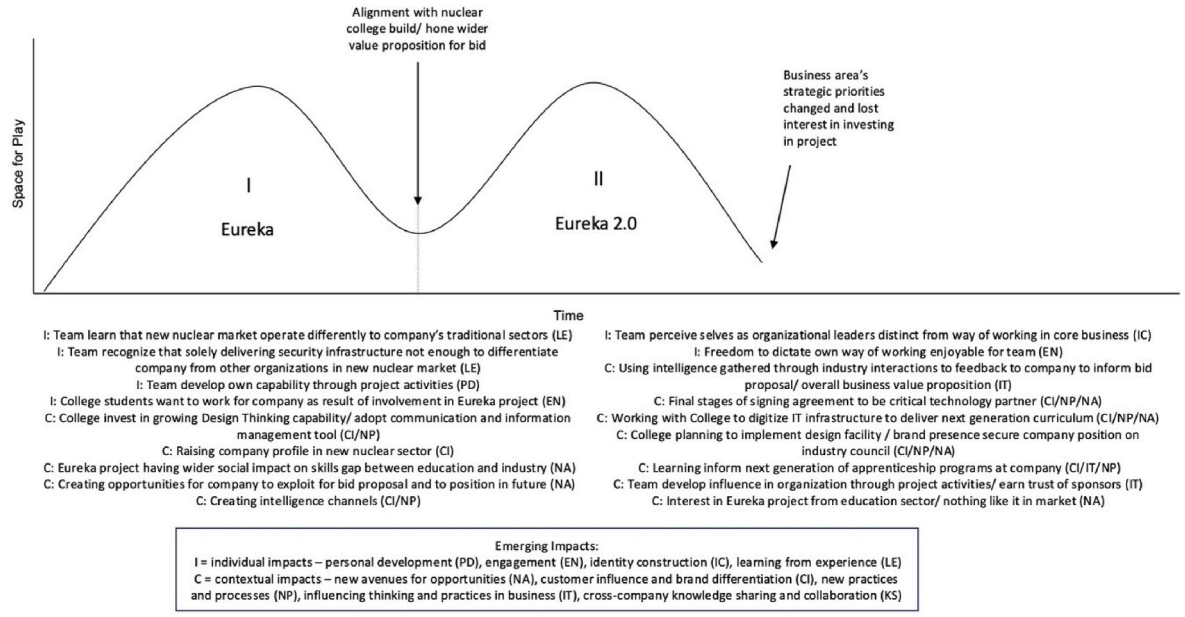


Fig. 4. Bridgwater Project Trajectory.

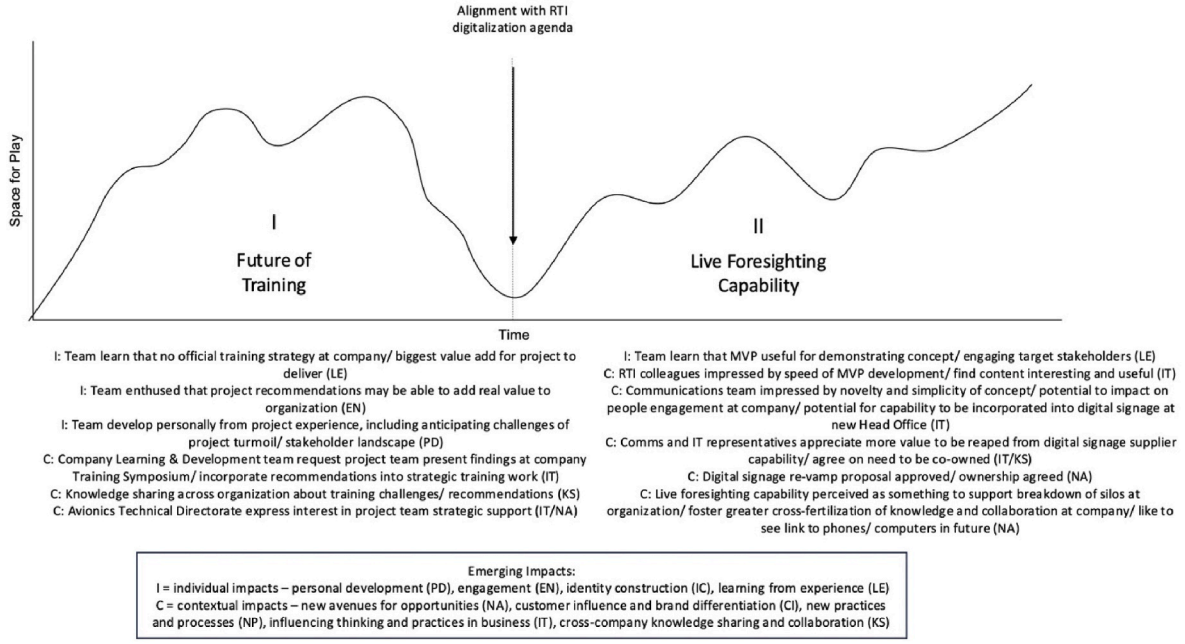


Fig. 5. Training Project Trajectory.

Data availability

The data that has been used is confidential.

References

Alvesson, M., 2009. At-home ethnography: struggling with closeness and closure. In: Ybema, S., Yanow, D., Wels, H., Kamsteeg, F. (Eds.), Organizational Ethnography. Sage, London, pp. 156–174.
Bazin, Y., Naccache, P., 2016. The emergence of heterotopia as a heuristic concept to study organization. Eur. Manag. Rev. 13 (3), 225–233.
Beyes, T., Steyaert, C., 2011. Spacing organization: Non-representational theory and performing organizational space. Organization. 19 (1), 45–61.
Boje, D.M., 1995. Stories of the storytelling organization: a postmodern analysis of Disney as "Tamara-land". Acad. Manag. J. 38 (4), 997–1035.
Brown, J.S., Duguid, P., 1991. Organizational learning and communities-of-practice: toward a unified view of working, learning, and innovation. Organ. Sci. 2 (1), 40–57.
Burgelman, R.A., 1983. A process model of internal corporate venturing in the diversified major firm. Adm. Sci. Q. 28 (2), 233–244.
Cameron, K., Quinn, R., 1988. Organizational paradox and transformation. In: Quinn, R., Cameron, K. (Eds.), Paradox and Transformation: toward a Theory of Change in Organization and Management. Ballinger, Cambridge, MA, pp. 1–18.
Campbell, A., Birkinshaw, J., Morrison, A., van Basten Batenburg, R., 2003. The future of corporate venturing. MIT Sloan Manag. Rev. 45 (1), 30–37.
Chandy, R.K., Tellis, G.J., 2000. The incumbent's curse? Incumbency, size, and radical product innovation. J. Market. 64 (3), 1–17.
Chia, R., Holt, R., 2009. Strategy Without Design. Cambridge University Press.
Christensen, C.M., 1997. The Innovator's Dilemma: when New Technologies Cause Great Firms to Fail. Harvard Business School Press.
Christensen, C.M., Overdorf, M., 2000. Meeting the challenge of disruptive change. Harv. Bus. Rev. 78 (2), 66–76.

Christensen, C.M., Raynor, M.E., 2003. The Innovator's Solution: Creating and Sustaining Successful Growth. Harvard Business School Press.
Claude-Gaudillat, V., Quélin, B.V., 2006. Innovation, new market and governance choices of entry: the internet brokerage market case. Ind. Innovat. 13 (2), 173–187.
Clegg, S., da Cunha, J.V., e Cunha, M.P., 2002. Management paradoxes: a relational view. Hum. Relat. 55 (5), 483–503.
Danneels, E., 2002. The dynamics of product innovation and firm competences. Strateg. Manag. J. 23 (12), 1095–1121.
Danneels, E., 2003. Tight-loose coupling with customers: the enactment of customer orientation. Strateg. Manag. J. 24 (6), 559–576.
de Certeau, M., 1984. The Practice of Everyday Life. University of California Press.
de Paoli, D., Ropo, A., 2017. Creative workspaces – a fad or making real impact? J. Corp. R. Estate. 19 (3), 157–167.
Denning, S., 2012. The battle to counter disruptive competition: continuous innovation vs. "good" management. Strat. Leader. 40 (4), 4–11.
Dooley, K., Van de Ven, A., 2017. Cycles of divergence and convergence: underlying processes of organization change. In: Langley, A., Tsoukas, H. (Eds.), Sage Handbook of Process Organization Studies. Sage, London, pp. 574–590.
Dougherty, D., 1990. Understanding new markets for new products. Strateg. Manag. J. 11, 59–78.
Dougherty, D., 1992. Interpretive barriers to successful product innovation in large firms. Organ. Sci. 3 (2), 179–202.
Dougherty, D., Heller, T., 1994. The illegitimacy of successful product innovation in established firms. Organ. Sci. 5 (2), 200–218.
Emerson, R.M., Fretz, R.I., Shaw, L.L., 2011. Writing Ethnographic Fieldnotes. University of Chicago Press.
Fayolle, A., 2003. Research and researchers at the heart of entrepreneurial situations. In: Steyaert, C., Hjorth, D. (Eds.), New Movements in Entrepreneurship. Edward Elgar, Cheltenham, pp. 35–50.
Foucault, M., 1986. Of other spaces. Diacritics 16 (1), 22–27.
Gartner, W.B., 1988. "Who is an Entrepreneur?" is the wrong question. Am. J. Small Bus. 12 (4), 11–32.
Garud, R., Gehman, J., Kumaraswamy, A., 2011. Complexity arrangements for sustained innovation: lessons from 3M Corporation. Organ. Stud. 32 (6), 737–767.
Gioia, D.A., Corley, K.G., Hamilton, A.L., 2013. Seeking qualitative rigor in inductive research: notes on the Gioia methodology. Organ. Res. Methods. 16 (1), 15–31.
Henderson, R., 2006. The innovator's dilemma as a problem of organizational competence. J. Prod. Innovat. Manag. 23 (1), 5–11.
Hjorth, D., 2004. Creating space for play/invention-concepts of space and organizational entrepreneurship. Enterpren. Reg. Dev. 16 (5), 413–432.
Hjorth, D., 2005. Organizational entrepreneurship: with de Certeau on creating heterotopias (or spaces for play). J. Manag. Inq. 14 (4), 386–398.
Hjorth, D., 2012. Handbook on Organisational Entrepreneurship. Edward Elgar, Cheltenham.
Hoholm, T., Araujo, L., 2011. Studying innovation processes in real-time: the promises and challenges of ethnography. Ind. Mark. Manag. 40 (6), 933–939.
Howard-Grenville, J.A., 2007. Developing issue-selling effectiveness over time: issue selling as resourcing. Organ. Sci. 18 (4), 560–577.
Johannisson, B., 2011. Towards a practice theory of entrepreneuring. Small Bus. Econ. 36 (2), 135–150.
Kannan-Narasimhan, R., 2014. Organizational ingenuity in nascent innovations: gaining resources and legitimacy through unconventional actions. Organ. Stud. 35 (4), 483–509.
Kannan-Narasimhan, R., Lawrence, B.S., 2018. How innovators reframe resources in the strategy-making process to gain innovation adoption. Strateg. Manag. J. 39 (3), 720–758.
Langley, A., 1999. Strategies for theorizing from process data. Acad. Manag. Rev. 24 (4), 691–710.
Langley, A., Smallman, C., Tsoukas, H., Van de Ven, A.H., 2013. Process studies of change in organization and management: unveiling temporality, activity, and flow. Acad. Manag. J. 56 (1), 1–13.
Leifer, R., McDermott, C.M., O'Connor, G.C., Peters, L.S., Rice, M., Veryzer, R.W., 2000. Radical Innovation: How Mature Companies can Outsmart Upstarts. Harvard Business School Press.
Levinthal, D.A., 1997. Adaptation on rugged landscapes. Manag. Sci. 43 (7), 934–950.
Lewis, M.W., 2000. Exploring paradox: toward a more comprehensive guide. Acad. Manag. Rev. 25 (4), 760–776.
Lindgren, M., Packendorff, J., 2003. A project-based view of entrepreneurship: towards action-orientation, seriality and collectivity. In: Steyaert, C., Hjorth, D. (Eds.), New Movements in Entrepreneurship. Edward Elgar, Cheltenham, UK, pp. 86–102.
Mitchell, W., 1989. Whether and when? Probability and timing of incumbents' entry into emerging industrial subfields. Adm. Sci. Q. 34 (2), 208–230.
Nicolini, D., 2012. Practice Theory, Work, and Organization. Oxford University Press.
Obal, M., 2013. Why do incumbents sometimes succeed? Investigating the role of interorganizational trust on the adoption of disruptive technology. Ind. Mark. Manag. 42 (6), 900–908.
Rosenbloom, R.S., Christensen, C.M., 1994. Technological discontinuities, organizational capabilities, and strategic commitments. Ind. Corp. Change. 3 (3), 655–685.
Schad, J., Lewis, M., Raisch, S., Smith, W.K., 2016. Paradox research in management science: looking back to move forward. Acad. Manag. Ann. 10 (1), 5–64.
Smith, W.K., Lewis, M.W., 2011. Toward a theory of paradox: a dynamic equilibrium model of organizing. Acad. Manag. Rev. 36 (2), 381–403.
Smith, W.K., Tushman, M.L., 2005. Managing strategic contradictions: a top management model for managing innovation streams. Organ. Sci. 16 (5), 522–536.
Sonenshein, S., 2014. How organizations foster the creative use of resources. Acad. Manag. J. 57 (3), 814–848.
Usher, A.P., 1954. A History of Mechanical Inventions. Harvard University Press.
van Dijk, S., Berends, H., Jelinek, M., Romme, A.G.L., Weggeman, M., 2011. Micro-institutional affordances and strategies of radical innovation. Organ. Stud. 32 (11), 1485–1513.