

# Symbolic and Social Microfoundations of Organizational Ambidexterity: The Case of the AI BooSTcamp

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## Abstract

This work-in-progress paper explores how large industrial organizations can enable organizational ambidexterity through embedded innovation programs. Drawing on the case of the AI BooSTcamp at a large multinational microelectronics company, we examine an embedded innovation program designed to support exploration within an exploitation-dominated environment. Refreshed annually by new cohorts of junior participants, the program operates as an emergent and adaptive socio-technical infrastructure, grounded in informal routines, symbolic framing, and distributed autonomy. Based on ongoing qualitative fieldwork, we analyze the symbolic and social microfoundations that foster local conditions for exploratory learning through evolving coordination mechanisms and team dynamics. We show how such bottom-up, socially driven structures can sustain exploration over time. Future work can look at the capacity to scale and influence broader organizational processes.

## Keywords

Organizational Ambidexterity, Exploration processes, Innovation Infrastructure, Microfoundations, Complex Adaptive Systems, Autonomy

## 1. Introduction

Organizational ambidexterity (OA), or the capacity to simultaneously exploit existing capabilities while exploring new opportunities, is widely recognized as critical for firms navigating fast-paced technological and market changes [1; 2]. Yet, operationalizing OA in large industrial organizations remains a persistent challenge. The immediacy of operational demands and challenges often overshadows exploratory initiatives, leading exploration to lag behind exploitation [3]. For large industrial companies, limited exploration can risk a loss of market position in the long run. Moreover, innovation efforts pushed from the top may meet resistance [4] or fail to take root in day-to-day practices. Research has indicated that employees' resistance to change can hinder organizational innovation, as it may lead employees to resist through counterproductive actions [5].

In response, researchers have increasingly examined the microfoundations of ambidexterity, seeking to understand how individual characteristics, team dynamics, and project-level routines contribute to the emergence and maintenance of ambidextrous behavior [6; 7]. This perspective sheds light on how everyday work practices, autonomy, and social processes shape organizational outcomes. Alongside this, complexity theory has emphasized the value of emergent, self-organizing systems that support adaptability through informal coordination and locally situated learning [8; 9].

Despite these developments, the role of symbolic and cultural elements in enabling ambidexterity is underexplored. Existing studies often focus on structural or digital supports, while overlooking how meaning-making, rituals, and shared values contribute to balancing exploration and exploitation.

This work-in-progress study contributes to this field through an in-depth investigation of the AI BooSTcamp at a large multinational in the microelectronics sector. Existing project management frameworks, such as Scrum, SAFe, and Design Thinking, have proven insufficient for the organization to fully harness the innovative potential of both experienced operational personnel and technologically adept newcomers. Each year, new cohorts of PhD students and interns join the

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program to identify, co-design, and implement AI projects in collaboration with operational teams who often remain within the organization for only a few months to a few years. Designed to support innovation in artificial intelligence, the AI BooSTcamp operates without relying on formal digital workplace for co-creation. Instead, it functions as a temporary, reconfigurable system based on symbolic framing, distributed roles, and recurring interpersonal routines. Hence, this study tackles the following research question: How do micro-level structures, routines, and symbolic elements within innovation programs enable OA in large industrial organizations?

To address this question, we draw on qualitative fieldwork, including five exploratory interviews with BooSTcamp participants. We examine how the program creates the conditions for exploratory learning within a highly operational environment. We focus in particular on how autonomy, coaching, and symbolic infrastructure contribute to enabling innovation from within, rather than through top-down initiatives.

We offer two main contributions. First, we extend research on the microfoundations of OA by showing how temporary, rotating teams, informal mechanisms, and distributed coordination, shaped by a holacratic governance model, enable sustained exploration within an exploitation-dominated industrial context. Second, we contribute to the literature on symbolic infrastructure by analyzing how values such as radical candor and openness to doubt shape participants' perceptions of agency, legitimacy, and risk-taking. Together, these findings highlight how embedded, socially-driven innovation systems can operate as complex adaptive systems (CAS), and raise important questions about the conditions under which such models can scale and sustain impact.

## **2. Theoretical Background**

### **2.1. Organizational Ambidexterity and its Microfoundations**

OA refers to a firm's capacity to simultaneously exploit existing capabilities while exploring new opportunities [10; 11]. It is widely recognized as essential for sustained innovation and long-term performance in dynamic environments [12; 1]. Early work in this field distinguished between structural ambidexterity, where separate units are dedicated to exploration and exploitation, and contextual ambidexterity, where individuals or teams dynamically shift between both activities within the same structure [13]. More recently, scholars have called for deeper inquiry into the microfoundations of OA, i.e. the individual and team-level mechanisms that enable organizations to balance competing demands [6; 7]. This shift reflects a broader move in organizational research to unpack how macro-level phenomena are grounded in micro-level interactions, routines, and capabilities.

The microfoundations perspective emphasizes three key domains: (a) individual characteristics, such as cognitive flexibility or motivation [14]; (b) team processes and structures, including diversity, autonomy, and coordination routines [15; 7]; and (c) cultural and symbolic elements, such as shared values, rituals, or frames that guide behaviour [16; 17]. They are a multilevel phenomenon, so that an analysis of each level and their interaction is needed to understand capabilities development. Developing microfoundations is not without challenges [18], including of cultural nature.

Despite growing interest in these domains, several authors highlight gaps in the literature. For instance, [7] note a lack of research on how ambidexterity emerges in temporary or project-based teams, particularly in large industrial settings. [19] further call for complexity-informed approaches to understand the fluid and adaptive dynamics of ambidexterity in real organizational contexts.

## 2.2. Ambidexterity and Complex Adaptive Systems

While much of the OA literature has focused on formal structures and role-based mechanisms, an emerging body of work grounded in complexity theory offers a dynamic and processual perspective. Organizations are increasingly seen as CAS, composed of interdependent agents whose local interactions can generate nonlinear and emergent outcomes [20; 8]. From this viewpoint, ambidexterity is not achieved through static design or strict dual structures, but through enabling conditions that support continuous interaction, experimentation, and adaptation. CAS may benefit from developing adaptive capacities, which describes the ability of an organization, to respond to change, shocks, or uncertainty [20]. Adaptive capacity is understood to arise when formal and informal systems interact in ways that allow novelty to emerge and be integrated with existing operations [9]. This interaction occurs in what has been termed "adaptive space," a conceptual zone where exploration and exploitation can meet without requiring complete structural reorganization.

Scholars working within this tradition emphasize that relational dynamics, symbolic framing, and flexible coordination mechanisms play a critical role in enabling ambidexterity. Cultural elements such as shared values, language, and rituals help legitimize uncertainty and experimentation [22; 23], while psychological safety and interpersonal trust are seen as foundational for risk-taking and learning [24]. In addition, minimal structures such as routines, feedback loops, and informal roles can facilitate coherence without suppressing the emergence of new ideas [25; 26]. This line of research shifts the focus from designing ambidexterity through rigid models toward understanding how it may evolve through local interactions and iterative adaptation. Yet despite these conceptual advances, few studies have examined how large, industrial organizations can create and maintain such enabling conditions in practice. There remains a need to explore how adaptive spaces, symbolic infrastructures, and interpersonal routines can serve as the microfoundations of OA in complex, operational environments.

## 3. Research Context and Method

This study takes place within a large microelectronics company that has been operating for over 35 years. While the organization is multi-national and employs over 40,000 people worldwide, the study was performed at one of its locations in France with about 5,000 employees. The organization currently faces several challenges: (1) an aging workforce with expertise that is scarce in the job market, specifically in artificial intelligence; (2) strong pressure for productivity gains; (3) a highly competitive global market putting constant pressure on time-to-market. Leveraging AI to develop new microchips and products, or to improve existing offerings, has emerged as a possible response to these challenges. However, due to a strong historical focus on operational excellence and limited internal AI experience, using AI for innovation has often been looked upon with caution or outright skepticism. When the Research & Development (R&D) department attempts to push innovation toward operational teams, it can also encounter significant resistance, as is common in organizations lacking ambidexterity.

To address these issues, the AI BooSTcamp was launched within the R&D department on one of the French sites. It is a dedicated program designed to foster AI-driven innovation while remaining closely aligned with the organization's operational context. The program's founder explicitly aimed to create the conditions for OA, enabling both exploration and exploitation to occur simultaneously, with the goal of generating AI innovations that can be continuously injected into operations.

The AI BooSTcamp manager works in close collaboration with operational teams to identify promising AI-related opportunities across business units. Rather than imposing innovation from above, this approach encourages the co-construction of projects between juniors and local teams,

helping to ensure contextual relevance and reduce resistance to change by embedding innovation within existing workflows and needs. Once a project is selected, the manager assembles temporary project teams composed of PhD students and interns. PhD students are fully embedded in the organization and typically oversee several projects over a multi-year period. They work alongside master's-level interns, who join the AI BooSTcamp between January and August and are replaced annually. This structure is designed to infuse the organization with the fresh perspectives and technical expertise of younger generations, and to enable a form of innovation "injection" into operational departments, which act as internal clients.

The AI BooSTcamp founder has built the program around several guiding principles as follows. First, the program draws on holacratic principles. Holacracy [27] aims at distributing authority and decision-making through self-organized teams [28]. Contrary to traditional management, this pushes down decision-making to every individual in the organization, or here BooSTcamp teams. This fosters mutual learning and shared ownership. [27] defines holacracy as a "unique decision-making process for updating those roles and authorities, a meeting for keeping teams in sync and getting work done together" (p. 210). Such a structure is needed to build an adaptive system. Holacracies lead to structures in circles and subcircles, which can make the organization look flat. However, they function if someone at the top has defined a constitution for the holacracy, a set of rules and conditions under which power and roles shift [28]. One criticism of holacracies is that while effort is focused on structuring and formalizing the system, the informal dynamics that naturally emerge may be overlooked [28]. Holacracies do not require individuals to have specific job titles but rather roles [29], and they will change roles in order to enable the holacracy to keep focused on reaching its goal. In doing so, two types of tensions can emerge: one on operations and one on governance [29]. To keep the multiple circles of the holacracy aligned, and thus reduce tensions, members of the holacracy must have meetings with members of other holacratic circles, including a lead circle that ensures the decisions align [29].

Second, it promotes radical candor [30], encouraging participants to speak up, share ideas openly, and challenge existing assumptions while showing care and belief in others' potential. To create an atmosphere for radical candor, honest communication [29] is encouraged as a means to foster a learning climate where junior contributors are encouraged to question assumptions and learn from failure. To enable this radical candor, the AI BooSTcamp supports a culture of experimentation by cultivating a psychologically safe environment [24] in which participants are encouraged to take risks and learn from failure. Structures such as coaching, peer support, and informal workshops are used to build confidence, counter impostor syndrome, and empower juniors to contribute meaningfully to innovation efforts.

Third, the program emphasizes intergenerational collaboration by bringing together the up-to-date technical skills and fresh perspectives of juniors with the domain expertise and contextual knowledge of more senior employees. This cross-generational synergy should enable mutual learning and help bridge the gap between exploratory innovation and operational realities. Such intergenerational collaboration has been shown to enhance team functioning by combining diverse experiences and perspectives, fostering both task effectiveness and relational integration.

To understand how these principles are enacted and experienced in practice, and how they contribute to the microfoundations of ambidexterity, we conducted a first round of qualitative interviews. We followed an inductive approach and performed thematic analysis to analyze data [31]. We invited all members of the BooSTcamp to take part in the study on a voluntary basis. To date, five semi-structured interviews have been completed with two PhD students and three interns currently participating in the AI BooSTcamp. Interviews last one hour on average. So far, they cover three different projects. While a full thematic analysis is still in progress, initial coding and memo-writing

have surfaced early patterns related to autonomy, coordination, and the renegotiation of roles and routines. These emerging insights focused primarily on exploration activities and inform the reflections presented in this work-in-progress paper.

## **4. Preliminary findings**

### **4.1. Holacracy in action: The Power of Informal Routines**

The AI BooSTcamp is structured around a set of recurring rituals designed to foster coordination, visibility, and legitimacy for exploratory work. These include a Monday morning coffee, where AI topics are discussed informally; two weekly meetings, which serve as coordination checkpoints for sharing progress within projects and occasionally a manager; monthly innovation reviews with the AI BooSTcamp members and internal clients, which expose projects to a broader internal audience; and a yearly innovation board, where selected outcomes are showcased to senior leadership. These rituals form the symbolic backbone of the program and are intended to promote communication, transparency, and a sense of shared purpose. They are a must-have in holacratic organizations.

Despite the formal meeting points described above, interviews suggest that the most authentic moments of exploratory behavior and learning happen in the informal spaces between these scheduled events. Peer-to-peer feedback often occurs spontaneously, enabled by a strong sense of proximity and psychological safety among participants. BooSTcamp members share an open-plan workspace, with no cubicles or enclosed offices, and regularly socialize outside of work hours. This environment facilitates candid exchanges, quick alignment, and emotional support — forms of interaction that participants describe as more meaningful and generative than formal meetings.

As such, rituals like the weekly coordination meetings can be experienced by participants as either performative or constraining. This can lead the group to want to reorganize the holacracy itself. One participant recalled a collective effort to negotiate a reduction in the number of weekly meetings. This request was ultimately refused: *“We had tried to negotiate for what they call ‘free weeks’ every other week — when we felt we didn’t have much to report, just a short note at the end of the week to say, ‘I’m working on this, I’ll have results next week.’ We all agreed on this. But it was rejected because [the managers] felt those meetings had a really positive impact. From our side, we felt exactly the opposite.”* This quote highlights a critical tension: while the symbolic infrastructure emphasizes flatness, self-organization within the holacratic circles, radical candor and autonomy, participants do not always feel empowered to reshape the very rituals intended to support them. The minimal structure required from a holacratic system does not fully prevent the perception of a traditional hierarchy. For instance, in the absence of job titles, the AI BooSTcamp members refer to each other according to their contractual status, with some being very short-term, like interns, others in a mid-term perspective, like the PhDs, and finally the permanent staff. The holacratic circles are active mostly between the non-permanent staff thanks to the informal social routines and sense of proximity exposed above. Holacracy also involves structure, whose value is not always perceived by short-term staff.

### **4.2. The Holacratic System Supports Learning**

While respondents do describe traditional hierarchies, with interns reporting to PhD students and then to the AI BooSTcamp management, they also describe how they learn from one another on a project, as well as across projects. An intern emphasizes the importance of this approach in giving them experience. Another participant notes that it is not always possible to learn what the others are doing, but still it is possible to get an idea of different projects and help sometimes. This mode of functioning, with knowledge circulating within a project, and across projects, in circular manners, is typical of a holacratic organization. It leads interns to give feedback to each other, sometimes it also leads them to take on new roles in coaching or helping others. An intern notes that the most important

and unexpected learning outcome from his internship is communication. A participant describes the AI BooSTcamp as a “training center”, where soft skills can be learned, and experience can be obtained by seeing several projects. Several other participants consider communication, to identify and solve issues, as crucial in the AI BooSTcamp. Despite their early-career status, participants who do their internship do not passively absorb feedback. While they value guidance from PhD students or managers with recognized AI expertise, they tend to discount input from those perceived as lacking technical depth, who are typically outside of the holacratic circles.

#### **4.3. Radical Candor, AI BooSTcamp Values, and Holacracy Lead to Strong Soft Skills Development**

Participants describe decisions on projects as possibly made either by the intern alone, or with the PhD student, or with the permanent staff during meetings – albeit less frequently. This conviction of one’s ability to decide and solve issues strengthens a high sense of autonomy, as well as perseverance. Several interviewees described polite forms of resistance, in which they appear to follow advice while quietly continuing with their preferred direction: *“They can tell us to do something, and so we’ll kind of do it in the background – but we’ll still pursue our idea. Later we’ll come up with some results to make them happy, so they’ll leave us alone and we can keep working on what we think is a better direction.”* This form of subtle resistance does not indicate disengagement but reflects a growing sense of technical judgment and ownership. Perseverance is often described as a good quality for researchers.

Participants also recognize that autonomy is not static, but rather develops through experience, maturity, and project progression. As one stated, *“At the beginning, it was really hierarchical, but I think that depends on maturity. At my stage now, it’s much flatter. I’m the one proposing things. Sometimes I even push back on management’s ideas because they aren’t technically feasible.”* This highlights ways in which changing roles and radical candor can be expressed.

Participants also demonstrate they are not afraid of failure and that it is part of the process. *“We know we will hit the wall sometimes, and it’s okay. It’s better to do it at the beginning though, so I can produce something in the last leg of my internship.”* Some also highlight that they are encouraged to challenge everything. Acting in this way may be dependent on one’s personality. A participant notes *“We are told to doubt everything and I do it, but it is in my nature”*. Personality plays an important role, as another participant mentions how important it is to be curious to learn from the others and move forward, and that it is in his personality.

This evolving relationship to autonomy and one’s growing ability to explore is shaped not only by individual confidence but also by the maturity of the project itself, from ‘sensing’ to ‘seizing’ and ‘transforming’ phases. Participants must work with the legacy of previous interns, including unfinished ideas and abandoned paths. As one explained, *“We actually documented more the paths we abandoned than the ones we developed. Because you have to justify why you’re not going down a certain road.”* Exploration is embedded in a collective process of historical layering, where value lies as much in learning what does not work as in delivering a finished output.

#### **4.4. Injecting Innovation Requires Building Bridges Outside of the Holacracy**

The AI BooSTcamp exists somewhat apart from the rest of the company. The monthly meetings allow exchanging knowledge across projects with the aim of fostering situational awareness and enabling expertise location. Despite the program’s internal coherence and strong exploratory capacity, interviews highlight a limited organizational reach. Participants report few sustained interactions with other teams beyond project handovers. One participant lamented, *“Even if we do*

monthly meetings, they're not really meant to explain things. It's more like marketing, to sell the projects, but we don't really go into the technical details" Another explained the lack of uptake more bluntly: "In my case, they just take it as a black box, so there's no investment in understanding how it works to reuse it... they almost never come back to me, so I know they use it very little" These observations point to the challenges of transferring innovation from temporary, exploratory units into stable organizational routines. Knowledge does not travel automatically, and symbolic visibility through rituals is not enough to ensure adoption. Without stronger relational bridges, innovation risks remaining siloed within the exploratory space. However, this insight may stem from the limited perspective of interns whose short-term presence in the organization may prevent them from grasping how injection works.

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## 5. Discussion and Next Steps

This study sheds light on how large industrial organizations can operationalize organizational ambidexterity (OA) by embedding exploratory innovation within operational contexts. The AI BooSTcamp offers an illustrative case of a temporary, non-technocentric infrastructure that enables innovation. Our study explores the microfoundations enabling exploration, summarized in Table 1.

Micro Level	Mechanism	Empirical Illustration	Role in Sustaining Exploration
Individual	Reasoned perseverance	"We kind of do what they say... but keep working on what we think is a better direction."	Ensures continuity of intent and supports local agency in CAS.
	Evolving autonomy	"At first it was very hierarchical... now I propose things and even push back."	Builds initiative and judgment, aligning with contextual ambidexterity and adaptive capacity.
	Personal alignment with values	"We're told to doubt everything –and I do, but that's also in my nature."	Reinforces norms of critical inquiry and symbolic framing essential for exploration.
Team	Peer-to-peer coaching & feedback	"We do learn from others; they show us what they're doing, and as a result, we learn about AI"	Fosters mutual learning and emergent coordination in self-organizing systems
	Emotional support & candid exchange	"We stay among ourselves ..., we make friends, [...] there's a very good sense of cohesion. It's a pleasure to	Maintains psychological safety—key for adaptive capacity and risk-taking.

		go to the bar.”	
	Soft hierarchy & role fluidity	“At first, you try to understand how it works [...] as time goes on, you take on more or less responsibility.”	Enables distributed agency and fluid role reconfiguration, supporting exploratory behavior.
	Symbolic rituals & lightweight routines	“We have what we call weekly meetings every week and monthly meetings, which are called Innovation Review, and social time afterwards”	Uses minimal structure and loose coupling to enable emergence and protect exploration from exploitation
Structure	Legacy continuity mechanisms	“It’s all these little things, but no one codes the same way [...] some people are more or less rigorous in how they describe what they do.”	Supports continuity and informal knowledge transfer across cycles.
	Selective boundary bridging	“...monthly meetings, they’re not meant to be explanatory. They’re like marketing meetings [...] we don’t go into the technical details”	Protects exploration from exploitation constraints; exemplifies loose coupling typical of OA in CAS

These three levels of microfoundations unfold within a holacratic environment. Holacracy is not a fixed structure, but a shaping force, i.e., an intentional design choice that interacts with evolving practices [27]. Viewing the AI BooSTcamp through this lens allows us to conceptualize it as a complex adaptive system [18; 6], where formal principles are enacted through emergent routines, symbolic coordination, and distributed agency [20].

### 5.1. Holacracy as Governance Backbone for Dynamic Microfoundations

The holacracy implemented in the AI BooSTcamp reflects the core features described in the literature [27], including mandatory rituals, the absence of job titles, and shared decision-making. Interns and PhD participants experience high degrees of autonomy, supported by coaching and feedback mechanisms that foster psychological safety and a sense of ownership. These microfoundations are not static: autonomy evolves with maturity, coordination patterns shift with team dynamics, and routines that can be reinterpreted by each new cohort. This enactment of roles, rules, and rituals illustrates how microfoundations are negotiated and reshaped over time—making them dynamic in practice.

Newcomers or those perceived as less technically expert may struggle to assert agency, leading to uneven experiences of radical candor and shared authority. This friction between aspirational values and lived practice echoes tensions in symbolic infrastructure and cultural control [21]. It is particularly salient in hybrid or liminal settings [30], where participants navigate ambiguous expectations and fluid boundaries. While holacracy enables exploration, its full potential depends on participants’ ability to recognize and activate its affordances—something that cannot be assumed in rotational teams. The AI BooSTcamp is therefore bound to see its practices changed and improve year-on-year.

### 5.2. Symbolic Infrastructure and Liminality

The AI BooSTcamp is underpinned by a set of symbolic elements—rituals, mantras, and shared values—that shape how participants perceive legitimacy, agency, and risk. Values such as radical candor, openness to doubt, and the right to fail are promoted explicitly and are embedded in the program’s recurring routines, including Monday coffees, innovation reviews, and informal exchanges. These rituals create a shared sense of purpose and act as cultural anchors in an otherwise fluid structure, enabling a form of control based on norms and meaning rather than hierarchy. Yet these symbolic elements do not operate uniformly. While some participants experience them as empowering, others—especially younger interns—report a perceived gap between espoused values and actual responsiveness. They are encouraged to speak up, but do not always feel their voices carry weight in decision-making. This disconnect signals a tension between cultural ideals and structural realities, echoing the observation that symbolic infrastructures often coexist with tacit constraints. In the AI BooSTcamp, where teams rotate annually and roles are temporary, this tension may be amplified by the liminal nature of participants’ status: neither fully integrated into the organization nor fully external to it [32].

This means that the symbolic elements must be continuously reinterpreted and renegotiated. As each cohort cycles through, it inherits values that are translated, sometimes reinforced, sometimes challenged. This dynamic reinforces the need for active maintenance of the symbolic layer, especially when formal structures are minimal. In this sense, symbolic elements become a governance mechanism for ambidexterity.

Importantly, the relative absence of technological tools in participants’ discourse reinforces the symbolic distinctiveness of the AI BooSTcamp. While oriented toward AI innovation, the program is not defined by AI methods, platforms, or toolkits. Instead, participants emphasize the values, interactions, and rituals that give exploratory work its meaning. This absence reflects a deeper logic of non-technocentric innovation, where exploration is enabled by human dynamics.

### **5.3. Informal Mechanisms and Absorptive Capacity**

Despite the rotating members in the AI BooSTcamp, the program sustains a surprising degree of knowledge continuity across cohorts. Interns inherit unfinished codebases, stories of failed attempts, and design choices made by their predecessors. According to interns, most of this transfer occurs not through formal documentation, but through lightweight routines such as informal coaching, storytelling, and embodied engagement with the technological artifact. Participants must “absorb” prior knowledge not only in documented code, but through the cultural traces left in rituals, comments, or social cues. Consequently, these microfoundations foster knowledge absorption [33].

This mode of learning aligns with the notion of lightweight infrastructure and extends it to project-based, exploratory contexts. Rather than codified procedures, continuity relies on shared space, informal mentorship, and symbolic rituals. These mechanisms act as cultural carriers, embedding knowledge in relationships and routines. The AI BooSTcamp’s reliance on informal mechanisms challenges traditional views of project handover and points to new forms of temporally distributed exploration. It shows how organizational memory is preserved without centralized control, and how design intent can persist even when project ownership rotates yearly. At the same time, documentation is also produced by long term participants of the AI BooSTcamp. This shows how the information system sustaining the AI BooSTcamp is perceived to be socio-centric and informal, despite the creation of technical elements and formal artefacts. The role of the leading circle in the holacracy and its perception of the subcircles need to be investigated to assess the degree of formality and informality in the BooSTcamp.

The structure of the AI Boostcamp enables strong learning, in technical skills and soft skills. Over the time of an internship, participants develop key skills for researchers: perseverance, creativity,

resilience, acceptance that they will sometimes ‘hit the wall’ and the understanding that this is alright as they will bounce back from it. The findings also show how participants can focus on exploration and develop their practice of innovation in a sheltered and friendly atmosphere.

#### **5.4. Complex Adaptive Systems and Emergent Exploration**

The AI BooSTcamp operates as a CAS in which exploration emerges from local interactions, bottomup coordination, and distributed judgment. Participants adapt continuously to shifting conditions. Autonomy is negotiated, earned, and reconfigured over time. Roles are fluid, expertise is situational, and leadership is distributed. These are signs of adaptive capacity.

Exploration within the AI BooSTcamp is not orchestrated top-down. It materializes as interns challenge guidance, reinterpret feedback, or quietly persist with alternative ideas. These micro-moves contribute to a broader system of innovation sustained not by structure, but by informal cohesion and shared symbolic frames. The program functions as a modular, non-technocentric exploration infrastructure—loosely coupled to operational systems, yet robust enough to persist across cycles.

By grounding exploration in social interaction and symbolic meaning rather than formal hierarchy or digital tooling, the AI BooSTcamp provides a distinctive model for cultivating innovation in industrial contexts. It supports recent calls [22; 8; 4] to move beyond static typologies of ambidexterity and attend to the evolving, enacted, and emergent nature of exploratory systems. Here, holacracy functions not as a structure to be replicated, but as a scaffolding that legitimizes dynamic microfoundations and makes room for technical experimentation to coexist.

In our future work, we will expand the number of interviews to overcome the limitations of our small sample. We expect that more interviews will allow us to uncover structural elements that foster exploitation allowing us to better understand OA. Since the current sample is weighted toward junior participants, future work will expand to include senior and long-term employees in order to capture a more balanced view of OA. Investigating how a non-technocentric CAS can be stabilized or scaled may offer valuable insights for organizations seeking to foster OA.

We aim to contribute to theory by identifying new microfoundations at the individual, team, and structural levels that shed light on the dynamic nature of OA. Our findings may also offer practical insights for managers seeking to adopt the BooSTcamp approach as an innovation program in their organizations to foster OA.

#### **Declaration on Generative AI**

During the preparation of this paper, the authors used ChatGPT-4o to improve the clarity and grammar of the manuscript. The authors have reviewed and edited the content as needed and take full responsibility of the work.

## References

- [1] O'Reilly III, Charles A., and Michael L. Tushman. "Organizational ambidexterity: Past, present, and future." *Academy of management Perspectives* 27.4 (2013): 324-338.
- [2] Andriopoulos, Constantine, and Marianne W. Lewis. "Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation." *Organization science* 20.4 (2009): 696- 717.
- [3] Zhong, Xi, Weihong Chen, and Ge Ren. "The effects of performance shortfalls on firms' exploitation and exploration R&D internationalization decisions: does industry environmental matter?." *Technovation* 112 (2022): 102408.
- [4] Benner, Mary J, and Tushman, Michael L. "Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited." *Academy of Management* 28, no. 2 (2003): 238–56.
- [5] Zwick, Thomas. "Employee resistance against innovations." *International journal of Manpower* 23.6 (2002): 542-552.
- [4] Felin, Teppo, Nicolai J. Foss, and Robert E. Ployhart. "The microfoundations movement in strategy and organization theory." *Academy of Management Annals* 9.1 (2015): 575-632.
- [5] Christofi, Michael, Demetris Vrontis, and John W. Cadogan. "Micro-foundational ambidexterity and multinational enterprises: a systematic review and a conceptual framework." *International Business Review* 30.1 (2021): 101625.
- [6] Plowman, Donde Ashmos, et al. "Radical change accidentally: The emergence and amplification of small change." *Academy of management Journal* 50.3 (2007): 515-543.
- [7] Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *The leadership quarterly*, 29(1), 89-104.
- [8] March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science* 2.1 (1991): 71-87.
- [9] Andriopoulos, Constantine, and Marianne W. Lewis. "Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation." *Organization science* 20.4 (2009): 696- 717.
- [10] Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of management*, 34(3), 375-409.
- [11] Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of management Journal*, 47(2), 209-226. [12] Weirauch, Lena, Sibylle Galliker, and Achim Elfering. "Holacracy, a modern form of organizational governance predictors for person-organization-fit and job satisfaction." *Frontiers in psychology* 13 (2023): 1021545.
- [13] Mom, Tom JM, Frans AJ Van Den Bosch, and Henk W. Volberda. "Understanding variation in managers' ambidexterity: Investigating direct and interaction effects of formal structural and personal coordination mechanisms." *Organization science* 20.4 (2009): 812-828.

- [14] Birkinshaw, Julian, and Kamini Gupta. "Clarifying the distinctive contribution of ambidexterity to the field of organization studies." *Academy of Management Perspectives* 27.4 (2013): 287-298.
- [15] Alvesson, Mats, and Dan Kärreman. "Interfaces of control. Technocratic and socio-ideological control in a global management consultancy firm." *Accounting, organizations and society* 29.3-4 (2004): 423-444.
- [16] Witschel, Daliborka, Julian Marius Müller, and Kai-Ingo Voigt. "What takes the wind out of their sails? A micro-foundational perspective of challenges for building dynamic capabilities towards digital business model innovation." *Journal of Business Research* 75.3 (2023): 345-388.
- [17] Chakma, Rubina, Justin Paul, and Sanjay Dhir. "Organizational ambidexterity: A review and research agenda." *IEEE Transactions on Engineering Management* 71 (2021): 121-137.
- [18] Anderson, Philip. "Perspective: Complexity theory and organization science." *Organization science* 10.3 (1999): 216-232.
- [19] Bone, Christopher. "A complex adaptive systems perspective of forest policy in China." *Technological forecasting and social change* 112 (2016): 138-144.
- [20] Garud, Raghu, Joel Gehman, and Arun Kumaraswamy. "Complexity arrangements for sustained innovation: Lessons from 3M Corporation." *Organization Studies* 32.6 (2011): 737-767.
- [21] Eisenberg, Eric M. "Ambiguity as strategy in organizational communication." *Communication monographs* 51.3 (1984): 227-242.
- [22] Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative science quarterly*, 44(2), 350-383.
- [23] Weik, Karl E. "The collapse of sensemaking in organizations: The Mann Gulch disaster." *Studi Organizzativi* 2008/2 (2009).
- [24] Miner, A. S., Bassof, P., & Moorman, C. (2001). Organizational improvisation and learning: A field study. *Administrative science quarterly*, 46(2), 304-337.
- [25] Robertson, B. J., (2015). *Holacracy: The Revolutionary Management System that Abolishes Hierarchy*. London: Penguin UK
- [26] Farkhondeh, Maria, and Barbara Müller. "Holacracy." *management revue* 32.4 (2021): 302-317.
- [27] Van De Kamp, Pepijn. "Holacracy—A radical approach to organizational design." *Elements of the Software Development Process-Influences on Project Success and Failure*. University of Amsterdam (2014): 13-26.
- [28] Scott, K. M. (2017). *Radical Candor: How to get what you want by saying what you mean*. Macmillan.
- [29] Bass, Bernard M., and Ronald E. Riggio. *Transformational leadership*. Psychology press, 2006.

[30] Garsten, Christina. "Betwixt and between: Temporary employees as liminal subjects in flexible organizations." *Organization studies* 20.4 (1999): 601-617.

[31] Gioia, Dennis A., Kevin G. Corley, and Aimee L. Hamilton. "Seeking qualitative rigor in inductive research: Notes on the Gioia methodology." *Organizational research methods* 16.1 (2013): 15-31.

[32] Howard-Grenville, Jennifer, et al. "Liminality as cultural process for cultural change." *Organization Science* 22.2 (2011): 522-539

[33] Fernandes, Cristina I., et al. "Exploring the microfoundations of innovation: what they are, where they come from and where they are going?." *European Business Review* 35.3 (2023): 356-396.