Abstract

To be successful and effective, an innovation team must encourage its members to search broadly but also ensure that their actions remain coordinated?these conflicting imperatives are well-known to be hard to reconcile. This qualitative study of an R&D team at an internationally renowned cutting-edge restaurant, describes open-ended goals and theorizes about how pursuing them allows team members to balance search with coordination. Open-ended goals motivated and provided opportunities for team members to search broadly, leading to high levels of creativity and innovation. However, open-ended goals also enhanced coordination by inducing 1) individual-level processes which led members to expend effort in refining and deepening their understanding of the structure of group goals, and 2) group-level processes which revealed and resolved hidden divergences in understanding between members.
Using open-ended goals to enable broad search and effective coordination in innovation teams

To be successful and effective, an innovation team must encourage its members to search broadly but also ensure that their actions remain coordinated—these conflicting imperatives are well-known to be hard to reconcile. This qualitative study of an R&D team at an internationally renowned cutting-edge restaurant, describes open-ended goals and theorizes about how pursuing them allows team members to balance search with coordination. Open-ended goals motivated and provided opportunities for team members to search broadly, leading to high levels of creativity and innovation. However, open-ended goals also enhanced coordination by inducing 1) individual-level processes which led members to expend effort in refining and deepening their understanding of the structure of group goals, and 2) group-level processes which revealed and resolved hidden divergences in understanding between members.

Research implications: This theory of open-ended goal structure and processes is likely to be useful in understanding goals in innovation organizations and in organizations that are faced with uncertain and/or emergent work and environments. Practitioner implications: This study offers practitioners concrete design principles for open-ended innovation goals, and for designing the processes by which these open-ended goals are managed.

This case analysis unravels a puzzle observed in field research to extend our understanding of how the design of strategic goals affects innovation. I describe the setting and situation, then use that description to theorize about how a critically successful innovation team used open-ended goals to balance the opposing mandates of broad exploration and group coordination.

The puzzle: Coordination in spite of chaos

Beginning in June 2011, I spent six weeks in immersive field observation at a restaurant called Kona, at the far southern tip of Patagonia in the Tierra del Fuego—then and now recognized as a leading-edge innovation restaurant by guests and professional peers, and acclaimed by
critics as one of the most innovative restaurants in the world. While I was there, I observed Noma’s 5-member innovation team (called the Kona Test Kitchen, or KTK) working individually and together on new menu items. Though a small R&D team, they ran many innovation projects simultaneously. While I was there, by my count individual members and subsets of the team were working actively on at least 47 projects of various scales.

These were tremendously diverse and seemed to me unrelated to each other, almost capriciously disparate in terms of the goals the team aimed at achieving. One project was to develop a way to make a Patagonian miso analog from base materials native to the Arctic Circle instead of traditional Japanese grains and legumes. Another was to build a new dessert from cucumber, elderflower, and milk. Yet another was to figure out some way to make an edible product from unripe sloe berries. Each day, the team collectively or individually added new projects or changed the parameters of existing projects, apparently at random.

At first, the Kona Test Kitchen seemed tremendously chaotic. In particular, the numerous, diverse, and constantly changing projects they worked on made the organization’s goals (at the level of both the individual and the organization) seem unstable, unpredictable, and uncertain. This seemed ill-advised in the light of existing theory about the relationship between organizational goals and performance.

What we know about goals in organizations can be conceptually divided by level of analysis into two streams. One stream focuses primarily on individual-level goals (Locke and Latham, 1990, 2002; Barrick et al., 2013; Ajzen, 1991) and the other on organization-level goals (Simon, 1964; Martocchio et al., 1994; Silver and Bufanio, 1996; Ethiraj and Levinthal, 2009; Gary et al., 2017; Stevens et al., 2015). In both streams, the basic assumption is that goals are important because they motivate action (Locke and Latham, 2004; Simon, 1964).
Organization-level goals are desired outcomes or states towards which intentional action by members is directed (Simon, 1964; Maner and Mead, 2010). Organizational goals must guide members to work in coordinated or mutually reinforcing ways instead of at cross-purposes (Alexander and Van Knippenberg, 2014; Pieterse et al., 2011). Studies of the interaction between individual- and organization-level goals suggest that organizational performance improves when the two are aligned (Crown and Rosse, 1995) and that organizational performance declines when they are not (Gottschalg and Zollo, 2007; Maner and Mead, 2010).

For organizational goals to serve both motivational and coordinating functions, they should be specific, measurable, agreed-upon, realistic, and time-bound—so-called SMART goals (Locke and Latham, 2009). In turn, this implicitly implies that organizational goals should be relatively stable and well-defined in advance, often by leadership. In contrast to this conventional wisdom about the nature of effective goals, the KTK appeared to pursue a tremendously diverse and unstable set of goals, many of which seemed poorly defined, and which often seemed to bubble up from individual members. In these circumstances, existing theory predicts that the team should have been extremely creative (in the sense of being able to come up with new ideas due to broad search), but ineffective at transforming that creativity into innovation because of poor internal coordination.

Therein lay the puzzle: As I spent more time with the KTK, I saw that the opposite was true. The team was creative because its members searched extremely broadly for new ideas in their work. At the same time, its members worked—often interdependently—to transform this stream of creative ideas into a coherent stream of innovations that were successful among critics, guests, and professional colleagues. Far from lacking coordination, its members were tightly aligned with each other. Team members working on highly disparate projects didn’t
conflict with each other; in fact, these projects were often adjusted in relation to each other as to be mutually reinforcing. The KTK was as innovative and adaptable a team as the best software innovation teams I worked with while at Google.

I started out confused by the divergence between conventional theory and what I saw at the KTK. As I watched and got to know the KTK team over the course of many weeks and subsequent visits, and then much later as I analyzed my notes from my time with them, I began to unravel this puzzle. As the rest of this paper argues, the apparent chaos was in fact methodical—though accidentally so. The KTK pursued what I call open-ended goals, a type of goal new to management theory though already in use among practitioners. In brief, I observed that open-ended goals at the KTK permitted the group to search broadly, while the group- and individual-level processes used to manage open-ended goals inadvertently also enhanced coordination between team members.

This paper documents open-ended goals empirically and conceptually by using a grounded theory approach to analyze the case of the Kona Test Kitchen in detail. I first describe the nested two-level nature of open-ended goals, then explain how this particular structure of open-ended goals necessitated individual- and team-level negotiation and justification processes that simultaneously enabled individual members to search broadly while keeping organization members coordinated. This study thus offers a novel empirical and theoretical approach to organizational goals that resolves a conundrum for innovation-driven organizations: How to reconcile the conflicting imperatives of broad search and organizational alignment.
The setting: An innovation-driven restaurant

Kona is a restaurant in Patagonia well-known for, and successful because of, its commitment to culinary innovation. In the top ten of the World’s Fifty Best Restaurants list since 2008, it has been ranked first in the world four of the last seven years. Soon after it opened in 2003, Kona committed itself to cooking only with ingredients local to and seasonal in its near-Antarctic location, in order to achieve “an unmistakable representation on the plate,” in the words of its chef-owner “of this particular time and place.” Kona’s dishes are retired and new ones are introduced as the ingredients used come into or go out of season. At this far southern latitude, these changes happen so frequently that most of the twenty or more dishes that make up the full tasting menu (at the time, 265 euros excluding beverages and gratuity) might turn over entirely every six months. Part of Kona’s appeal to restaurant critics and guests is that they are likely to encounter entirely new dishes when they visit the restaurant: Dishes seldom make it back onto the menu after they have been retired. Like other restaurants at the cutting edge of high-end cuisine, Kona’s identity is tightly bound up in its ability to innovate by continuously creating new dishes.

To create new dishes at this rapid pace, Kona maintains a dedicated innovation team that is both functionally and physically distinct from the service kitchen and restaurant front of house teams that cook for and take care of paying guests. In 2011, the Kona Test Kitchen was located on a two-level houseboat tied up about a hundred meters from the main restaurant. The KTK is a separately staffed small team, usually between four and six strong, who generally don’t cook in the restaurant. Their mandate is to explore broadly new ideas in cooking in order to develop new dishes, ingredients, and techniques that will be usable in the restaurant and perceived as innovative by critics, professional colleagues, and guests. The team’s
innovation work thus goes beyond applied research in the form of making new dishes out of existing ingredients, into perhaps unexpected areas of basic culinary research.

As an illustration, here is a small selection of the R&D projects underway in June 2011 when I first visited Kona: Incubating woody overwintered carrots to make their native enzymes break down the cellulose and turn them tender, sweet, and edible again; building a culturing box to attempt to adapt a Japanese fungus to Patagonian grains and legumes for a project to create a Patagonian miso; a dessert course combining beets, strawberries, and “green flavors” of lovage and dill; trial fermentations using different salt levels and preparation processes for making garum from Arctic Circle bycatch fish; modifying the protein chemistry of milk to create a more reliable dairy equivalent of yuba (a type of protein skin); a comparative tasting of foraged flowers to find the best flavor pairing with raw, unfiltered rapeseed oil; trial lacto-ferments of wild, unripe top-setting garlic; an experiment to identify the best way to clarify a fishbone fumet. These projects only sometimes bear fruit that restaurant guests can detect in the form of new dishes.

Despite working on highly divergent tasks, KTK members must ensure that they are not working at cross-purposes to their colleagues and—if possible—that their work complements or enhances the work of others. Moreover, much of the KTK’s innovation work can only be successfully completed by drawing interdependently on knowledge or expertise that resides in different team members: Coordination within the team is important. The KTK is thus an extreme case of an organization that has to reconcile broad search and coordination, and an ideal setting in which to develop grounded theory (Strauss and Corbin, 1990; Charmaz, 2006) about how that tension can be managed effectively.
Methods

This study is one of the outputs of a broader ethnographic study of 8 cutting-edge high-end culinary organizations in the US and Europe. As appropriate to an inductive study, I entered the field with a broadly specified research question: How do these teams organize themselves so that they can innovate effectively? For this analysis of open-ended goals, I built a new case study out of the data collected at Kona, specifically focusing on goals and actions taken to pursue goals at the Kona Test Kitchen (KTK).

During the broader study, I spent over 700 hours between June 2011 and August 2016 as a participant observer at Kona. I visited the site repeatedly in that five-year period, spending a few days with the team each time. Beyond these shorter observation visits, I also spent three extended periods observing the team for their 12-16 hour work days, 5-7 days a week: Six weeks in June and July 2011, two weeks in August 2011, and two weeks in August 2013. These extended observation periods allowed me to observe and gradually make sense of work practices and associated interaction processes that this paper focuses on.

I was able to easily and unobtrusively observe work in the KTK because the team worked at the time in a houseboat containing countertops for preparing ingredients, a range and ovens for cooking, a dishwash area for cleaning equipment, and a table large enough for 8 people where computer work could be done. It was not be unusual for the four team members to spend almost the entire day (beginning around 8am and ending around 8 or 9pm) in the same space and within sight of each other. Because there was a norm of documenting the progress of individual projects, the table was often occupied by one or more team members working at a laptop. This setup meant that I could take running fieldnotes on a laptop throughout the day, moving to help in the dishwash or to listen in or watch people at work when necessary.
was also able to watch and participate in the periodic tastings that happened each day to check progress on the various projects underway.

Before beginning fieldwork, I had intended to schedule conduct semi-structured interviews at every fieldsite in addition to observing routine work. However, upon entering the field, I discovered that restaurant work is too unpredictable to permit this type of data collection. This was especially true of the KTK, which was often called upon to take care of last-minute but important tasks or events. As an example, a prominent chef called Mara Comira (Kona’s head chef and co-owner) one morning to ask if he and a friend could be squeezed in for a dinner reservation the same day. Comira said yes because it would be an opportunity to cook for a respected peer—and to show off some new dishes in development for feedback. In addition to the usual 19-course tasting menu, Comira decided that this special table would get five additional courses, each a dish the KTK was still developing. Because these dishes had not been formalized and transferred to the service kitchen that cooks for paying guests, no one in the service kitchen knew how to prepare the extensive list of components in each dish or how to cook and plate each dish for service. The KTK team dropped their work for the day to do all the ingredient preparation and then stayed later than usual to join the service kitchen to cook the additional courses during dinner.

Similarly urgent and unexpected disruptions to planned work were common occurrences at the KTK; my data collection was thus almost entirely through observation and opportunistic interviews, as well as “real-time interviews” during the course of work (Barley and Kunda, 2001). I conducted these interviews during and after work hours, so they lasted anywhere from a few minutes to several hours. Real-time interviews conducted during work hours were mostly focused on having team members explain to me what they were doing at that time—
not only the mechanics of the specific work underway, but also the context, the motivation, and as much of their underlying thinking as they would share. These interviews turned out to be most revealing for this particular study.

I wrote observational fieldnotes and interview quotes and summaries in a series of small notebooks and on a laptop. I synthesized and transferred the hardcopy fieldnotes into the same running digital note file every 2-3 days, and did preliminary ongoing data analysis during fieldwork by writing up an analytic memorandum every week.

Data analysis

I iterated between analyzing the data and looking to existing knowledge and theory to develop insights about this case. In the course of my analysis, I moved, driven by emergent insights or clues in the data, between four broad sets of actions: thick description, pattern identification, category development, and theorizing.

I began my analysis by writing up a detailed case of the entire site (the restaurant, including the KTK team) based on raw fieldnote files and analytic memoranda. Analyzing this detailed case, I saw that the paradox of broad search combined with close coordination applied mostly to observations I had made in relation to the KTK and its projects, not the restaurant. I then wrote up a detailed case focusing only on the KTK, and returned to the fieldnotes to include more information about their development projects and thick descriptions of activity connected to project work. This KTK case became the foundation of the analysis that follows.

From the beginning, I focused on finding patterns in work-related activity, as the puzzle that initially caught my interest related to the team’s ability to work in simultaneously divergent and coordinated ways. Since so much of the work in the KTK was organized around discrete group and individual project work, I eventually built a sub-case for every discrete
project I observed. Among themselves, in their documentation, and in discussing them with me, respondents referred to their work with short or abbreviated titles involving ingredients or processes. Examples include “beet and strawberry” (an attempt to make a dish out of beets and strawberries) or “lacto gooseberries” (an attempt to make new ingredients from lactically fermented unripe, ripe, and overripe gooseberries).

After analyzing these sub-cases individually and revisiting field notes, I realized that respondents used these titles not only in the context of referring to sets of actions aimed at achieving specific concrete outcomes (the conventional definition of projects) but also as placeholders that captured the motivation behind the application of effort towards desired outcomes—as, for instance, when one team member said “making a [Patagonian] koji would be amazing; I really want to see that happen.” Their shorthand titles for referring to work thus seemed to be used in ways that seemed more like goals than projects.

In the third phase of analysis, I returned to the sub-cases and reviewed them individually and across cases, this time looking at each piece of work to see if it was described by team members as a goal, a project, or both. This led to the insight that the team thought of their work in a way that combined conventional conceptualizations of goals (aspirational) and projects (concrete, specific). While team members would discuss the procedural aspects of work (ie, the “projectness” of work), my cases suggested that much more time and thought went into sensemaking around the aspirations represented by the work (ie, the “goalness” of the work). I decided then to focus on looking across the sub-cases but only at work that fell into the category of being goal-like.

At this point, I went to the literature on goals and goal-setting. As outlined earlier, I found that much of the research on goals in organizations focused at the individual level. Individual-
level goals were theorized to have hierarchical structures, with concrete project-type goals in a relation of in a hierarchical relation to other goals. This then led to the theoretical insight about goal hierarchy at the level of the group: Individual-level alpha-goals nested within group-level open-ended goals, the nested pair being conceived of as an open-ended goal. In turn, using these theoretical constructs to examine the sub-cases allowed me to see that there were also individual-level beta-goals which were not yet included in the open-ended goal—many of which remained un-nested but some of which became nested in an open-ended goal in the course of my observations. I also found a dearth of existing research on how relationships between organization-level goals were formed.

Sensitized to the potential importance of the hierarchical relationships I was seeing, I returned to the sub-cases to examine what individual team members did in the context of work. Comparing across cases allowed me to identify areas of similarity in both the conceptual structure of goals and the processes associated with them—ie this allowed me to investigate the mechanisms surrounding these open-ended goals. This fourth analytic phase revealed the nesting processes by which the team managed these open-ended goals, the individual-level processes by which these open-ended goals encouraged broad search, and also the individual- and group-level convergence and coordination effects associated with these nesting processes.

**Findings**

The following sections present my findings in the form of an analytic interpretation of these processes and an explanation for how open-ended goals enable both creative search and group alignment through the individual and intra-group processes they necessitate. I begin by characterizing the structure of open-ended goals. I then describe how this structure induced the
KTK to use nesting processes to manage its open-ended goals, showing how these nesting processes inadvertently improved coordination between the KTK’s members. For clarity in the discussion to follow, I refer to components of open-ended goals using analytic terms I developed; these terms are emboldened wherever I use them for the first time.

**The structure of open-ended goals**

At the KTK, each open-ended goal had two main structural characteristics, illustrated in Figure 1. First, it had a two-level structure consisting of a relatively concrete *alpha-goal* and a relatively abstract *open-ended goal*. Second, alpha-goals were always considered to roll up into or contribute to—in other words, be hierarchically subordinate to and nested within—at least one open-ended goal. An example may help anchor this description:

**Open-ended goal (relatively abstract):** Create novel dishes that are distinctively Patagonian.

**Nested alpha-goals (relatively concrete):**

Alpha-goal 1: Develop a dessert course based entirely on carrots and various types of fennel. *(Novel finished dish; uses ingredients indigenous to Patagonia.)*

Alpha-goal 2: Develop a way to cook 200-year-old Norwegian mahogany clams. *(Novel ingredient for further use in developing novel finished dishes; these very old mahogany clams are harvested only in northern Norway.)*

Alpha-goal 3: Develop a savory salt lactic pickle of unripe sloes. *(Component for further use in developing novel finished dishes; the method of lactic pickling of unripe fruit is found throughout the Patagonian cooking tradition.)*

Each of the alpha-goals listed above is consistent with the open-ended goal in which it nests (creating new dishes that are distinctively Patagonian), though the definition of “consistent” was interpreted anew for each pairing between an open-ended goal and an alpha-goal. Consistency in this case was interpreted in relation to the alpha-goal’s contribution to creating
new dishes, and also in relation to its distinctively Patagonian nature. Though the sloe lactic pickle was not in itself a finished dish, it had been framed as potentially contributing to new dish development because “for [the KTK], new ingredients are valuable. They are one of the best building blocks for making new dishes.” The team also framed lacto-pickled sloes as distinctively Patagonian because they are a fruit from a species of tree long naturalized in Patagonia, and because the process of salting fruit to encourage the growth of lactic acid bacteria is a food preservation technique that has been used in Patagonia and the Patagonian countries for hundreds of years.

In addition to open-ended and alpha-goals, the KTK also had beta-goals—relatively concrete goals that had not yet been nested within any open-ended goal. Individual members created beta-goals in the course of their search activity, then worked toward converting those un-nested beta-goals into nested alpha-goals. This required effortful individual- and group-level processes of justification and evaluation; I discuss these nesting processes in detail later. Figure 2 illustrates how the relationship between a beta-goal and an open-ended goal changes if nesting processes are successful.

Open-ended goals were significant for the organization, because it was a restaurant whose identity (and thus critical and commercial viability) depended on a continuous flow of innovation. As I show below, the KTK’s pursuit of open-ended goals seemed directly connected to its creativity and its ability to work interdependently to innovate continuously.

To be clear, KTK members did not use terms that distinguished between different levels of goals in the team. They did not talk about “open-ended goals,” “alpha-,” or “beta-goals” to me or when discussing work among themselves. I developed these constructs out of my subsequent analysis and use them here to present the multi-level goal structure of the KTK more
clearly. The example above also makes the conceptual structure of open-ended goals seem very explicit. This was not the case in the field: As an outside observer, the variety of different open-ended, alpha-, and beta-goals pursued by the KTK at first read as capriciousness because the conceptual structure of the goals in the team—the numerous hierarchical and substantive relationships between alpha-goals and open-ended goals—was left largely unstated.

**The structure of open-ended goals both motivated and enabled broad exploration.**

Open-ended goals at the KTK were abstract in the sense that they potentially could enclose many nested alpha-goals. For instance, in the example above, nearly any alpha-goal could be nested within the open-ended goal as long as a compelling argument could be made that a new, distinctively Patagonian dish would result. In contrast, alpha-goals at the KTK were relatively concrete: In almost every instance at the KTK, alpha-goals were therefore equivalent to projects. The concreteness and narrow scope of alpha-goals seems incompatible with broad individual exploration, but exploration was nonetheless possible because not all goals had to be alpha-goals from their inception; un-nested beta-goals were also encouraged.

Respondents most often seemed to develop beta-goals after acquiring new knowledge, and almost always as a matter of personal initiative, as the following vignette shows.

**Vignette: Underdog garum**

Bruce, one of the R&D team members, had come up with a beta-goal of making a Patagonian condiment out of fermented fish. He had observed the restaurant kitchen team throwing out a large amount of byproduct from preparing whole mackerel. Not long previously, he’d also read an article about how fish sauce is made in Southeast Asia from layering whole fish (including the parts that would normally be discarded) with salt and leaving the protein in the fish meat and blood to gradually be broken down by bacteria and fungi to yield a highly savory, umami-filled liquid. He said that “it makes sense to try and make a product out of all this waste prep, but working out how to make it taste good will be difficult because we have different fish and the ratio of meat and blood in whole fish is different. Might even be impossible.”
Bruce began experimenting by putting together several fermenting containers each with a different ratio of the various types of fish prep byproduct. The rest of the team was skeptical of the likelihood of success of this project, leading Bruce to label the containers “The Underdog.” Nonetheless, Bruce said that he wanted the other team members to “get interested enough in the project to get involved in it” because they had complementary expertise that would increase the likelihood of “getting the process to work right [and produce a usable condiment].” He also said that it was a matter of personal pride and reputation in the group to “come up with a project that [the rest of the team] thinks is good enough to take on, that makes it through.”

Generally, beta-goals were described by team members as being less certain than alpha-goals and their highly speculative and experimental actions in relation to beta-goals were consistent with this greater uncertainty. When discussing beta-goals, team members used phrases like “no idea if it will work” (making a stabilizer from liquid released from yellow peas), “taking a flyer on [it]” (making a modern day garum from mackerel and buckwheat), and “just to see if there’s interesting possibilities there” (culturing koji fungi on Patagonian pulses). These beta-goals also represented relatively small time or resource commitments from team members compared to nested alpha-goals, with respondents referring to them using phrases like “side project” or “low investment.” Nonetheless, team members like Bruce were strongly motivated to connect their beta-goals to a group open-ended goal. Establishing this connection was seen as a way to get access to time, knowledge, or other resources from the rest of the team, but also as way to improve their reputation and standing among their colleagues.

By virtue of their structural relationship to alpha-goals and open-ended goals, beta-goals represented low-risk experiments for KTK members while also offering them the opportunity to develop something which would contribute to the group’s open-ended goals. This both motivated and provided opportunities for KTK members to engage in the kind of broad search that is often associated with high levels of creativity and innovation. The open-ended na-
ture of group-level goals at the KTK motivated and enabled broad search, but how did it—counter-intuitively—also enable highly effective coordination between members? In the following section, I argue that the processes necessary for establishing nesting relationships between beta-goals and open-ended goals worked in several ways to inadvertently improve coordination within the KTK.

**Nesting processes and their unintended consequences for coordination**

An important part of the routine work of the KTK consisted of evaluating beta-goals for promotion to alpha-goals and forming collective agreements about connections between alpha-goals and open-ended goals. This occurred in a range of formal and informal settings, ranging from pre-arranged group presentations of work in progress to ad-hoc consultations between colleagues. I observed distinct nesting processes at the individual and the group levels, all with the intended function of presenting arguments for nesting beta-goals in open-ended goals. However, these nesting processes inadvertently induced individuals to expend effort on interrogating and improving their understanding of open-ended goals, and also reinforced the KTK’s collective shared understanding of open-ended goals.

**Individual-level nesting processes**

To understand how team members went through individual-level nesting processes, it may help to return to Bruce and his underdog garum.

**Vignette: Underdog garum, redux**

I observed Bruce spending time trying to make sense of the other projects the team had collectively decided to put their effort behind. Over the course of several days, in between other projects, Bruce a) catalogued other projects which seemed analogous to the garum project (they related to fermentation, new or historical ingredients, re-use of food waste or byproduct, and the creation of condiments), b) mentally re-played the group discussions in which the team had been
convinced that each project was worth collectively pursuing and wrote down the various justifications presented for each project, c) imagined what each team member’s concerns or objections to the garum project might be, d) asked other team members for their suggestions and preliminary comments.

These efforts resulted in Bruce deciding on framing the garum project to his colleagues as an attempt to make [I paraphrase] a new, highly local, intense seasoning ingredient from waste product from the kitchen using a traditional fermentation method that was not labor-intensive. He adjusted the experiment slightly to be more consistent with this framing and delayed a presentation of the project to the whole team to think through and rehearse to some of his colleagues the arguments he would make to the entire team using this framing.

The vignette above illustrates recurrent individual-level patterns I observed in relation to beta-goals. This motivation to successfully promote their beta-goals to alpha-goals led team members to expend a considerable amount of time and effort on sensemaking in relation to open-ended goals. As in Bruce’s case above, these sensemaking efforts involved not only reviewing and analyzing the details and nuances of the group’s open-ended goals (what alpha-goals were nested in each open-ended goal, what arguments and framings were used to justify nesting particular alpha-goals within a open-ended goal) but also meeting with other team members and taking their perspective to try and understand more deeply how they thought of the same open-ended goals. While individuals often focused on taking the perspective of senior or otherwise influential group members, they seldom omitted considering every member since nesting decisions were usually collectively made and required assent from every member.

Though individuals acted in these ways to increase their chances of successfully nesting their beta-goals within open-ended goals, these actions also aligned members with each other. They increased the accuracy of members’ shared understandings of open-ended goals and reduced alpha-goal conflict by increasing the salience to each member of existing alpha-goals.
throughout the team.

As Bruce’s example above shows, members of the KTK worked continually to understand open-ended goals and their parameters better, and also to catalog the pattern of existing nestings of alpha-goals within open-ended goals. I observed this sensemaking work done only in the context of individual attempts to become more effective at connecting their beta-goals to team open-ended goals. Their constant expenditure of effort on sensemaking in this regard seemed to lead to detailed mental models of the team’s open-ended goals that allowed them to articulate those open-ended goals easily to each other; this constant articulation also led to a surprising degree of overlap between members’ mental models about the system of team-level open-ended goals.

I observed the clearest indicator of this alignment between members during an informal after-work group meeting a few days into my time at the KTK. When I asked the four team members present to explain what the various open-ended goals were, they all weighed in on the topic. As they talked through the open-ended goals, they switched unrehearsed back and forth between members and broke in to complete each others’ thoughts with little disagreement throughout an almost 30-minute discussion. This fluidity suggested that there was little disagreement between members about open-ended goals and the alpha-goals nested in them. When I asked a senior team member the following day about how the team had managed to achieve so coherent a shared understanding of the team’s goals, he said “it’s because we have to keep thinking, re-thinking, and talking about about them as we do [our work]. One of the first things you realize about being [in the KTK] is that you literally will be lost if you don’t get the big picture of what we’re here to do.”

In addition to alignment of mental models about open-ended goals, KTK members also
were aligned in the alpha-goals they pursued in the sense that they seemed acutely aware sources of potential conflict with nested alpha-goals and took action to mitigate or reduce this conflict by adjusting or self-censoring their beta-goals. For instance, I was with a team member brainstorming on a beta-goal: developing a new savory mackerel dish framed as one that could go onto the menu within the next month. I asked him to think out loud; the result was him spending about 10 minutes listing the other near-term alpha-goals that the group had already decided to work on (i.e., had already attached to open-ended goals) to try and “remind [himself] of how what we’re working on all connects.” He realized during this review that his intended flavor accents of strawberry and chamomile would duplicate a more advanced alpha-goal to develop a strawberry and chamomile dessert—the potential conflict here being that the duplication of flavors would make it difficult for both dishes to be on the menu at the same time.

He then changed tack on his project to replace the strawberry and chamomile accent in order to avoid conflict with the dessert project being run by his colleague. As this example suggests, already nested alpha-goals seemed to become more salient to members when they took the perspective of other team members and when they revisited existing alpha-goal-open-ended goal nestings. I often observed individuals mapping out the landscape of the team’s open-ended goals, remembering already-nested alpha-goals as a result, then realizing that their beta-goal would conflict in some way with already nested alpha-goals, and finally adjusting them to mitigate the conflict (or, more rarely, deciding to abandon the beta-goal entirely).
Group-level nesting processes

From the KTK’s perspective, attempts by individual members to nest their beta-goals were adversarial in that any nesting relationship was not treated as a foregone conclusion. For a member to nest a beta-goal, s/he had to make an argument to the rest of the team about why that beta-goal was consistent with the chosen open-ended goal. This argument was evaluated collectively by the team, with successful nesting only if the argument was deemed convincing. The following vignette illustrates this group-level nesting process.

Vignette: A broth of resolved contradictions

Halfway into my time at Kona, Jorge began working on a new beta-goal: an attempt to create a dish that would showcase a new type of fish broth by pairing it with a complementary seasonal vegetable, possibly fresh tiny fava beans which would be “green and meaty against the fish.” Because the broth would be the core of the dish, he started by figuring out how to make it. He decided to use inexpensive varieties of fish traditionally eaten in Patagonia, like mackerel and a strong-flavored traditional Patagonian smoked, salted, and dried flatfish because “our way is to be very Patagonian, but then to make these old-fashioned things modern and refined.” He told me that the way he usually made fish stock would not be appropriate for the broth because the strong-flavored fish he had chosen would produce a “heavy stock” too clumsy and indelicate to be the centerpiece of a Kona dish. The first three iterations of his work on this alpha-goal were to test a few alternative flavor-extraction methods on the two types of fish.

These first three rounds of experiments happened over about ten days. The first round yielded four broths that Jorge said were all “too strong. [They taste] like a [rustic] harbor food. We maybe cook it at lower temperature?” The second round of experiments were an improvement; the 6 broths that resulted led Jorge to drop the idea of using the traditional smoked and dried flatfish entirely (“too strong, but still not complex”) and come up with the idea of using lightly smoked and salted fresh mackerel (“[fresh] mackerel by itself has this deep umami but it needs to have more layers [of flavor]”) instead. For the third round of experiments, he steeped smoked salted mackerel filets in water at different temperatures. One of the broths from the third round of experiments he found sufficiently complex, layered, and intense, while still delicate and transparent; he deemed it “good enough to start.”

After developing this last version of the fish broth, he decided the project was at a sufficiently promising stage to present it at that evening’s routine meeting to
discuss work in progress. The strategy he came up with was to present broth he liked alongside a selection of broths from the previous two iterations that he’d thought either insufficiently complex or delicate. When I asked him why he wanted to show what he’d said were inferior products, he said that “it’s good to show the others so they can compare ... to see how much more intense but clear the flavor [of the last one] is. If you taste them side by side, you can taste that the others are just not right. [The last one] is more complicated to make, but the quality is so much better.”

During that night’s meeting, which three core team members (Jorge, Bruce, and David) attended, the discussion of the fish broth began after Jorge set the samples out on the table and David and Bruce had tasted them all. The discussion focused on whether or not it felt, as David put it, “like a Kona dish.” Jorge began by explaining his intention to use strong-flavored, rustic fish to make refined, haute cuisine broth, framing the result as being “like our other savory dishes. The flavor is complex and powerful but still very refined.” David, having tasted through all of them, disagreed. He said that the broth was complex and refined but “wasn’t Kona” because it lacked “lift. The salted mackerel [broth] is the best but it’s flat. I think what our dishes do well is get this kind of balance [involving intensity, lightness, and brightness] right.” The three of them re-tasted the broths in silence for a moment. Then Bruce said that the broths had “umami [a term for a rich, mouth-filling, satisfying quality], but [David is] right that they’re a bit dull. There’s a lot going on in them but there’s no sparkle [making a sparkly handmotion]. The other fish things we do always have some acid or flower to give them zip, like the pike with whey sauce [which is highly acidic with lactic acid].”

After tasting the broths again, Jorge agreed that the broth itself lacked brightness, and said that something would have to be done in the next iteration or in the final dish (i.e., including the garnish) to give it that element of balance. Jorge asked the other two if they thought the broth was promising and whether the team should work on it together. David said that on balance the idea of a “broth of resolved contradictions” was “very Kona” and that he thought the project was actually surprisingly far along to a finished dish considering how recently Jorge had begun working on it and that he had some ideas for a garnish of flowers (Jorge had been thinking about fresh beans) and cultured (therefore acidic) butter that might resolve the brightness issues. Bruce said that he recalled a method for making a sort of fish tea—with finely cut cured fish meat briefly infused in very hot water and then discarded—that might also mitigate the flatness of the resulting broth while also being much faster and less complicated to prepare than a long infusion. They decided to collectively run a fourth iteration of experiments using Bruce’s fish tea idea for the broth the following day, and aim to experiment on possible garnishes (including Jorge’s beans and David’s flowers with cultured...
butter) for a finished dish the following week.

In this vignette, Jorge brought his beta-goal (here, the fish broth with vegetable dish) to the team and presented it for consideration to be nested in an open-ended goal (here, new savory dishes for Kona). This example illustrates what was a general process by which other team members would judge beta-goals and, based on their collective judgments, decide if they should be nested into an open-ended goal. The process of consideration was inherently conservative, with judgments of the beta-goal by the other team members nearly always made in relation to previous projects that were consistent with the open ended goal that would nest the beta-goal under consideration—the appeal to history here is the conservative tendency, to show how the current project either conforms to or does not conform to something that has been done before. At the same time, the individual’s desire to nest the sub-goal leads to negotiation; judgments are not accepted at face value or without contesting them.

However, looking more closely at the evaluations in the example reveals another characteristic which is crucial in understanding the unintended effect of this group nesting process on aligning individual members’ understandings of the group’s open-ended goals: the norm of making explicit the logical framework behind a judgment. For instance, when David said that the broth tasted good but did not yet rise to the level of something that would feel like a Kona dish, he did so by giving a framework for understanding his criticism: The broth lacked brightness, and one important identifier of Kona dishes is that they get “this kind of balance [involving intensity, lightness, and brightness] right.” In the context of the evaluation, explicitly articulating a logical framework led other members of the group to reconsider their own evaluations in the light of the framework articulated. Bruce agreed with and expanded on David’s evaluation, but only after pausing for thought and re-tasting the broths.
This pause suggests that Bruce went through a rapid internal re-consideration of his own evaluative framework. Jorge too, after thinking about David’s comment and re-tasting the broths, agreed that his previous conceptualization of the kind of balance that was characteristic of Kona dishes needed updating.

What happened in the example was that this norm of making evaluative frameworks explicit forces team members to articulate evaluation criteria that would otherwise remain tacit. This happened consistently during the team meetings I observed, but especially when the team was deciding whether or not to promote an beta-goal. Because these evaluative frameworks were articulated in group settings, team members were inadvertently forced to compare not only their judgements but the criteria and frameworks they used to arrive at those judgments. In this example, David’s framework was rapidly and implicitly adopted by Bruce and Jorge—as indicated by their pause for consideration followed by voiced agreement. In other situations which I observed, when team members discovered disagreements between their evaluative frameworks, they engaged in more extended discussions of the frameworks themselves, bringing evidence to support their points of view. These disagreements were usually resolved surprisingly quickly by whichever party had superior arguments and evidence.

Crucially, the evaluative framework can be seen as the articulation of an individual’s mental model of a particular open-ended goal. The existence of open-ended goals created beta-goals, and the need to periodically evaluate beta-goals created a group context in which team members had to make their mental models of group goals explicit and then work (ie negotiate and argue) their way to a shared mental model by identifying those whose mental models deviated from the group’s, and then correcting their mental models through argument. Correcting deviation, though, was not the only path to alignment in the group. Much less frequently
(I observed only one or two cases in the time I was at the KTK), the analogous processes of negotiation and argument allowed an individual member’s deviant mental model to change the mental models of the rest of the group. The following vignette illustrates how this happened.

**Vignette: Cucumber flower dessert**

Agnes had been working on a challenging cucumber and flower dessert, presenting potential components still in development to the team whenever she felt that she had “made enough progress.” The challenge for her was to find a way to integrate the flavor of cucumbers with those of a flower in season at the time, in such a way as to make the resulting dish feel like a dessert rather than a savory dish. Over three weeks, she had presented the cucumber and flower dish at six team meetings. The comments at the first six meetings had mainly focused on one main issue with the components individually and taken as an assembled dish. As Jorge had put it during the fourth tasting, the cucumber components either tasted “too bland” or “too savory,” so that the whole assemblage was either too uninteresting for dessert or unrecognizable as dessert.

Agnes reframed the problem in preparing for the seventh meeting. She left the cucumber components mostly unchanged other than adding a bit of salt to the sorbet and the pulp hemispheres. However, she decided to try expanding the range of possible accompaniments for the cucumber to address the assembled dish’s bland/savory problem. Instead of using elderflower and meadowsweet flower, which both have very sweet and floral aromatic profiles, she made two syrups from herbs instead. One was based on woodruff leaf, and had a spicy, warm, vanilla aroma. The other was based on de-stemmed small rosemary leaves, and had a sweet, green, slightly resinous aroma. She said “I think these syrups read as ‘dessert’ because they smell and taste sweet. But they’re definitely not floral so they’re unexpected, especially the rosemary one.” She also made milk ices lightly flavored with these two syrups as possible components in the final assemblage because “ice creams read like dessert, but these aren’t custard-based ice creams, which we never do.”

At the meeting, Agnes began by plating a version of the final assembled dish with the cucumber sorbet and the woodruff milk ice layered under sugar-pickled cucumber seed discs and pulp hemispheres, garnished with a few fine slivers of fresh woodruff leaf. In her introduction of this version of the dish, she said “I’m trying the milk ice to give it more of a dessert feeling, and switching in woodruff because the scent is sweet but also spicy. It’s just unfamiliar enough to not be boring.” The others tasted and then fell silent for over a minute as they made sense of their impressions in order to comment.
Eventually, David said that “this reminds me a lot of the carrot and fennel dessert even though it is totally different. It is savory and super fresh, and especially the effect of the milk ice format is quite surprising. You think dessert even though it is actually barely sweet at all.” Jorge followed up, saying, “yes, we were focusing too much [previously] on fixing the cucumber [by sweetening and modulating the acid in the cucumber components]. The woodruff is a good flavor direction, but the milk ice is the breakthrough.” Bruce added, “it definitely feels more dessert-y because of the milk ice bit. But the flavor is important too. The spice from the woodruff picks up the whole thing enough that I don’t think we need as much acid in the cucumber bits anymore. They can be more savory and contrasting.”

Reflecting after the meeting, as we walked over to the main restaurant for staff meal, David said that “Our idea of what a Kona dessert should taste like is that it should be light on its feet ... so we always thought of them as quite brisk things with a lot of acid. I’m not sure we thought about them explicitly in terms of particular structures [such as milk ices].” Bruce interjected, “It’s like in [French] patisserie [which is conceptually made up of a vocabulary of pastry components that can be flavored and then recombined in various ways].” “Yeah,” David said, “we’re getting mature enough [as a restaurant] so we are beginning to discover our conceptual systems. Like the onion and blueberry dish [which Bruce created last year, and which spawned a series of savory dishes in the same format with different fruit], this dessert really opens up how we think about what a Kona dessert is. The brightness and interest doesn’t have to come from acid. It can come from spiciness or a bit of unfamiliarity, or even from being quite savory. At the same time, I think we had all forgotten that some kinds of textures and scents just seem to remind people of dessert. The woodruff milk ice is a reminder of that.”

Agnes’s framing of why she thought the cucumber dessert merited promotion to an open-ended goal (here, a new Kona dessert) in the context of the prototype she presented constituted a convincing argument for nesting her beta-goal into that open-ended goal. As David said, Agnes’s attempt re-configuration the team’s way of thinking about what constitutes a Kona dessert by providing more categories for fit: not just a light dish sweetened to evoke dessert and high-acid for interest, but one where interest can also be achieved through slightly unfamiliar flavors (including savory ones) and dessert also evoked through structure and texture (instead of just sweetness).
This re-configuration “opened up” the open-ended goal of Kona desserts by increasing the degrees of freedom available to a dessert developer. In this case, Agnes’s mental model of the open-ended goal of dessert was instantiated in the dish she presented and articulated in her explanation of the dish; her mental model was divergent from that shared by the other team members. Yet, the persuasiveness of her argument led the others to reconfigure their mental models to align with hers. The end result again was that the team achieved a shared—though altered—mental model of this particular open-ended goal.

Bringing it all together

The story so far has been: as an organization with a mandate to innovate, the KTK conceived of its goals in a way quite distinct from how the existing research and theory about strategic goals does. The team pursued open-ended goals, each of which had a two-level structure. Each broadly specified open-ended goal consisted of a potentially large and diverse number of narrowly specified alpha-goals nested within it. However, the specificity and concreteness of the alpha-goals at the KTK did not prevent broad search. In fact, the explicit open-endedness of group goals motivated members to engage in broad search. At the same time, the team also encouraged the existence of un-nested beta-goals which allowed low-cost, low-commitment exploration. The group only put its collective resources behind beta-goals that had successfully made it through nesting processes and been promoted to nested alpha-goals. While this description of open-ended goals at the KTK explains how open-ended goals enabled broad search resulting in high levels of creativity and innovation, it does not explain how the team also managed to coordinate its members so effectively.

The key theoretical insight this paper introduces is that the coordination mechanism at work operated through the unintended effects of the nesting processes that pursuing open-
ended goals necessitates. At the individual level, these processes resulted in members con-
stantly scanning open-ended goals and seeking to understand their parameters better, so that
they could make more convincing arguments to nest their beta-goals. This had the unintended
effect of making other alpha-goals more salient for each member, improving coordination by
allowing members to identify areas of potential conflict or enhancement.

At the group level, members were expected to evaluate beta-goals that were going through
the nesting process and justify their evaluations to other members. This had the unintended
effect of forcing KTK members to articulate their understandings of each open-ended goal;
this improved coordination by revealing previously hidden divergences in understanding be-
tween members and offering a setting in which those differences could be resolved.

This study thus suggests that the two-level structure of open-ended goals encouraged ex-
ploration and divergent thinking among KTK members—and also necessitated goal-management
processes which forced members to expend effort to argue for and evaluate beta-goals for
nesting in open-ended goals. These nesting processes inadvertently enhanced coordination
by increasing individual member awareness of other members’ work, revealing differences
of understanding between members, and resolving those differences through discussion. This
linkage between goal structure, exploration, and coordination offers insights for theory and
practice, especially in the context of innovation work.

Discussion

Scope conditions

Pursuing the open-ended goals described above allowed the teams I studied to search broadly—
this is unsurprising. What was surprising was that the processes they used for managing open-
ended goals had the unanticipated side effect of also coordinating team members’ actions. These goal-management processes functioned unintentionally as coordination management processes that balanced against the broad search team members engaged in. The particular coordination mechanisms described above operated through nesting processes that depended on effortful individual activity and also on frequent effortful interaction between organization members. They were thus costly in time and effort for members as individuals and the teams as collectives. The scope conditions for open-ended goals to be applicable and desirable are thus likely to be defined primarily by the team’s size, the nature of its environment, and the nature of its work.

**Size:** Because coordination through these goal-management processes occurs in part through interactions between organization members, the effort required to manage open-ended goals likely increases geometrically as a function of organization size. Open-ended goals and the goal-management processes described above are therefore likely to be best suited for small or medium-sized teams instead of large or massive innovation organizations.

**Environment:** Pursuing open-ended goals is costly and only makes sense when broad search is necessary for organizational survival or success. Open-ended goals are likely to be appropriate for innovation organizations and organizations operating in uncertain environments and rugged landscapes; they are likely inappropriate for organizations operating in stable environments and working on well-understood or highly parameterized problems.

**Work:** Though the type of R&D work done at the KTK required considerable tacit and explicit knowledge, it was neither highly specialized nor highly interdependent in the traditional way of defining interdependence. Individual projects could be pursued independently, but coordination between members enhanced performance by preventing members from working
at cross-purposes or by providing complementary knowledge that unblocked or accelerated progress on a project. Coordination through nesting processes associated with open-ended goals may only be viable for the kind of creative work in which all members of a team are potentially fungible.

Open-ended goals are thus likely to be useful for early-stage consumer technology startups, internal R&D teams in design and creative industries (such as food, music, theatre, or fashion), and small disaster response teams. Conversely, open-ended goals are unlikely to be appropriate for call-center teams, teams operating stable production lines, teams doing highly specialized R&D, and extremely large firms working in established industries.

Contributions and implications for research and practice

*A mechanism reconciling the opposing dictates of search and coordination.* Innovation organizations face the challenge of reconciling search and coordination. This study documents processes by which this reconciliation can be achieved. Existing theory views misalignment between individual and group goals as disruptive to coordination and undesirable (Maner and Mead, 2010; Locke and Latham, 2004; Moorman and Blakely, 1995, e.g.). This study builds on a different line of research which suggests that internal dissonance can be productive (Stark et al., 2009). I show that misalignment between individual and group goals can be a fruitful basis for innovation and discovery, and a trigger for coordination efforts. At the KTK, the two-level structure of open-ended goals allowed individual members the freedom to search broadly through beta- and alpha-goals, but also led them to eventually think actively about connecting beta- and alpha-goals to group-level open-ended goals. Understanding that individual-level goals can have different relationships of consistency with group-level goals allows us to see how the mechanisms through which these relationships are established can
improve coordination even in the context of broad search.

*Effective goal-setting through processes integrated into routine work, rather than through processes separated from work.* Goal-setting is conventionally thought of as being a part of the strategy-making process (Smith and Tushman, 2005). Anecdotally (and empirically), this seems to have the effect of generating a list of goals that is poorly understood and often far removed from actual tasks performed by people in the organization (Simon, 1964). In the conventional sense, goal-setting seems to have more of a ceremonial than actual function in coordinating work effectively. This study suggests a more practical approach. Even without intending to do so, the KTK developed a clear, detailed, shared understanding of group goals and appeared to be able to modify them when appropriate. This is a classic dynamic capability, through a mechanism that deserves further exploration.

*A theory of organizational goal hierarchy which spans organizational levels.* Hitherto, goal hierarchy has been studied largely in the context of individual goals (Austin and Vancouver, 1996; Cropanzano et al., 1993). Existing research at the level of the individual suggests that goals at different levels of abstraction have different effects on action: More abstract goals provide general direction, while less abstract goals provide concrete plans for specific actions (Barrick et al., 2013; Kanfer and Kanfer, 1991; Austin and Vancouver, 1996; Locke and Latham, 2004). This study returns to and builds on an earlier line of thinking (Simon, 1964) which suggests that organizations too can have goals that vary in level of abstraction, in the functions they perform for the group, and in their level of analysis. Consistent with that earlier theorizing, I find that the structure of open-ended goals in the organizational context has analogous characteristics to individual goal hierarchies in that open-ended goals are more abstract and provide general direction for the group, while alpha-goals are concrete and
project-oriented. This study builds on existing theory by showing how organizational open-ended goals are distinct from individual hierarchical goals in that they span the group- and individual-level, and that they include a category of goal (beta-goals) that have not yet been incorporated into open-ended goals. Previous research distinguishes between organization-level goals and individual motivational goals, while this study additionally shows how individual motivation can be the driver for converting purely motivational individual-level goals to those which are both individually and organizationally relevant.

*A description and process theory of goal-evolution in innovation organizations.* Recent empirical research on goals in organizations usually focuses on the relationship between goals and performance (Martocchio et al., 1994; Crown and Rosse, 1995), and thus often implicitly treats organizational goals as static and stable (e.g., Ethiraj and Levinthal, 2009). This implicitly static perspective is inconsistent with other existing theory, which holds that organizational goals are an interaction between an organization and its environment (Thompson and McEwen, 1958)—logically organizations should change their goals as their environments change. Earlier theory about organizational goals did consider change, but in terms of discontinuous change such as goal replacement (Weber, 2009; Merton, 1968) and goal succession (Blau, 1963; Blau and Schoenherr, 1971). This study explicitly treats organizational goals as dynamic and changeable and develops a theory of how goals can change continuously, in an evolutionary way. I focus on understanding and then outlining the processes by which how an organization’s goal structure evolves. To this end, I document the individual and collective processes by which individual-level unnested beta-goals are evaluated for (and sometimes incorporated into) organization-level open-ended goals. These processes thus allow organizations with open-ended goals to simultaneously experience stable and evolving goals at
different levels of abstraction.

A contingency model of goal structure. Recent debates about the utility and possible pitfalls of goal-setting in both scholarly research and management practice (Locke and Latham, 2009; Ordóñez et al., 2009) highlight—in particular—the potential for goals to be damaging when they are too narrowly defined or when they motivate individuals through competition that erodes organization-level cooperation. These issues appear to be most relevant and problematic when the goal-setting organization confronts uncertain or unpredictable situations or environments or is tasked with inherently emergent work (such as innovation). The present study’s hierarchical model of organization goals may help address these related issues. When narrowly defined individual-level alpha-goals are conceptually separated from more abstract organization-level open-ended goals, an organization can have goals which are both broad and specific, as appropriate. Additionally, the individual and collective processes for managing open-ended goals appear to naturally facilitate coordination and cooperation. This study thus suggests that how goals are designed is contingent on the context. Specific goals that drive interpersonal competition are good when the work to be done and the outcome desired is clearly specifiable and does not rely on interdependent activity. Conversely, goals in the context of innovation work are likely to look more like open-ended goals instead. Open-ended goals with a two-level structure are thus more likely to be appropriate ways of studying organizations in uncertain environments or doing emergent work. By extension, managers of these kinds of organizations might be better served by setting open-ended goals and putting in place processes for managing the creation and evaluation of beta-goals.
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Figure 1.
Illustrative view of structural relationship between group-level open-ended goals, nested alpha-goals, and un-nested beta-goals.

Figure 2a: During a nesting process.
During the nesting process, the member responsible for beta-goal 4 makes arguments about a proposed relationship of consistency (dotted line between beta-goal 4 and open-ended goal 2); these arguments are evaluated by the group collectively.

Figure 2b: After a successful nesting process.
The nesting process is successful if members of the group collectively agree that beta-goal 4 is consistent with open-ended goal 2; the result is that beta-goal 4 is promoted to the level of an alpha-goal with a collectively endorsed relationship of consistency (solid line) with open-ended goal 2.