The Spectrum of Collaboration in Organizations

By Bryan S. Coffman

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Introduction

Collaboration means people working together to achieve something that they cannot achieve working separately. All organizations are founded upon and persist because of their ability to foster collaborative work. Without this ability, organizations can achieve none of their aims.

Leveraging the various collaborative interactions within an organization is vital to creating sustainable enterprises. Understanding how collaboration works within organizations allows for the purposeful design of structures and processes that achieve this leverage.

Consider three parameters that may be used to segment and define the nature of collaboration in organizations. The first parameter is the type of work being done. The second is the number of degrees of freedom that a team has in pursuing their work. The third is the amount of novelty desired in the outcome of their work.

Types of Work in Organizations

NOTE: As a point of clarification, collaborative behavior can include both competition and cooperation. It’s essential that people and their ideas and organizations sometimes compete and sometimes cooperate in the workplace and in the marketplace. Creating the right mix of cooperation and competition is an art and a science.

For purposes of this model, the type of work being done in organizations can be divided roughly into three segments: transactional or operational work; research, design and development work; and strategy formation work.

Strategy formation discovers the most favorable positions that the organization should take in the marketspace, outlines what the organization might look like when it occupies these positions, and indicates the dynamics of how the organization will change its current momentum and direction to establish itself in these positions.

Design and development work takes the strategic direction and crafts and tests all of the products, services, structures, and processes necessary to operate in the new positions.

The work of operations is to continually improve the efficiency and effectiveness of these products, services, structures and processes.
That’s one story of how it works. In practice, the segments do not and should not work in isolation or in strict linear relation to one another. Ideas for strategies and designs often emerge from operations and R&D efforts frequently influence strategic direction. The three segments are all sources of innovation. However, they each have a primary focus to attend to. They should contribute to one another without muddying the waters or diluting the ability of the organization to strategize, innovate, improve and deliver value.

Think of degrees of freedom not in the statistical sense, but as it’s connected with types of movement. Your knee has one degree of freedom—it can flex up and down. Your ankle has two degrees of freedom—up/down and side to side. A ball joint like your shoulder has three degrees of freedom. More degrees of freedom in the conduct of work are not necessarily desirable. It depends on the task. You wouldn’t want your knee to have more than one degree of freedom or it would be difficult to stand up. But having a knee-type joint where your shoulder is would severely limit your ability to perform actions with your arms and hands. The same principle holds true in collaboration. Sometimes a team should have considerable latitude in how they conduct their work and sometimes the work should be tightly specified and controlled.

There are seven possible degrees of freedom in collaborative activities:

1) the definition of the assignment;
2) the specification of the outcomes;
3) the composition and selection of the team;
4) the acquisition of resources;
5) the use of tools and templates;
6) the design of the physical and virtual environment;
7) the process and character of the experience.
The assignment informs the team as to its purpose. The outcomes start as specifications of the performance of the final product of the collaborative effort. When the final outcome or product is created, these specifications serve to test its efficacy. The team defines the scope of skills, experience and behaviors requisite for success. Resources comprise the information, materials and energy that will be transformed, consumed or combined with one another to create the final product. Templates and tools explain how to combine the resources or aid in the process. The physical and virtual environment includes all of those components necessary to promote and support the collaborative effort. The process and character of the experience addresses the major steps to be followed and the ground rules for behavior within the group—the collaborative culture.

**Dependencies Among the Degrees of Freedom**

The number of degrees of freedom is roughly proportional to the uncertainty inherent in the challenge at hand.

All of the parameters are dependent to some degree upon the assignment, and it’s the last degree of freedom which can be obtained. In other words, if a group of collaborators has complete freedom to decide upon and create their assignment from scratch, they have some latitude with respect to all of the other parameters. Such freedom is rarely the case in organizations, but on occasion it’s good to give open-ended assignments. Entrepreneurs create their own assignments when they start new ventures. Skunk works emerge when someone gets an idea for an off-the-wall project. If the team leader has latitude to define the assignment, he or she must have the latitude to sort through the rest of the parameters without them being completely specified.

A weaker dependency exists among the parameters of the team, resources, templates and environment. Skills, materials, tools and equipment tend to work together within the framework set by the assignment and the specifications indicated by the outcomes. However, there is enough latitude permissible that these four parameters can be thought of as simply interdependent for the purposes of this model. By this I mean that the chosen resources, templates, team and environment influence one another, but none of them are completely dependent upon one another. The same set of resources may be successfully combined by many different types of teams using a wide variety of templates in a broad range of environments.

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Resources, team and environment may be tightly specified, yet that does not absolutely determine a set of templates to be used—many different sets may be used.

Some freedom in the design of the process (or the experience) must always accompany the granting of any of the other degrees of freedom. If a team can choose some of its own templates or tools, for example, these will be more favorably employed if the team can adjust or revise the process of the experience.

Generally, the amount of design to be employed in crafting the experience ought to vary with the number of the degrees of freedom and the breadth of decision making allotted to the team within each parameter. This rule of thumb is often ignored because people tend to employ the same processes (discussions in meetings in conference rooms, for example) to address challenges that vary widely in the degrees of freedom they offer.

In some collaborative work, it’s desirable to have a novel outcome, meaning an outcome of high value that has never been created before. Design work and strategy formation work typically—but not always—call for novel outcomes. Less novelty is desirable in operational or transactional work where uniformity of quality and output reigns. Continuous process improvement is a major exception.

The outcome of an activity may be tightly specified and still have a high degree of novelty. For example, a team may be tasked with the design of a new motor whose specifications wildly exceed anything that has been invented to date. At the strategic level, “Big Hairy Audacious Goals,” or BHAGs have been used to invoke high novelty under a tight specification.
These two axes—degrees of freedom among the parameters of work, and novelty of the outcome—comprise the framework for the model.

What types of processes (the design of the experience) work best inside this framework? The required depth of customized process design is roughly proportional to the uncertainty in the challenge at hand. This uncertainty is expressed as an increase in novelty, degrees of freedom, or both.

It’s important to understand that operations work may be exceedingly complex, yet if it has no degrees of freedom, but is completely specified, then little or no customized process design is required for the work to be accomplished. The team that was originally charged to create the process for some future operational work probably did have a relatively high desired novelty and relatively high degrees of freedom. Once designed, however, the novelty and degrees of freedom of the operations work declined drastically. If the organization discovers that either customer’s demands or nonstandard outputs from operations work have become chronic, then the process needs to be redesigned. And once again, the team charged with the redesign ought to be given increased levels of novelty and degrees of freedom.

Meetings and Operations
If the degrees of freedom are few and the novelty is low, then the type of work is probably specifically operational, and the type of collaborative process is defined by the equipment, tools, resources, skills which are all tightly specified. When exceptions occur in operations work or when there are problems to be solved outside of standard problem-solving procedures, meetings are routinely employed as interventions. Despite the bad press that meetings get, they are absolutely essential to the conduct of work. Meetings are simple ways to combine a number of vantage points and levels of experience from many individuals and focus them on the resolution of some issue.

Types of Collaborative Processes

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healthy models for working together: people come to believe that the purpose of meetings is to be talked to instead of to address some challenge.

**Process Improvement and Facilitated Meetings**
If the degrees of freedom are low and the novelty is moderate, the assignment is probably one of continuous improvement. Some sort of meeting using specified templates (like the seven tools in TQ) is a likely response. This approach provides much more design than a simple meeting to handle exceptions and will likely yield higher value results. Imagine trying to do continuous process improvement using only the process of discussion without recourse to some of the processes that have been designed to help teams do this work.

If the degrees of freedom are moderate and the novelty of the desired outcome is medium, some collaborative design expertise should be sought. Frequently this expertise takes the form of a facilitator who employs a set of collaborative processes with the group. There may also be the addition of special pieces of equipment to allow for some sort of networked, digital collaboration. Often these interventions take place as meetings lasting less than a day.
Such meetings help teams work through particularly knotty challenges in their work. Because the degrees of freedom are greater, the teams can often choose their resources (types of information they want to digest, for example), their templates, and sometimes their team members. Often, the type of challenge they are working on is of a design or strategic nature.

At this point it’s worth noting that R&D divisions and other departments charged specifically with the design of products and services operate across the entire collaborative spectrum. Some work in these groups is clearly operational in nature and follows strict guidelines, having few degrees of freedom. Even the process for designing a new car may have few degrees of freedom and fairly restricted specifications for novelty. However, when the car design team gets stuck, or if they have an idea that will radically change the way work is done (e.g., Saturn), then the team ought to seek other types of methodologies outside of ordinary operations and meetings. In this way, they may more rapidly secure solutions and effective responses to the challenges. The same can be said for strategic planning departments. Some of their work is routine and highly specified and some is not. The part of their work that has many degrees of freedom and a moderate or high demand for novelty ought to employ different methods of collaboration than are used to manage routine work.

If the novelty of the desired outcome is high and there are a number of degrees of freedom, then much more attention should be given to the process of the collaboration, going beyond having a facilitator present.
and use of the physical and virtual environment, the creation of special or custom templates or tools, the assembly of a more diverse team and experimentation with a range of outcome specifications. A number of robust designed collaboration systems can be found in the market, from Future Search Conferences to Open Space sessions, to JAD/RAD sessions, to our own InnovationQuest engagements. All of these approaches apply a great deal of design and customization to the collaboration and are appropriate for interventions demanding high novelty and offering a greater number of degrees of freedom.

When a team can write its own assignment instead of having it supplied by some other authority, it also has latitude in all of the other parameters of its work, from resources to templates to team members and so on. In such cases there is also at least a modest degree of novelty required because writing your own assignment—taking charge of what you choose to do—is creating your own venture. And ventures that are too similar to other existing ventures may not be able to create enough difference in value with respect to competitors in the marketplace to survive and thrive. Ventures require that entire systems of processes, organizational and physical structures, products and services be designed, tested, implemented, and delivered with efficiency. The incubation of these ventures requires the highest degree of designed collaboration—so much so that each day may be a novel event that unfolds until some degree of standardization emerges in the daily operations of the new venture. In common practice, most of this design is unconscious and managed by to-do lists. But other methods should be applied so that the new venture can learn to use feedback and develop course correction abilities as it grows.
There are some off-limits zones in the model. A team cannot be asked to deliver high novelty outcomes but still have all or nearly all of its degrees of freedom locked in. If specific resources, templates, team members, environment, equipment and outcome specifications are predetermined, the outcome should be standard and repeatable. If the pieces of a puzzle go together in only one way, it’s impossible to increase the variety of the outcome without breaking the rules and perhaps ruining the value of the pieces themselves.

Likewise, a team can’t be held to produce outcomes with no novelty and also without guidance in terms of what skills are necessary, what tools should be used, what equipment is needed and what materials and information are required. It would be like handing someone an assembled computer and saying, “make another one just like it in whatever way you see fit.” There are some good standard practices for making computers and it’s unfair and inefficient to demand that a team reinvent a wheel that’s already running in some other industry.

Finally, there are conditions where novelty becomes random, or emerges as serendipity. In these cases, the collaboration may be provided for but not managed, facilitated or designed. The so-called water cooler phenomenon is one example. Some companies create spaces that encourage people to gather just for the purpose of either bouncing ideas off one another or...
for getting away from the task at hand enough to provide some incubation effect. The mixer, or conference break is another example. Conventions and conferences provide ample opportunities for people who ordinarily don’t come in contact with one another to meet and work together briefly. Sometimes these contacts lead to great insights and more often there is no direct benefit. It’s interesting to provide for some of these ad-hoc associations in even the most rigorously crafted or designed collaborative experiences just to allow for the low probability generation of some very high value ideas. For these ad-hoc provisions to work successfully, the participants should have considerable latitude in the number and depth of the degrees of freedom. A simple example is a dinner placed in the middle of a strategic planning session where the conversation is undirected and there is no assignment to be completed. Contrary to popular belief, breaks in a session do not provide for this type of interaction because everyone usually scurries off to check voice mail or email. Both the interaction and the focus on the event are lost.
Conclusion

The simplest lesson to take away from this model is that attention to the design of a collaborative process ought to be in proportion to the novelty of the desired outcome and the number of degrees of freedom that the collaborators have in pursuing their work. Operations-type work ought to have more specifications and fewer degrees of freedom than design and strategy-type work. This allows the organization to replicate its products and services within an envelope of acceptable performance. It also reminds organizations that operational teams must be equipped with the resources, templates, processes, skills (training) and environment to do the work well. But operations is not just about conformance to standards, and some freedom must be extended to operational teams so that they can manage exceptions, handle requisite customization and improve their processes and products. Finally, operations people should not be restricted from engaging in moderate and high novelty design and strategy work because of the important diversity of vantage points and experience that they bring to the challenge. Likewise, designers and strategists ought to have an experience of collaborative problem solving in the operational areas.

One final note concerning operations. As people are given more latitude with respect to their degrees of freedom and are also free to respond to the novelty they see in their relations with the customer, they help create a more flexible and adaptable organization. In many organizations, daily operations have become more uncertain and full of continuous change. Operations are therefore ripe for more collaboration and a general shifting up and to the right on the model. The day has come for some organizations where exceptions and customization have become the rule.

It’s also worth noting that many of us are prone to fool ourselves with respect to how much novelty or how many degrees of freedom we are including in our collaborative problem solving and creativity. Many strategy sessions are conducted as if they were highly specified operational work. The assignment is the same from year to year. The team consists of the same, closed set of senior people. The resources are collected from
the same sources and formatted the same way. The templates for assembling the strategy don’t change. The environment consists of the same oval table. The process consists of continuous discussion. The planned outcomes contain nothing unique to spark imagination. Out of this yearly sameness, we expect to reap novel solutions in the marketplace. The miracle of human potential is that it transcends even the most mundane and tedious restraints to capture sparks of insight. What might happen if the restraints were ever cut loose?

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You may contact Bryan Coffman via email at bcoffman@innovationlabs.com.