
Understanding and Creating Colocated, Cross-Functional Teams

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Are intelligence centers really necessary?

In March, 2015, CIA Director John Brennan announced a major reorganization that included a number of new multi-function centers modeled on CIA's Counterterrorism Center.¹ Brennan's move is similar to one that was begun in the Defense Intelligence Agency two years earlier, bringing analysts, technical collectors, and human intelligence collectors together in four mission centers.² While these major agency-wide reorganizations naturally cause consternation, these changes are a continuation of intelligence integration initiatives sparked by the 9/11 attacks and furthered by the Intelligence Reform and Terrorism Prevention Act (IRTPA) of 2004. From a historical perspective, the mission center concept is part of a long evolution begun in 1947 to promote information sharing and collaboration across intelligence stovepipes.³

That said, it is fair to ask, "Are these centers really necessary?" After all, today's Intelligence Community (IC) can electronically share information and enable people to work together through an increasing array of digital tools, such as video conferencing, chat, workflow, file sharing, and application sharing. With a digital, global economy driving continuous

development of digital collaboration tools, why do IC leaders need to bring teams together under the same organization? Additionally, if the center concept is good for CIA and DIA, should the entire IC be reorganized into mission centers?

This article aims to help IC officers think in substantive and practical terms about the value of colocated, cross-functional teams. Drawing upon a rich body of quantitative research, and our experience as entrepreneurs, management consultants, and executives in large IC and commercial firms, we outline the implications from the research and how these apply to intelligence integration.

Why is intelligence integration essential for hard problems?

Metaphors can be memorable summaries of complex realities. *Connecting the dots* became the popular metaphor for intelligence problems in the aftermath of 9/11. Metaphors can also be misleading. Intelligence problems are less like *connecting dots*, and more like putting together large, complex puzzles. As analysts dissect each intelligence report and seek to synthesize a picture from the many pieces, they do so without the benefit of the completed picture (the

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one on the box top that all of us regularly reference to assemble an actual puzzle). Further compounding the analysts' challenge, key pieces of the puzzle are always missing, and most puzzles have pieces available that are irrelevant to the picture. In the most difficult puzzles, there are pieces that fit properly into place and seem plausible to the picture, when these pieces actually give false impressions of the true picture. This is the deception of cunning adversaries.

The IC attacks the complexity of intelligence problems with diverse functional expertise—analysts, technical collectors, human operators—and five different sources of information or “disciplines”—signals, human, geospatial, measurement and signatures, and open source. When people within these functions and disciplines share information and collaborate, they provide customers with the most complete and accurate picture, and the highest confidence in the picture. *Intelligence integration* has been the recent banner under which the IC has conducted information sharing and collaboration initiatives in recent years.

To illustrate the need for intelligence integration, consider a typical signals intelligence (SIGINT) analyst and a human intelligence (HUMINT) reports officer. Both write and distribute intelligence information—pieces of the puzzle—but neither shares everything in their minds at any given time—what they are thinking and why. Lots of valuable information lies beyond these officers' formal reports. Some of that information may

not be noteworthy standing on its own. However, when combined with information, ideas, and concepts from other functions or disciplines, new intelligence often emerges—gaps in the puzzle are filled. When people from different functions and disciplines begin exchanging ideas, such as talking about prospective analytic angles or means to target collection, opportunities will often emerge that otherwise would have gone unrealized. The alternative to such collaboration was seen in an aspect of the pre-9/11 environment—i.e., “We did not know you were looking for guys taking flying classes.”

As technology and management processes have matured over the decades, so have the means for integrating different sources of information and functions. Data processing has done much to increase the integration of data from multiple intelligence sources, producing new “multi-int” information products and opening the possibility for more coherent tasking of multiple collection sources. Moving the IC to a common IC Information Technology Environment (IC ITE or “eye-sight”) offers additional gains in shared computing, storage, data, and applications across IC organizational and functional boundaries. Commercial IT has also provided the IC with a wide range of electronic means to network people and enable collaborative work. Management structures and processes, such as the National Intelligence Manager (NIM) and Unifying Intelligence Strategy, have also improved intelligence integration.

In light of these many ways for promoting and strengthening integration, it would be easy to miss the simple, powerful, and foundational role of in-person human interactions, especially to highly creative tasks and the building of trust between people. Conceptualizing a new analytical approach, designing a new collection strategy, and testing alternative hypotheses are just a few intelligence activities that require tremendous creativity and trust among participants.

Not all intelligence tasks require the same levels of creativity and trust. Routine production of a scheduled information product and delivery of a high volume standardized service are important tasks, but they are unlikely to require the same degree of daily collaboration across a cross-functional/cross-discipline team. The IC has strong advocates for virtual interactions and strong advocates for physical collocation of cross-functional, multi-agency teams. Attempting to force a choice between these two approaches to integration is unnecessary, unrealistic, and unhelpful.

Deploying a new technology over an existing network is not nearly so taxing as changing where people are physically located and ensuring they have the right tools—this very reality prompts leaders to approach collocation with caution. A key issue for leaders—which this paper explores—is understanding the value of in-person interactions and taking a structured approach to creating and assessing colocated teams.

What does the data from academe and commercial research tell us?

The early years of the Internet and associated technology boom led to studies and books such as Cairncross's 1997 work *Death of Distance*, which extolled the benefits of electronically connecting people.⁴ More recent studies have focused on the results of in-person interaction among people. With two decades of experience using the Internet and related technologies, many analysts now take a more measured view of the balance of physical interaction and virtual ones.

For example, *Humanyze* (formerly known as *Sociometric Solutions*) studies the interaction of people and organizations. This company's work reveals that 40–60 percent of a worker's regular interactions (inclusive of e-mail, calls, etc.) occur with people they sit next to in an office.⁵ Consequently, they recommend office designs that deliver proximity for workers and functions that share dependencies or the need to work together.

A series of academic studies over more than 10 years on collaborative tools and work indicate that collaboration and interaction drop markedly between people more than 90 feet apart.⁶ A Harvard study of academic research quality demonstrated that physical proximity produces research products with far more subsequent citations—one measure of academic quality. This study evaluated work relationships across several structures: same building, same floor; same building, different floor; and different building with varying distance combinations. Distance between team members lowered the academic

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quality, as measured by number of ensuing citations.⁷

Ironically, the very industry that builds collaboration and social media tools develops those products with teams working in close proximity. Consultants to leading software design companies employing hordes of millennials emphasize the need for office space that brings workers and teams together physically.⁸ The American Economic Association sponsored studies of Google (and others). Research on how employees at Google process information and predict future performance reveals a very strong connection to physical proximity.⁹ In effect, when employees are on different floors of the same building, they might as well be in different cities. While social media and other factors register, no other issue has as much bearing on predicting information processing and performance than where employees sit in relation to one another. In software development, efforts increasingly shift to “agile” techniques which many argue function best (and maybe only) when teams are physically together, given the nature of their work.¹⁰

Also highly pertinent to the Intelligence Community, the news and journalism industry has come to recognize the criticality of proximity in creating quality products. A study of multiple news organizations features physical proximity as one of four major findings to integrate new forms of data journalism with traditional activities.¹¹ As one media leader said, “News organizations are all about

geography—and proximity to the news desk. If you're close, it's easy to suggest stories and become part of the process; conversely, out of sight is literally out of mind.”¹² A leading editor at NPR added: “We have found that proximity really is important to the success of projects. Although we have done this for a while, increasingly other organizations are reorganizing along these lines after coming to realize the benefits of breaking down silos and colocating people with different skill sets can produce more innovative solutions at a faster pace.”¹³

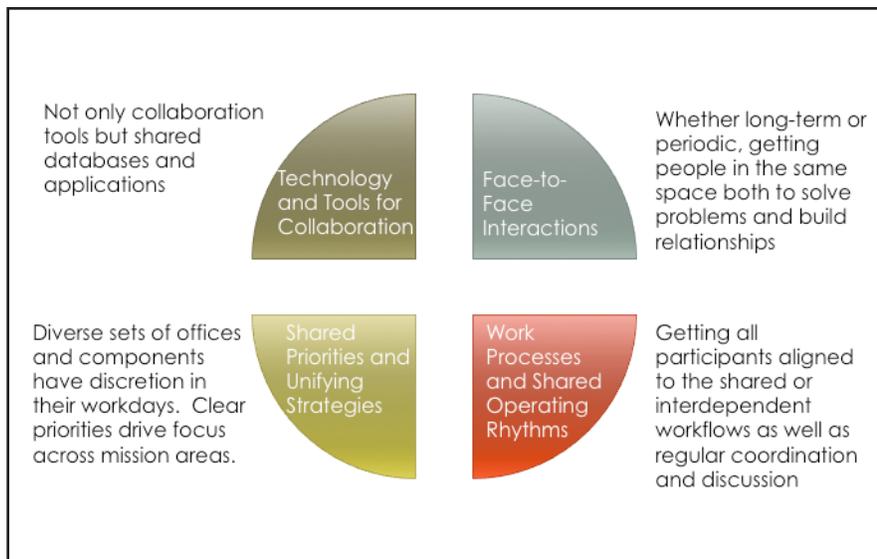
Lastly, a body of sociological research focused on trust and the impact of proximity and various collaboration tools.¹⁴ The essence of this work would strike most of us common-sensically—face-to-face interactions are foundational in building trust and an associated sense of connection. Chat and even video teleconferencing tools do not eliminate the impediments imposed by distance and organizational boundaries. This is not at all to argue that these technologies are irrelevant or have no positive impact; clearly they are an important part of the solution. But research reveals advantages in using these tools to enhance relationships and to foster further interaction rather than as the primary form of communication. In other words, in designing for intelligence integration the IC must design to build trust; such a design probably looks quite different from what might have been conceived in earlier years.

How should intelligence leaders approach integration given the research?

Agency directors, center directors, NIMs, and other intelligence leaders should consider the full range of approaches to better intelligence integration. The graphic to the right outlines four categories key to continued improvement of integration in an operational context.

We believe three of the four categories progressed substantially over the past 10 years—technology, priorities/strategies, and processes—but opportunities remain to harvest gains around more purposeful face-to-face interactions. Video teleconferences, Unifying Intelligence Strategies, chat/instant messaging, and other initiatives are bringing organizations into closer alignment and creating an environment more conducive to integrated approaches to intelligence problems. This progress aside, it should be expected that organizational boundaries and distance will continue to present obstacles to integration that require persistent and ongoing effort to overcome and will likely benefit from a broader effort to drive collocation of multi-functional, cross-agency teams.

The research clearly indicates that physical proximity and face-to-face interactions can be a powerful tool to drive cross-functional and organizational performance, but the approaches need to include micro geography, process, technology, and product considerations. For example, getting people in the same building is not enough. Most seasoned intelligence officers are familiar with stories such as: “the XXX people sit on the fourth floor. We don’t see them



much. We each tend to go to lunch as groups at separate times.” Such anecdotes align with the research.

Similarly, getting people into the same area is not sufficient without attention to what work is being performed and how the work is accomplished. Integrated intelligence is not simply about putting people into the same general location; the micro-geography and work process matter. Improved intelligence integration will focus on the intelligence products, work processes, workspace management, and technology at a detailed level—all designed around the desired impact to customers’ missions.

Leaders should carefully consider specific areas, issues, or tasks that warrant permanent integration nodes that cut across agencies and functional boundaries. More complex tasks and problems benefit most from physical proximity; however, leaders need not co-mingle the entire team. Target development for non-military threats is an activity requiring a great deal of iteration and discovery work that can benefit from multi-agency

collaboration. Permanent thematic or issue-driven nodes (potentially quite small) can be used to bring together a subset of people, who in turn reach back to their organizations knowing the full capability. The highest benefit may come from using these rotational assignments to prompt parent organizations to cycle staff through these integration sites, thereby expanding personal networks and generating practical knowledge of other agency capabilities. US Special Forces have honed this model by rotating intelligence staff between headquarters and decentralized work locations, such as other agencies and forward-deployed sites.

Some problems only require temporary effort and both leadership and facilities should accommodate this. For example, creating a collection and analysis approach on a particularly knotty problem or responding to a high-level tasking may warrant a short-term effort. Putting people in the same place for even a limited period of time will likely enhance the degree of integration. Participants can reach back to their parent orga-

nizations while being integrally involved in the natural back-and-forth of creative problem solving. This might reasonably be a capability that each national intelligence manager exercises on at least one topic annually. Several facility environments in the IC could potentially play host to such regular, temporary activities.

These studies do not imply diminished contribution of social media and collaboration technologies, but they do strongly suggest care in thinking through the application and expectations. For many functions and in the context of established relationships, virtual tools may be sufficient to sustain ongoing operations when supplemented with periodic in-person meetings. Academic research demonstrates some dispersed teams function with “high perceived proximity” or as if they sit together while other colocated groups do not reap the gains of proximity.¹⁵ The tools are important, particularly in the context of relationships often built through personal interaction, temporary duty around a shared mission, etc. But for creative and knowledge work, these tools are unlikely to replace the texture and richness of cross-functional, cross-organizational teams working together on problems.

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Lastly, if we look beyond operations to joint training courses, some changes could potentially yield substantially greater return for the Community. Consider the case of two joint leadership courses. One draws IC participants randomly through open enrollment with participants from a wide range of organizations with diverse missions. In this class is an HR representative from DIA, a CENTCOM military analyst, a contracts specialist from NSA, a counterterrorism analyst from the FBI, a Coast Guard intelligence officer, a Department of Treasury analyst, and an engineer from CIA. This is a wonderfully diverse group in function and organizational affiliation; however, none of these participants is likely to work any significant project together after leaving the training.

Now consider a similar course, but one whose participants are chosen thematically, e.g., officers who work counterproliferation or advanced weapons. In this notional class are a DIA Missile and Space Intelligence Center analyst, an NSA analyst working Iran, a CIA case of-

ficer focused on WMD, an Air Force National Space and Intelligence Center analyst, DIA all-source analysts, a CIA WINPAC analyst, and some support-oriented leaders from those organizations. A far greater probability exists that this training session results in the meaningful extension of personal networks and relationships.

Conclusion

The quantitative research makes a strong case for colocating teams when the intelligence problem and task(s) require high degrees of creativity in collection and analysis. Leaders should approach collocation in the context of other means of integration, giving careful attention to when and how some teams are colocated. Intelligence strategies, workflows, and technologies are valuable tools for integration. However, the research suggests that these cannot replace the unique performance effects of regularized face-to-face integration among people.



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