The Future of Work... unlimited

GoToMeeting by CITRIX

The Future of Business Collaboration

A Citrix® GoToMeeting® Corporate White Paper

Prepared By:

James P. Ware, PhD
Executive Director
The Future of Work…unlimited

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Executive Summary

There are two things we know without question about the future of work: it will require significantly more collaboration, and it will be dramatically more distributed.

But what really matters is that these two trends are in direct conflict with each other.

The way we work is changing dramatically. The workforce has become far more mobile. And new technologies have made it both easier and much cheaper to connect with friends, family, and business colleagues on a global basis.

With social networking tools like Facebook, LinkedIn, YouTube, and blogs, in combination with the availability of low-cost audio and video conferencing technologies, millions of people are now spending significant amounts of time interacting with people who are somewhere else.

At the same time, those interactions have become far more critical to organizational success. Collaboration—getting work done with other people—is increasingly seen as the key to success.

John Dunne said it first: "No man is an island." More recently, Morten Hansen and Nitin Nohria observed that "firms come into being in order to enable human beings to achieve collaboratively what they could not achieve alone."[i]

> ". . . firms come into being in order to enable [people] to achieve collaboratively what they could not achieve alone."
>
> - Hansen and Nohria
> *MIT Sloan Management Review*

To make things even more complicated, the future of work will put a high premium on *speed*—in turning ideas into products, in getting those products into customers' hands, and in responding to both problems and opportunities—all faster than competitors can.

To succeed in this new environment, both individual contributors and managers must master new skills that enable them to:

- work productively anywhere, and almost any time;
- build cohesive teams even when members are scattered across the globe and move about incessantly;
- remain engaged with other team members and the organization at large, even when they rarely, if ever, meet in-person;
- access the information they need wherever it is;
- communicate effectively using new technologies like smart phones, screen-sharing software, and video conferencing capabilities; and
- manage people they can't see, by measuring and rewarding results rather than "busy-ness."

This white paper will explore the issues and challenges surrounding remote collaboration. It will offer very specific guidelines and techniques for succeeding in a world

New Skills for a New World:

- ✓ working anywhere
- ✓ building cohesive distributed teams
- ✓ connecting across time and space
- ✓ accessing information from anywhere
- ✓ using mobile technologies
- ✓ managing people you can't see

characterized by mobility, dispersion, technology, intense collaboration, and relentless change.

We will also suggest specific metrics for tracking the impact of collaboration practices on organizational productivity, effectiveness, and working relationships.

Finally, we will end the paper with specific suggestions for how emerging technologies like desktop video conferencing and screen sharing can be used to enhance productivity, meeting effectiveness, customer support, and interpersonal relationships.

Introduction

This white paper takes a detailed look at the future of work, concluding that it will be much more distributed and mobile—even though at the same time it will require people to work more closely together.

However, there is still a widespread belief that collaboration is most effective when everyone is in the same room. Yet in the future that just isn't going to be possible as often as most of us would like.

That difficulty is at the very heart of the challenge facing organizations as they speed towards the future. And it makes our focus on distributed collaboration all that much more important.

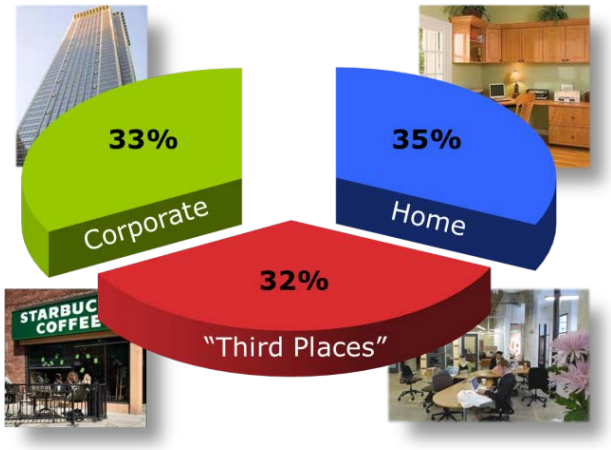
Managing remote workers and distributed teams—and enabling them to collaborate effectively—can be an enormously difficult challenge. When team members are working at great distances from each other, keeping them connected with each other and with the larger organization often seems impossible.

But collaboration at a distance is by no means Mission Impossible; it just requires updated tactics, policies, guidelines, technology tools, and HR management practices that reflect the new realities of work. It's not simple, but it is certainly doable—and the payoff in increased productivity and performance makes the effort well worthwhile.

> **"**Collaboration can be defined as value-adding interactions that enable employees, customers, suppliers and partners to achieve business objectives, make good decisions, resolve issues and share knowledge effectively and efficiently."
>
> *Collaboration 2020*: *Hype or Competitive Advantage?*

We will look first at the basic nature of human collaboration, then at the increasing mobility of the workforce, and finally at the challenges of collaborating at a distance. We end by offering tested guidelines for using collaboration technologies—especially video—to improve both the quality and the productivity of remote collaboration.

The Explosion in Workforce Mobility



There is no question that a smaller and smaller percentage of knowledge work is being conducted in person. Not only are individuals moving around more often, but they are increasingly interacting with colleagues, project team members, clients, and service providers who are somewhere else.[ii]

Today, in 2011, more than *two-thirds* of knowledge work is being done outside of traditional corporate facilities. That sounds like a strikingly large number, but we and others have conducted numerous studies clearly demonstrating that work is already widely dispersed across many different kinds of locations.

We first identified this pattern way back in 2002, in a privately conducted global survey of over 2,000 knowledge workers in a wide variety of jobs and industries for our *Future of Work* program sponsors.

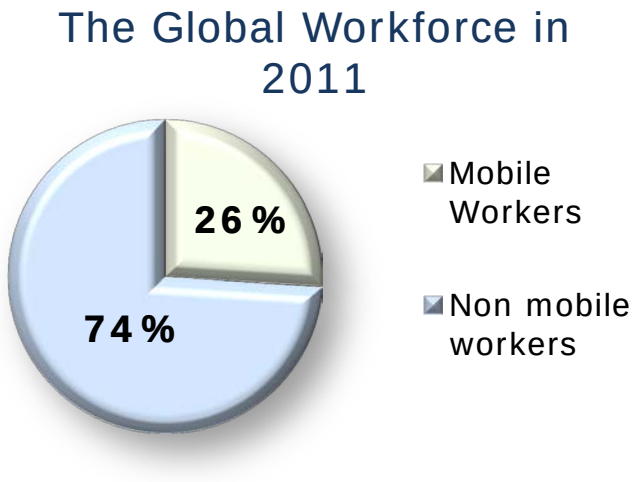
Even then the average knowledge worker was spending only one-third of his or her work time inside a corporate facility. Our 2002 survey participants reported that, on average, they were spending about 35 per cent of their work time in home offices and an additional 35 per-cent at a wide variety of places that were in between the corporate office and their personal residences—what we've

now come to call “third places” and many others refer to as “co-working” operations.[iii]

More recent surveys conducted by a number of independent research organizations have reported significant growth in the numbers of “web commuters,” “workshifters,” and distributed teams in both the United States and other countries.

For example:

- The Telework Research Network reports that fully 45 percent of the U.S. workforce holds a job that is compatible with at least part-time telework.[iv]
- According to the International Data Corporation, in 2011 there are at least *one billion* (with a “B”) people worldwide who are capable of working from almost anywhere.[v]
- The prevalence of telework in the U.K. has been growing at least 13 percent per year for the past five years.[vi]
- Our own compilation of several additional recent studies suggests that approximately 780 million people (about 26 percent of the total global workforce of three billion), are already working away from their primary office at least two days a week.



The Growing Importance of Collaboration

The popular understanding of collaboration is essentially "doing something with other people."

However, there are all kinds of interactions with other people, and they take place in many different contexts. Some have argued that the term "collaboration" should be used only when two or more groups (or individuals) are voluntarily working together in the absence of a common goal or a formal team leader.

In other words, if there is a well-understood shared goal, or a common leader, then the individuals or groups are working as a team or a functional unit, and their efforts should be described as "teamwork," not collaboration *per se*.[vii]

Remember that, as the article cited earlier by Morten Hansen and Nitin Nohria makes clear, "doing things with other people" is the basic reason that organizations exist at all. We come together and form legal entities we call corporations (or associations, or partnerships, or governments) to accomplish goals and to produce products and services that we can't achieve alone.

But not everything that groups of individuals do to create value constitutes meaningful collaboration.

Many people participate in sequential work flows, where they move either a physical thing (like a product on a factory assembly line) or information (like a purchase order or a customer invoice or a new product specification sheet) from one person to another as part of a business process. At each step in the work flow someone adds value, but the value comes primarily from individual activity, not from joint interaction.

That kind of work flow certainly requires *coordination* and often involves highly structured rules and procedures.

However, in our view that kind of activity is not true *collaboration*. Rather, we define collaboration as work that involves direct, real-time (or nearly real-time) back-and-forth interaction, in which participants react to each other's ideas and create something together.

For us, then, *collaboration is a work activity in which two or more individuals (or groups) work together interactively, sharing knowledge to create value well beyond what any of them could have produced alone.*

Collaboration is clearly becoming more and more critical to organizational success. As the report "Collaboration 2020" notes,

> *Increasing project complexity and business dynamics leave companies little choice but to collaborate more, and collaborate better. . . This shift towards more collaboration is based on the assumption that few if any companies have all the necessary knowledge, capabilities and resources in-*

We define collaboration as **"***a work activity in which two or more individuals (or groups) work together interactively, sharing knowledge to create value well beyond what any of them could have produced alone."*

> *house to successfully innovate today – on the contrary,* ***successful innovation typically occurs at intersections between different knowledge domains*** *rather than in isolation. . .*[viii]

Beyond this basic increase in the scope and complexity of knowledge that drives the need for collaboration, the speed of decision-making and innovation has also gone up several orders of magnitude. Speed is essential—speed in decision-making, speed in bringing products to market, speed in responding to customer complaints or requests for support.

Clearly, succeeding in business today requires being able to make decisions and innovate at the speed of the Internet—that is, in real time.

And the technologies that enable us to communicate and collaborate in real-time (at reasonable cost) with others almost anywhere on the planet are just accelerating the speed of business even more.

Being able to move information of any kind from one employee to another, even when those two individuals are thousands of miles apart, is a key source of competitive advantage.

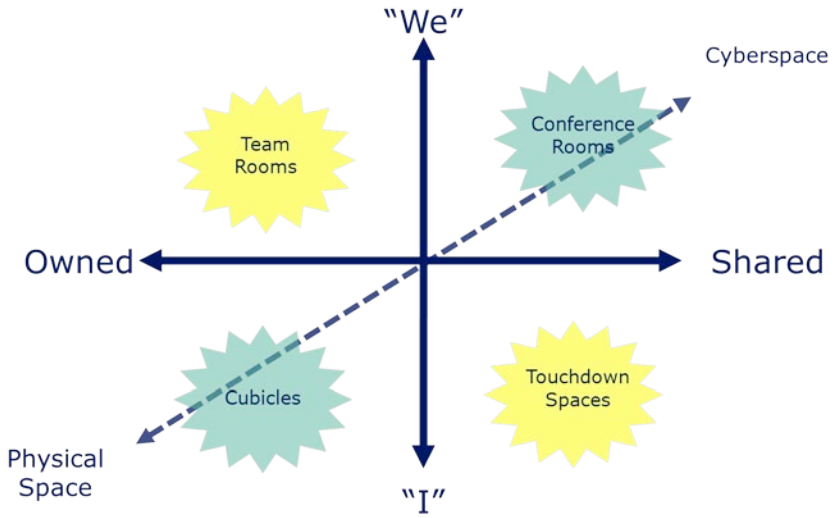
Where and When Does Collaboration Take Place?

The simple answer to that question is, of course, it takes place anywhere and everywhere, and whenever two or more people's activities are linked in some fashion.

We have found two frameworks of particular value for understanding the impact of time, space, and workplace design have on collaboration.

The first model, developed by David Lathrop, Senior Vice President of Strategy at Steelcase, is a particularly useful way to think about the spectrum of *places* where work gets done (Figure One, next page):[ix]

Figure One: A Taxonomy of Workplaces



As Lathrop suggests, there are two spatial dimensions that matter: workspaces are either Individual ("I" places) or Collaborative ("We" places); and they are either "Owned" (permanently assigned) by an individual or a group, or they are Shared (either via a reservation system, or as "touchdown" or on-demand" spaces).

But Lathrop's particular contribution to our understanding of collaboration is the recognition that there is also a third dimension affecting work activity: it takes place either in a distinct physical location (such as a corporate office facility), or in "cyberspace"—that digital world that encompasses all the Internet servers, routers, and communication lines that link us together no matter where we are located physically.

Cyberspace—that "digital universe"—has become just as important a "place" for work as the physical one.

In fact, the emergence of distributed work activity has created all kind of difficult management and even public policy questions.

When a remote employee accesses a company server or joins a web meeting from a different state (or a different country), where does the "work" actually take place? Which government entity has jurisdiction? Which state does the employee owe taxes to? When a remote employee is laid off, which state is liable for unemployment compensation?

When a remote employee accesses a company server or joins a web meeting from a different state (or a different country), where does the work actually take place?

When a home-based employee trips over a rug while on the way from her kitchen to her home office, is her employer liable for her medical bills?

When we order a product or service over the Internet, where does the sale take place? Should an online retailer collect local and state taxes from customers in locations where it has no physical presence?

While these are important issues that must dealt with by employers and all businesses, we will not address them in any detail here, other than to note that they do represent an important part of the context for distance collaboration.

We consider any “distributed collaboration” that involves people in two or more physical locations to “happen” in cyberspace; that form of collaboration of course relies on communication technology to move the required information from one place to another—again, either in *real time*, as in a telephonic or computer screen sharing experience, or *over time*, as in an exchange of email messages.

However, the vast majority of research on collaboration, including guidelines for conducting effective meetings and other collaborative activity, has been focused on in-person meetings within corporate facilities.

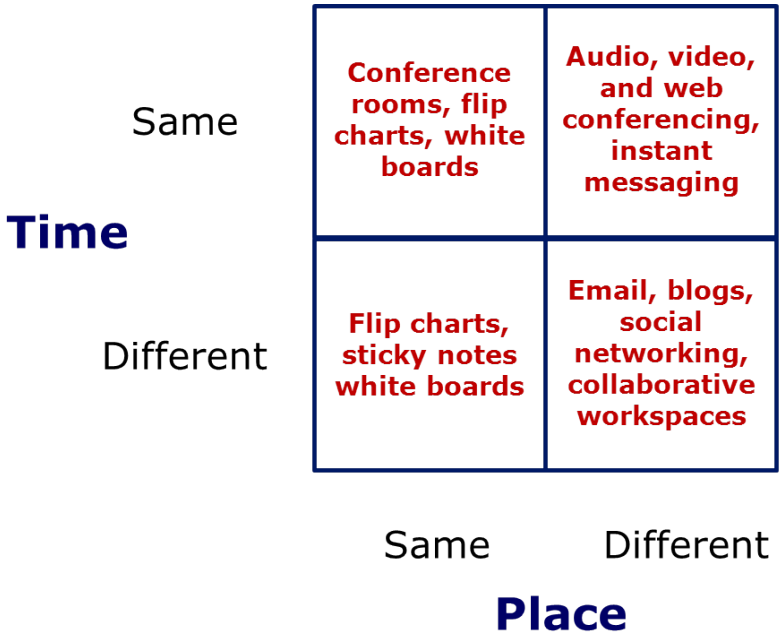
In contrast, our goal here is to understand and improve *distributed* collaboration; and for help with that objective we turned to another framework that explicitly recognizes

the role that time and place play in affecting the nature of communication and collaboration.

The model that we find most useful for sorting out the specific nature of distributed collaboration and the tools that support it is one that was developed by Robert Johansen and David Sibbet at The Institute for the Future.[x] It basically sorts collaboration into four distinctive buckets:

1. Same Time/Same Place
2. Same Time/Different Place
3. Different Time/Same Place
4. Different Time/Different Place

Figure Two: Collaboration Across Time and Space



Our particular interest is in collaboration at a distance: how people interact with others who are in a different physical location (or many different locations). And we are especially focused on real-time collaboration, the upper right quadrant of Figure Two,

As this model makes very clear, collaboration technologies like screen sharing, audio and video conference calls, and instant messaging are essential tools for real-time collaboration at a distance, which is the primary focus of this report.

Collaborating Anywhere and Everywhere: How Important is Physical Presence?

Yet in spite of the rapid growth of mobility and "work anywhere" practices, there is still a dominant belief, in western cultures at least, that physical presence has genuine value—that certain kinds of meetings and conversations are still much more effective when everyone is in the same room.

For example, a 2009 study by *Forbes Insights* reported that 84% of surveyed executives prefer in-person meetings.[xi] The top three benefits of in-person interactions were reported to be:

1. Building stronger, more meaningful business relationships;

2. The ability to read body language and facial expressions; and

3. Opportunities for more social interaction, forming stronger bonds with co-workers or clients.

However, these same executives reported that they were traveling significantly less for business, largely because of budget constraints resulting from the “Great Recession” that began in 2008. There is little question that cost pressures have continued into 2011, making in-person meetings more difficult than ever to justify.

And the most frequent concern we hear from frontline managers is the potential loss of shared knowledge and corporate culture when workgroups start operating more virtually—the fear of reduced “accidental” meetings at the coffee pot or in the corridors along with a drop in productivity and innovation stemming from fewer in-person meetings.

That concern does have some basis in reality. It is important to recognize that when team members are not co-located, they usually have relatively independent personal lives and social support systems.

Realistically, such workers actually do *not* have as much in common as they would if they came to the same office every day. They go to different churches, synagogues, and mosques; they participate in different local town events; their children attend different schools and participate in different sports programs. And they just don’t have that chance to bump into each other at the grocery store or on

the commuter trains and buses, to say nothing of at the coffee pot or in the company cafeteria.

Thus, working together in an open, collaborative way can indeed be much more challenging than when they are co-located.

Ye, despite the perceived value of in-person meetings, the increased cost of travel and improved technologies have combined to make distributed meetings both more common and more important.

And even if we continue to *prefer* in-person meetings, the hard reality is that they are becoming a smaller and smaller part of our work experience. Like it or not, employees *have* to learn how to work effectively with people who are located in other places most—or even all—of the time.

The good news, however, is that in 2011 collaborative technologies are capable of making distributed collaboration almost as effective as in-person meetings, and certainly much less expensive than when the primary collaborators are based in different physical locations.

Remote Collaboration: It's Not Just About Mobility

The dispersion of the workforce is not just about people working from home occasionally, or interacting with each other as mobile "road warriors" no matter where they are.

Collaboration technologies have also made it far more common for project teams to include members from many different time zones, and even continents. Similarly, companies are finding it much easier to connect with both customers and suppliers located in different cities or even on different continents.

And even if all the members of a project team are working most of the time in corporate facilities, they are increasingly likely to be interacting regularly with people who are somewhere else.

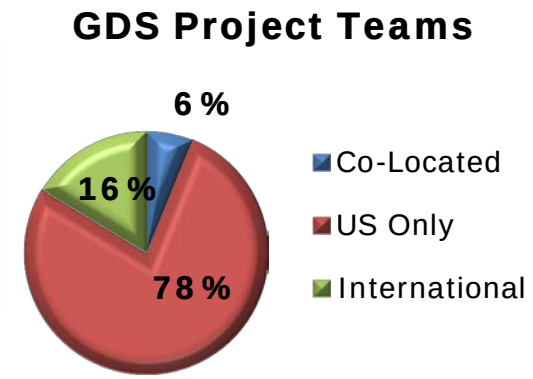
Thus the challenge facing managers today is finding ways to make remote collaboration just as productive, and just as easy, as in-person meetings.

That is clearly a challenge that many organizations have faced, and overcome. Consider just three specific case examples:

Case Example: Global Data Services

At Global Data Services (disguised name) the average employee is actively involved in at least eight separate ongoing projects, with over half of the other team members on those projects located at least two time zones away.

Employees in that organization typically spend 40% - 50% of their work week on the telephone or holding web meetings with colleagues who are located in other cities or countries.



Case Example: NBI Pharmaceuticals

NBI Pharmaceuticals was founded in 2010 by two doctors, John Neustadt, N.D., and Steve Pieczenik, M.D., Ph.D., who shared a desire to make more "orphan" drugs available to patients (orphan drugs are proven medications for rare diseases affecting such a small number of people that most pharmaceutical companies cannot afford to produce them at a reasonable cost).

The two doctors worked side by side in Dr. Neustadt's home town of Bozeman, Montana—until winter came, when Dr. Pieczenik, a Floridian, had to return south for personal health reasons. Their physical separation almost destroyed the business because the founders needed to collaborate, in real time, for several hours a day.

"We were at an impasse," recalled Dr. Neustadt. "It appeared we would have to dissolve the company."

Fortunately, however, the two doctors discovered Citrix Online's GoToMeeting® product.[1] They are now spending up to seven hours a day collaborating "side by side" in a virtual sense—and the company is thriving.

Case Example: Medibank Health Solutions

Medibank Health Solutions (MHS) is a division of Australia's largest integrated provider of health insurance and health solutions and a pioneer in using call centers for delivery of health services for governments and to the public at large.

The call center handles over 2 million calls a year. MHS employs over 600 call center staff, 85 percent of whom work from home, and many of whom are registered nurses and trained clinicians.

Medibank makes extensive use of remote collaboration technologies like GoToMeeting®, both to deliver structured training programs for the call center staff and to provide one-to-one coaching to distributed employees.

[1] In brief, GoToMeeting®, a Citrix Online® product, provides "web conferencing" services: it allows someone to share a computer screen with as many as 15 other people in remote locations. GoToMeeting® also includes instant messaging and optional video conferencing (in High-Definition video) for up to six people at once.

For more detailed information, please visit the GoToMeeting® website at:

http://www.gotomeeting.com/fec/online_meeting

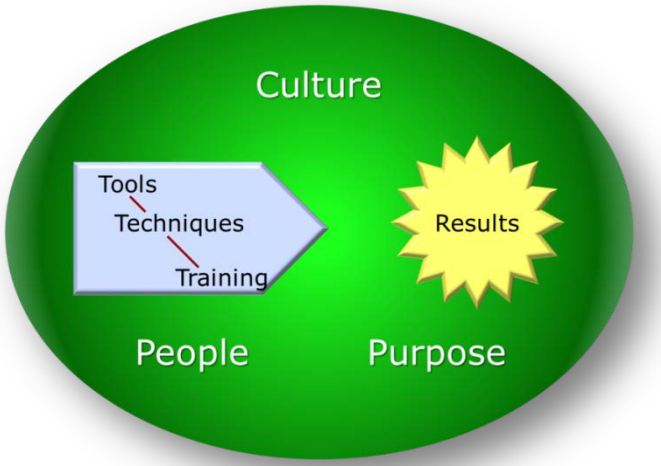
This approach has saved MHS millions of dollars a year in reduced travel cost and staff time, and it has enabled the company to attract and retain far more qualified staff than it would be able to with a centralized, local call center.

How Collaboration Unfolds

Given how important collaboration is to organizational success we need a simple framework for understanding the factors that affect collaborative activity. While there are numerous models in existence, we have distilled the factors down to just six.

There are three contextual factors and three critical process components in any collaborative activity. As shown in Figure Three, these six factors interact to generate the outcomes of collaborative activity.

Figure Three: Context/Process/Outcome Model



We will describe each of these factors separately. But they are not independent of each other; an effective collaboration grows out of the interaction of all six of these factors.

Context

Context includes the "preconditions," or the social environment in which collaboration takes place. We focus on three things in particular: culture, people, and purpose (the purpose of the collaborative activity).

Within these three dimensions of context, four basic elements must be present for any collaborative activity to succeed:

1. A **compelling shared goal** or goals (Purpose);
2. People with **unique competencies** that are relevant for achieving successful outcomes;
3. A **formal process** that is understood and accepted by all participants; and
4. **Mutual respect, tolerance, and trust**[xii]

Culture

Corporate culture is a complex and much-studied phenomenon. For our purposes, think of culture simply as "the way we do things around here"—the sum total of beliefs, values, and norms about what kind of behaviors (and attitudes) are acceptable in a particular organization.

Culture creates a context for individual behaviors and attitudes, and culture affects group actions as well. A "strong" culture usually constrains individual activities within a narrow range of what is "acceptable." Of course, that constraint usually has both positive and negative consequences.

When an organization's culture values and rewards the following kinds of behaviors and beliefs, then collaboration is much more likely to produce meaningful results:

- valuing the contributions of every individual;
- compromise;
- candor, openness, honesty;
- achieving meaningful goals at reasonable cost;
- sharing the fruits of success;
- treating everyone equally and respectfully;
- creativity, innovation;
- speed of decision-making; and
- establishing and maintaining peer relationships

People

But a broad organizational culture only provides the boundaries within which individuals operate; not everyone can completely match a cultural ideal. In considering the people who are participating in a particular collaboration, focus on their skills and their prior relationships with the other involved participants.

Start by asking some very basic questions:

- Who is involved in the collaborative experience?

- Do the participants know each other already?
- How positively do they feel about each other?
- Do the different parties share a common goal? If not, are there individual goals that are complementary, or are they mutually exclusive?

The skills of effective collaborators include:

- clarity about goals and needs;
- reasonable advocacy (ability to express a point of view and push for a particular result without antagonizing others);
- compromising without "giving in";
- listening for feelings as well as content
- empathy—getting "inside" others' heads and hearts;
- the ability to define a mutual outcome that will inspire action; and
- the ability to tell stories and envision future conditions[xiii]

Collaboration Skills

- defining mutual and inspirational outcomes
- understanding your goals and needs
- advocating for your team
- compromising without caving in
- listening for feelings
- empathy
- telling stories and envisioning future outcomes

Purpose

Clarity of purpose is fundamental to any collaboration. It is even more important, however, that the purpose of the collaboration be *widely understood and accepted* by all the participants.

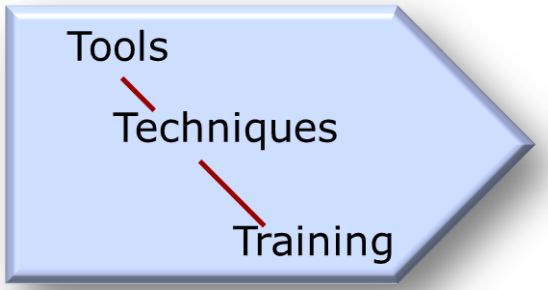
As noted above, the most important aspect of purpose is that it reflects a shared or mutual goal that "binds" the various participants together.

An important dimension of any shared goal is that it produce a "win" for each person or group involved. And

those rewards of success should be shared equally, or at least approximately so. A joint effort that produces ten times the value for one side than the other does not really produce a shared outcome, even if both sides come out ahead. That kind of disparity is rarely experienced as a "win-win."

Process Components

Tools



As Marshall McLuhan said many years ago, "We shape our tools, and our tools shape us."

The technologies that enable distance collaboration have a powerful impact on the nature and quality of the outcomes. The tools we use affect what we know about the process, the ideas, and the other people we are interacting with.

We'll discuss specific tools and the best way to use them in the next section of this report, but for now, here is what we consider the basic technologies that are essential for distance collaboration, including both real-time and asynchronous interaction.

Note that while not all these tools are needed for any particular collaboration, having access to all of them as you need them certainly enhances your likelihood of success:

- Audio (including multi-person conferencing capability)
- A synchronized shared file repository, or server access
- Web conferencing/screen sharing software (e.g., GoToMeeting®)
- Video calling capability

Note that being able to use these basic tools while "on the go" is a big plus, but not an essential requirement. Yet each of the tools listed above is available on smart phones and/or laptops and tablet computers as well as desktop PC's.

And here are some additional collaborative tools that are not quite as essential as the first set, but can potentially be very useful in certain situations:

- Instant messaging (most IM software includes "presence" management, enabling users to determine whether others are currently online and/or immediately available);
- Web-based presentation/broadcasting software;
- A shared/remotely accessible whiteboard or collaborative whiteboarding software;
- Co-browsing software (enabling two or more people in different locations to browse the Internet in sync, looking at the same screens and the same time);
- Document sharing and co-editing software (enabling multiple users to edit the same document at the same time from different locations); and
- Group communication platforms, including social networking software[xiv]

A Collaborator's Toolkit

Tier One:

- Cell phone
- Access to a file repository
- Web conferencing
- Video calling

Tier Two

- Instant messaging
- Whiteboarding software
- Co-browsing software
- Document sharing or co-editing software
- Collaborative workspace
- Social networking software

Techniques

There are a number of specific tactics that are central to making collaboration successful; while we do not have the space to develop these basic approaches in any detail, an effective collaboration process is characterized by:

- open discussion about the purpose, goals, and metrics of success for the activity;
- a clear work schedule and understanding of deadlines for completion;
- access to the collaborative technologies that are appropriate for the task and the participants' needs;
- opportunities for all parties to suggest ideas and propose solutions;
- a process that begins with open-ended brainstorming, moves to idea evaluation, and converges around mutually acceptable solutions; and
- an "after-action" review that helps all participants learn from the experience, hone their skills, and prepare for the next project.

Components of Collaboration

- Clarity of purpose, goals, success measures
- Transparent work schedule
- Explicit deadlines
- Appropriate tools
- Openness to ideas from all participants
- An explicit process for moving from brainstorming to solutions
- An "after-action" review following completion

Training

None of the other factors will have a positive impact on the outcomes without structured training of the participants—in how to work remotely, how to manage remote teams, how to use collaboration technologies, and what

techniques to deploy when collaborating across time and space.

We do not know of a single successful example of a remote work program that didn't include some formal training in both techniques and technologies.[xv]

Outcomes

Outcomes, obviously, are the result of the interactions among all these factors. The most important outcome question is whether the collaborative activity achieved the goals of the stakeholders and participants in the process.

Measuring Collaborative Outcomes

While each instance of a collaborative activity will have its own unique outcomes, we believe there are only two broad kinds of results that matter:

1. Organizational Outcomes

2. Individual or Group Outcomes

Organizational Outcomes

Clearly, there are "standard" categories of organizational outcomes, matching what any senior executive is looking for. The only questions that matter are how the collaborative activity ultimately affects one or more of these metrics:

- The bottom line (profitability)
- The top line (revenue)
- Cost (reductions)
- Capability (enhanced skills or work processes)
- Sustainability (long-term performance, as well as environmental effects)
- Innovation (new products, new processes)
- Ability to attract and retain needed talent
- Customer satisfaction
- Public relations and brand image

If the activity doesn't contribute to one or more of those performance areas, then the value of the activity is questionable at best.

Clearly, however, measurement of organizational outcomes is a complex science. And there are distinctive differences between short-term and long-term measures. Which time frame is important for a particular activity, and which dimensions of performance, depends entirely on the specific situation.

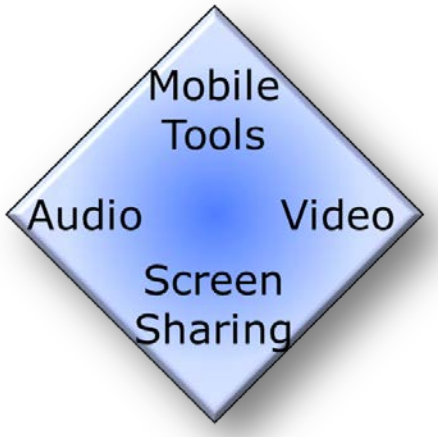
The only broad generalization we can offer here is to pay attention to both questions, and be very clear with everyone involved (and external stakeholders as well) which measures apply in which situation.

Individual Outcomes

The individual results of collaborative activity are similar, but certainly more personal:

- Achieving personal performance goals
- Opening up new career opportunities or future project assignments
- Establishing or strengthening personal relationships
- Enhancing a personal reputation
- Developing new skills
- Acquiring new experiences
- Learning new ways of thinking (from other participants)

The Technologies of Distance Collaboration



This section describes the basic tools of distance collaboration and identifies their primary uses and basic impacts on collaboration. The next section will then offer specific tips on how to use them.

Given our focus on real-time collaboration among people who are in different physical locations, we will discuss only four basic technologies:

1. Mobile technologies
2. Audio
3. Screen sharing
4. Video

Of course, there are many underlying or "platform" technologies that have made these four kinds of tools possible—such as the Internet itself and wireless connectivity. Plus there are all kinds of specialized tools that support distributed collaboration and communication—tools like social networking, document repositories, collaborative white boards, and so on.

But since we are focusing on the "Same Time/Different Place" quadrant of that Johansen/Sibbet model (Figure Two, above), we will restrict ourselves to these four technologies.

First we'll describe each tool, including its strengths and limitations, and then we will end the report with a very practical list of tips and techniques for using these tools to enhance real-time distance collaboration.

In all honesty, however, we'll deal with mobility, audio, and screen sharing very briefly, because as important as each of them is, they pale in comparison to the impact that real-time video is having, and will have, on the way we collaborate.

Mobility

The growth of smart phones, notebooks, and tablet computers in the last five years has been nothing short of stunning. Because of an equally explosive growth in the availability of wireless Internet access (WiFi) and the evolution of cell phone networks from 3G to 4G and beyond, the workforce has truly become mobile (see the earlier section on Workforce Mobility, beginning on page 7, for data showing how widespread mobile work is, and how rapidly it is growing).

In the fourth quarter of 2010 the number of mobile devices surpassed the number of PC's for the first time; sales were estimated at almost 101 million devices, up 87% from the same period a year earlier.[xvi]

But what really matters for our purposes are the features that are now available on these mobile devices. While the new iPhone 4S (released in early October 2011) has received extensive publicity in recent weeks, powerful,

low-cost high-definition video cameras and person-to-person video calling have already been available for many years.

And there are many very low-cost or free apps available for mobile devices today that make it very easy for individuals to access their office files from almost anywhere (using GoToMyPC® for iPhone for example), or to hold video calls with most smart phones.

Audio

Audio—plain old voice-based telephone technology—has been around for over 100 years. It is, of course, the basic technology that first enabled us to communicate and collaborate with other people in other places, and that has powered distributed work for many decades.

But in 2011 audio technology is a whole lot more than "plain old telephone service." Three things have changed:

1. **Cell phones are now more common than wired landlines,** and more central to distance collaboration. Indeed, the old pay phones that used to be everywhere from gas stations to airports to hotels and hospitals have all but disappeared, since so many of us now carry our own cell phones with us at all times.

2. **Growth in audio has been driven almost exclusively by Voice over IP, or VOIP—**

voice transmission over the Internet rather than over traditional landlines. This technology shift has driven calling costs for most people almost to zero, today there are several companies offering free Internet calls literally anywhere on the planet.

3. **Conference calling has become far easier and also less expensive.** Conference call providers have sprung up everywhere, with many of them offering free conferencing capabilities (they make their money by charging participants for long-distance calls using traditional landline technology).

As noted earlier, most of us learned to conduct real-time collaboration with other people in other locations using the telephone. And today many people still believe that voice-only conversations are fully adequate for their distance collaboration needs.

Audio-only calls today are generally of very high quality, and when people have previously met someone in person they seem to feel they can interpret the conversation well enough by relying only on tone of voice, pitch, and pace—the only information that an audio call carries on top of the literal content of the spoken words.

In spite of increased use, personal video calls continue to be seen as an unnecessary “luxury.”We

will discuss this “resistance” to video in more detail below—and suggest that in actuality the visual nonverbal cues that come with video enable a far richer and more meaningful communication—and therefore enhanced collaboration outcomes.

For now, though, just note that the habits formed when audio calls were our only form of distance communication are deeply entrenched, particularly in the age 40-plus Gen-Xers and Boomers still active in the workplace.

Screen Sharing and Application Sharing

Sharing a computer screen over the Internet was one of the early forms of remote collaboration. There are two dominant "modes" of screen sharing:

1. **"Webcasting,"** or webinars, in which one person's screen is broadcast widely to a large number of people. Webcasting is most commonly used as a way to create virtual, or distributed presentations.

   Webinars use screen sharing applications in combination with either computer-based VOIP or traditional audio conference calls to present information to large remote groups. Many online or "distance learning" programs depend heavily on screen sharing.

2. So-called **"virtual" meetings**, in which smaller numbers of people hold interactive online conversations, which often include real-time creation of content that all participants can see and even add to from wherever they are located.

Video

Video is the newest, and by far the most important, of the collaboration technologies.

Video has become a far bigger part of our life and work experience in the last five years. Just think of the many ways we now rely on—and often create—video for information and communication:

- Broadcast television (both live and time-shifted; with cable and satellite there are now several hundred channels of video available 24 hours a day);
- YouTube, Hulu, and other online websites that provide both live and recorded clips of all kinds (in 2010 U.S. Internet viewers were streaming 71 videos a month, or about 2 per day[xvii]) ;
- "Always-on" webcams displaying weather, traffic, eagle chicklets, in-store surveillance, and many other remote views;
- Embedded video cameras in smart phones that are being used for personal video calls, for recording family events, and for recording and posting sports events, political protests, and concert performances; and
- Many customer support websites and some bank ATM's that now offer real-time video chats with service representatives.

Video is not just something that's produced by major studios and broadcast to the world, either. There are well over 2 billion mobile phones in use around the world; about 25% of them, or 500 million, are smart phones with video recording and playback capability. While not every

Video technologies are improving dramatically and rapidly, supporting mobile and ubiquitous real-time video experiences. Low-cost, simple platforms for real-time video will become an essential part of the way we communicate with each other, and will spawn the next generation of consumer behavior, business practice, media culture and economics, and innovation policy.

- Institute for the Future (2009)

smart phone user is a regular videographer, it's a safe bet that several hundred million people have recorded personal videos of one kind or another.

And Instat, a market research firm focused on the video marketplace, estimates that mobile video calling will be a $1 billion marketplace by 2015. Instat estimates the number of mobile video callers will grow at a 115 percent compound annual growth rate for at least the next four years.[xviii] That's more than doubling every year.

The assimilation of video into our lives has been driven by dramatic improvements in quality (high-definition video and expanded bandwidth that enable that video to be streamed in real time) and equally impressive reductions in cost. Just consider:

- There are over *2 billion* YouTube viewings per day (100 million of those are seen on mobile devices); [xix]
- Every minute of every day there are 600 new videos (totaling 35 hours of video footage) uploaded to YouTube (that is more video uploaded every 60 days than the three major U.S. networks produced in 60 years);[xx]
- There are well over 2 billion mobile phones in use around the world; at least 25% of them have video recording capability.

Indeed, in 2011 millions of people in the industrialized world have become "people of the screen."[xxi] We do not just watch network television as passive observers

"Our virtual organization depends on GoToMeeting with HDFaces video conferencing to maintain the company culture and promote teamwork. We get tremendous value from video conferencing when we're demoing a new product to our staff because the reactions—positive or negative—are right there on people's faces."

- Mike Huska, CTO, Incential Software

anymore; we choose from literally hundreds of cable channels and on-line websites.

More profoundly, we have become active *producers* of video ourselves. As individuals we use inexpensive video cameras, smart phones, and webcams attached to our PCs and laptops. We use these tools to record personal events like births, birthdays, and weddings, as well as to capture our own versions of sporting events, and our personal experiences (skiing, biking, sailing, running, hiking, hunting, or just plain talking to friends and family).

Most of these personal videos are never transmitted anywhere, but an increasing number of them do show up on YouTube, Facebook, and other social networking and archival websites.

And of course the popular press has documented how impactful video clips have been in many public events like the “Arab Spring” of 2011, and even in the more recent “Occupy Wall Street” demonstrations around the United States. Those video recordings are often used to provide evidence of arrests and the behaviors that preceded them, or just to publicize and share the experiences.

And as a society we rely on all kinds of remote video and webcams for real-time news about weather, traffic conditions, crowd activity, and surveillance of stores, back alleys, building lobbies, and other locations where bad things could happen. Police and firemen even record their own activities, whether documenting a speeding car, an

arrest, or a house fire. These video records have become an increasingly important part of court proceedings.

Personal and non-broadcast video of all kinds have clearly become an important—and familiar—part of our lives. And video is certainly becoming an essential tool for enhancing distance collaboration.

Assessing Collaborative Technologies

The Institute for the Future suggests three primary ways to evaluate video tools, [xxii] but these criteria can actually be applied to any collaborative technology:

1. **Simplicity**. Is the technology easy to use, especially for a non-technical person?

2. **Quality**. What is the level of performance? Is an audio call easy to hear, with clean, high-fidelity sound? Does a screen-sharing system transmit clear, crisp images with little or no delay? Is a video transmission of adequate resolution? Are voice and video in sync?

3. **Engagement**. Are the meeting participants learning to share their ideas and experiences just as effectively as if they were all in the same room?

These three criteria are being met when the collaborative technology is essential invisible. That is, if the meeting participants don't have to think about the technology, or even forget that it's there, then the tools are doing their job.

> *"We experimented with the GoToMeeting HDFaces video conferencing capability for an executive team meeting. I expected the remote attendees would need some basic support to get started, but* ***everyone connected without needing assistance.*** *Even more important, attendees were really* ***excited about the quality*** *of the video and how easy it was to use." [emphasis added]*
>
> - Tyler West, Sr. Mgr. of IT Services, Best Friends Animal Society

Tips for Collaborating Effectively at a Distance

With all this background, the question remains: what can you do individually to ensure that your distance collaboration activities are productive and effective—and that the experience has the *simplicity* and *quality* needed to produce the *engagement* you seek?

We will first offer general guidance using the P3T5 model described earlier. Then we will turn very specifically to how to use the newest technology, video conferencing, most effectively.

Basic Guidelines

Here's a simple checklist of questions to ask before you launch a remote collaboration activity.

First, Understand the Game

Purpose (The Objective of the Game)

- What are the specific goals of the collaboration effort? How will you know you have achieved your goals?
- Do all the stakeholders (whether or not they are active participants) share these goals? If not, are

Guidelines for Effective Distance Collaboration

- Be clear about desired outcomes
- Agree on the "rules of the game"
- Review all pre-existing relationships
- Build trust
- Ensure transparency
- Use *appropriate* technologies
- Plan and lead distributed meetings carefully

there ways to make everyone a winner? Or to mitigate any potential perceived losses?

Process (The Rules of the Game)

- Are the processes and procedures for working together clearly stated, and widely understood?
- Do all participants understand the "rules" and agree with the plans for moving forward?

People (The Players)

- How well do you know all the people involved?
- Do the participants have the requisite skills to be effective partners in the collaborative activity?
- Do the participants share the goals of the effort? Do any of them have additional, more personal goals or "agendas" that could either enable or detract from the group's accomplishments?

Second, Define the Playing Field

In addition to the tools, techniques, and training that support collaborative activity, it is critically important to focus on two components of any work environment: establishing trust and acting with transparency.

Trust and Transparency

Trust and Transparency are two sides of the same coin. Together they will determine the way any collaborative activity unfolds and what kinds of Outcomes it produces.

Trust exists between people or groups when there is a belief that what is said will be done—that commitments are honored, and that everyone acts with the interests of everyone else in mind. Someone who is trustworthy can be relied on to do what he says he will do, and who speaks with candor and honesty.

Trust grows out of experience. We learn to trust others when we see that they mean what they say, they say what they mean, and their actions are consistent with their words.

Transparency refers to having all the cards on the table—out in the open. Transparency exists when no one is hiding their goals or withholding resources, and when everyone knows what the rules of the game are, and plays by them.

Technologies

Use appropriate technologies. That is, be sure you have access to high-quality collaboration tools that support the way you are working. But don't go overboard, either; keep it simple. One of the worst things that can happen during any remote collaboration activity is to have participants be overwhelmed by, or incapable of using, the technologies that are supposed to make life easier.

Leading Distributed Meetings[xxiii]

There are five specific things any leader of a distributed meeting must remember, whether the meeting is an audio conference call, a web meeting with screen sharing, a video call, or a combined multimedia session:

1. Publish an explicit agenda ahead of time; encourage invitees to comment on or enhance the agenda

2. Establish meeting "etiquette"—guidelines for speaking, listening, debating, and so on. Ask that everyone stay "tuned in" to the meeting and not attempt to multitask (e.g., checking email, reading unrelated materials, etc.)

3. Be sure everyone knows how to use the technology; schedule separate "training" sessions ahead of the meeting(s) if necessary. Provide participants with a checklist for using the collaborative tools effectively.

Leading Distributed Meetings

1. Publish an agenda
2. Agree on meeting etiquette
3. Ensure technology know-how
4. Check in" with each participant
5. Draw everyone out; respond nonjudgmentally

4. Spend the first few minutes of the meeting "checking in" with other attendees; ask for personal news and updates as well as business-related activities.
5. Respond to comments from others non-judgmentally; listen carefully and look for emotional content of comments; draw out the quiet members of the team; ensure that everyone has an opportunity to speak and express their ideas/opinions.

Making Personal Video Work for You

Finally, we end this report with a very practical, hands-on guide to using video as a distance collaboration technology.

Just as we no longer have to go *to* a telephone to make a phone call (because the phone is always with us), we no longer have to go to a large, expensive video conference room to participate in a video meeting.

Thus we are using the term "personal video" to encompass desktop webcams and video from mobile devices like smart phones or tablet computers—all in contrast to those large-scale video conferencing setups based in custom-designed and specially–equipped conference rooms.

Video is still so new to the workplace, and is such an information-rich medium, that many people do not realize how much difference some very practical and exceedingly simple techniques can make.

Six Steps to Success[xxiv]

Remember the technology effectiveness criteria we cited earlier, from the Institute for the Future: collaborative tools must be **simple** and **high-quality**, and they must help **engage participants**.

The three most common complaints from video meeting participants are these:

- cluttered backgrounds that distract attention away from the speaker's face and hand gestures (which after all are the primary benefits of video calls);
- dim lighting; it's hard to see people's faces; and
- distracting mannerisms and gestures[xxv]

Not addressing these simple challenges means basically throwing out all the potential benefits you can gain from using video to enrich your conversations and decision-making.

To increase the effectiveness of your video meetings follow these six simple steps to success:

1. Eliminate distractions—both visual and audio

Look around you: clean up the space behind you (it will show up when the web cam is in front of you). Reduce side- and back-lighting from windows or bright lights.

And do your best to reduce external noise, whether from nearby people, or from around the space where you are taking the call. Try to avoid taking video calls from coffee

Making the Most of Personal Video

1. Eliminate visual and auditory distractions
2. Use a headset
3. Look directly at the camera
4. Pay attention to what others are seeing
5. Minimize distracting behaviors
6. Use all your presentation resources

shops or other public areas where you can't control the surrounding noise.

2. *Use a headset*

Area microphones built into desktop and laptop computers (and to smart phones and tablets too) pick up all nearby sounds. A headset microphone and ear speakers will help you hear the others on the call, and similarly they will be able to hear you much better.

3. *Position the webcam directly above the computer screen, and look directly at it as much as possible.*

Webcams work best when they are positioned just above and at the center of the computer screen (that's where all built-in cameras are located). That makes it much easier for you to achieve virtual eye contact with the other participants. And eye contact is absolutely central to the establishment of trust and transparency in any meeting, let alone a virtual one.

4. *Pay attention to what the other attendees are seeing*

Set up a practice session if at all possible. And at the very least, look carefully at the video image from your own camera. Don't sit too close to the camera yourself (it will exaggerate your face and expressions, and seem abnormal to the other participants).

5. *Minimize behavioral distractions*

Again, think about what others are seeing. Avoid tapping your pen on the desk, or scratching your face. Those kinds of extraneous actions are magnified many times over on a video screen.

Remember too that you are "on camera" even when you are not speaking. Fidgeting, scratching your nose, or making a face will be seen by other participants, and can be both distracting and actually detrimental to the meeting if your

nonverbal gestures convey your disagreement or disapproval of what others are saying.

6. Use all the presentation resources you have available

Video meetings are as much about what is on your computer screen as they are about your facial expressions and hand gestures. If you are using a tool like PowerPoint, use it well; the same rules that apply to large-group presentations apply to screen sharing meetings. And use the computer cursor/pointer to advantage as well.

Conclusions and Questions for the Future

It is very clear that collaboration of all kinds and remote collaboration in particular are at the heart of organizational work today.

Yet, as we have suggested, the future of work will also be far more distributed and mobile than ever before. Technology is enabling people to spend more and more time outside of corporate facilities, thereby reducing opportunities for in-person interaction, while maintaining the same (if not increased) level of productivity.

We depend today not just on telephones but on a wide variety of Internet-based tools to connect with other people all over the globe. And with the costs of remote connectivity going down at the same time the quality is continuing to go up, more and more remote interactions are occurring in real time.

But the single most important development in the last several years has been the explosive growth of personal video as a means of communication. Whether in recorded form or in real-time, personal video is changing the way we interact with each other across time and space.

Yet in spite of the dramatic growth in the use of video for distance collaboration it is still a much underused tool.

We have come to believe that there are three primary reasons for the low level of personal video use, and lack of access to the technology is not one of them. We believe video is underutilized because:

1. Its value in enriching communication and enhancing personal relationships is not well understood or appreciated.

2. Old habits die hard. Most of us have become accustomed to audio-only calls after decades of experience; and when we already know someone well, we believe we that we can decipher their messages just as well from listening alone. Thus we don't make the extra effort to set up a video call.

3. In spite of how easy it is to use personal video, it does require some extra effort, and most people believe it is far more difficult than it is.

However, we also believe that these barriers are breaking down. The cost of video continues to drop. Virtually all smart phones and most laptop computers now come with embedded video cameras, as well as pre-installed video calling applications.

When 25% or so of any group becomes comfortable with a new technology, or uses it regularly, that technology passes the so-called "tipping point." We are very near, or perhaps even a bit beyond, that point with personal video.

Questions for Future Research

We have suggested several ways to improve the quality of distance collaboration activities. Our perspectives are informed primarily from our personal experience, and secondarily from existing research. However, we believe more formal study would help build understanding of the factors and techniques outlined here. We want to encourage future research focused on the following kinds of questions:

- What are the barriers to using personal video? Why isn't personal video more widely used?
- What techniques are most important in conducting personal video calls (both individual and group)?
- What kind of impact does the addition of video have on problem-solving, innovation, group decision-making, and working relationships?

We believe there is a need for both more case studies (detailed stories of how video affects both organizational and individual outcomes) and more survey-based and quantitative analysis of the causes and effects of personal video usage.

Endnotes

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[xxi] Jake Dunagan and Mike Leibhold, "The Future of Real-Time Video Communication," Institute for the Future, November, 2009. Accessed online October 2011.

[xxii] Dunagan and Leibhold, *op. cit.*, p.22.

[xxiii] See James Ware, "Managing People You Can't See" (Citrix Online®, April 2011) for a much more detailed discussion of how to form distributed teams and lead virtual meetings.

[xxiv] This section draws heavily on two reports prepared for Citrix Online® by the 1080 Group: "Boost Your Image: Master the Three Stages of Videoconference Success" (August 2011) and "12 Tips for Better Video Conferencing (August 2011).

[xxv] 1080 Group, "Boost Your Image: Master the Three Stages of Videoconference Success," for Citrix Online®, August 2011.

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