

The Virtual Workforce: A Shifting Paradigm

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This project was funded by a grant from Microsoft.

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ABSTRACT

Dynamics that do not exist in face-to-face interactions—including distance, different cultures, a wide range of time zones, and communications barriers—mean virtual teams face unique challenges. But there are steps you can take to enhance trust and foster leadership, effective collaboration, and innovation in virtual workgroups.

Working virtually seems like it would be a straightforward, non-stressful proposition, right? After all, you can lead a global team project while you put your feet up on the desk, sip a cup of coffee, and conduct most of the necessary communications via e-mail. The bulk of your work will be done using collaboration tools. You will have teleconferences and Web conferences here and there. But working virtually should not be a problem.

A typical project begins with a kick-off conference call. But that call turns out to be difficult to schedule, because the team is scattered over a wide range of time zones. It is either 6:00 in the morning for someone or 10:00 at night for someone else, if the entire team is to be on the call. Finally, you successfully schedule the call, and it starts out well. Immediately following the introductory remarks by each team member—some of whom are difficult to understand—however, you notice that participation in the call is not exactly balanced. Still, it is early days, and you know a few of the people on the team from prior assignments. You do not know much about the others, though.

After the call, you realize you hardly got any input from either the people in China or those on the West Coast. And the two people in India who work for a contractor did not really seem to grasp

the vision for the project. At this point, you realize working with a virtual team is not going to be as easy as you originally thought. As the project progresses, you spend inordinate amounts of time overcoming misunderstandings, facilitating communication between team members, and getting day-to-day tasks accomplished without too much lag time. The management overhead is higher than you imagined. By the end of the project, you are asking yourself if the vision was truly fulfilled—or if the project could have been handled a better way.

As this example shows, virtual work is different from traditional, in-the-office work in many ways. To begin with, it is difficult and expensive to meet face to face. As a result, much of our innate visual communication abilities and interpretation skills are useless most of the time. We cannot, for example, walk down the hall and drop into someone's office for a quick chat about a vexing problem. In addition, it is not as easy to get feedback from people. And finally, it is often difficult to know whether all of a team's members understand what all of the other members are trying to communicate as a project progresses.

The obvious geographical factor is not the only challenge. Cultural, organizational, and social issues arise among

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Virtual distance challenges...

- Geography
- Culture
- Organization
- Social issues

...and goals for success:

- Building trust
 - Developing effective leadership skills
 - Innovating in virtual space
-

people who work together—even when they are in the same physical location. These problems lead to major challenges. Although not as salient when a team is collocated, they lead to Virtual Distance. Defined as the psychological or emotional distance between people who interact primarily through technology rather than face to face¹, Virtual Distance is brought on by a combination of geographic, technological, and socio-cultural factors.

Research conducted by Virtual Distance International (VDI) shows that the “Big 3” challenges brought on by virtual work are:

- Building trust
- Innovating in virtual space
- Developing effective leadership skills

These challenges are made more difficult as emotional and psychological distance between coworkers becomes greater—as Virtual Distance increases. The rest of this paper describes the “Big 3” challenges in more detail and concludes with some recommendations and best practices to enhance trust, innovation, and effective leadership in virtual workgroups.

The “Big 3” Challenges Posed by Virtual Workgroups

The “Big 3” challenges are some of the most serious difficulties faced by organizations that rely on virtual workforces and global business models. Problems arise in large part because of high levels of Virtual Distance, in addition to rapidly accelerating technological advancements and globalization of resources.

Building Trust in Virtual Space

Trust is a critical component of effective organizational performance. It lets us focus on getting the work done, rather than spending time and energy worrying about politics, personality conflicts, and arbitrary punishments.

VDI’s research shows that when two or more people are unacquainted, distance—or even the perception of distance—leads to less cooperation, an inability to persuade others, and lowered trust. Therefore, globally distributed teams in the Digital Age are at a clear disadvantage when it comes to developing trust.

But what makes one person trust another person in the first place? How much we trust another person depends on the following three crucial factors:

- The expectation that the organization—or the contractual relationship between

two organizations—provides mechanisms or sanctions to ensure that people will behave in a trustworthy manner; that is, they will do what they say they will do. This is also known as *Cognitive Trust*. Two individuals might internalize this as, “We are both in this contractual relationship, and we will both get rewarded or punished based on how we perform and behave.”

- An individual’s *Propensity to Trust*. This propensity varies from person to person. It can be measured, however, and this willingness has been linked to trust in organizational settings. People with a high propensity to trust are more likely to trust coworkers in a virtual setting, even if they know nothing about them.
- The perception of another’s *Trustworthiness*. Based on one person’s perceptions and experiences with another person, trustworthiness consists of three facets: benevolence, integrity, and ability. Benevolence is the perception that a person has your best interests in mind and will be caring and helpful. Integrity is the perception of another’s honesty and consistency in delivering on promises, in addition to being a

person who is believed to be fair. Ability is the perception that another person is competent and has the necessary skills to perform successfully.

Virtual Distance research tells us that the first two factors, Cognitive Trust and Propensity to Trust, play an important role *at the beginning of a project*. Over time, however, it is the third factor—Trustworthiness—that plays the key role in building effective relationships within virtual teams as a project progresses.

Until the Virtual Distance Model, which incorporates the Physical, Operational and Affinity Distance factorsⁱ that contribute to the psychological and emotional distance of individuals working virtually, was conceived, a majority of research on trust in the virtual workplace was conducted by manipulating the perception of geographic distance. Experiments were based on scenarios where the subjects were told they were working with others who were either thousands of miles away or in the same city. This approach, however, has limitations for researchers that make it difficult to translate their findings into useful recommendations for practitioners.

Using only geographic manipulation in research has led to some interesting findings. In the real world, however, geographic distance may be a reality that is either difficult or impossible to overcome. Focusing only on geography misses an important point: Most teams today, regardless of their geographic distribution, use both electronic and other means of communication interchangeably on a regular basis. Who among us uses only face-to-face interaction or only e-mail for their communications? It is not likely that we rely solely on one method versus the other.

As VDI's research shows, Virtual Distance arises only partially from geographic distance. It can plague the work setting even when team members are collocated. Therefore, VDI has found various ways to improve trust and develop strong bonds among virtual coworkers that may not involve overcoming spatial distance.

Innovating in Virtual Space

Virtual teams offer organizations the opportunity to include a diversity of expertise that is often the key to developing innovative products and services. Many companies, however, are struggling to understand how to manage the innovation process when teams are virtual and distributed. Some have even gone so far as to ask, "Can innovation be successful in the virtual workspace?"

To innovate effectively, some organizations—including the consumer products group at GlaxoSmithKline and the IT group at Hewlett-Packard—collocate people. Others, like the consulting firm Accenture and retailer Best Buy, operate with the assumption that working from anywhere at any time is the best way forward—as long as deliverables are in on time and on budget, of course. Although opinions vary, most are derived from subjective experience. They are based on only one or two examples or on personal proclivities about work habits and environment.

VDI recently reviewed a number of empirical studies that focus on innovation in the workplace and compare collocated teams to virtual teams. The results were somewhat surprising. Among the 12 studies we reviewed, there was only a minimal difference between innovation successes with distributed teams and those with collocated teams. In fact, less than 1 percent of the variance in success rates was a result of collocation!

Our research confirms that innovation can be successful when done virtually. Clearly, this is good news. More often than not, Digital Age innovation requires expertise that may be difficult to get locally. What is not yet clear is how to effectively go about managing innovation virtually.

VDI's past research on new product development may provide a useful starting point to better managing innovation in the virtual workspace. Our findings show the following five keys to highly successful new product development:

More often than not, Digital Age innovation requires expertise that may be difficult to get locally. What is not yet clear is how to effectively go about managing innovation virtually.

Collocated teams often use a 'war room' as not only an actual but also a symbolic location for exchanging information during a project.

- A clear and stable vision
- Effective teamwork
- Superior information exchange
- Good process
- Top management support

The same factors apply when companies with geographically separated teams seek to innovate. Unlike traditional innovation initiatives, however, these key characteristics are highly susceptible to the Virtual Distance borne of the Digital Age.

One of the keys to innovation—exchanging information during a project—means that tacit knowledge becomes explicit, mistakes are used as a basis for learning, and learning is documented in a way that is accessible to all team members. Information exchange is also a way of transmitting the culture of a project and helping to create a Shared Mental Model (SMM). An SMM means that everyone on the team has a common understanding of the vision, goals, or mission, and that everyone knows what everyone else is supposed to do, when they are supposed to do it, and how they are going to do it.

Collocated teams often use a “war room” as not only an actual but also a symbolic location for exchanging information during a project. Consider the following description of the war room for the Apple IIE project:

We had captured in there [the war room] really the knowledge and insight of the company [and others outside the company]. It was a place where we could really capture all the fears, issues, concerns, constructive criticism, and so on, and people could relate from their past experiences very quickly to where their concerns were. To us, it [the room] became almost the brain of the project, because we could capture the ideas, the information, and the input on a real-time basis, and we could update people very quickly. So if any one of the executive staff wanted to see where we were on the project, we could bring them into the room

*and show them the time line and where different elements were.*ⁱⁱⁱ

In a global virtual team, what is the equivalent of a war room? Knowledge repositories can be used to post, archive, and share information. But the real trick is replicating the informal and almost casual experience of walking through a war room. The key to success is getting team members into the habit of both visiting the knowledge repository and contributing information to it.

Developing Effective Leadership Skills in Virtual Space

A century of research on leadership has produced a variety of different, and sometimes conflicting, models. Currently, the most popular leadership model is called Transformational Leadership. It includes the following four types of behavior:

- **Idealized influence**, which refers to those actions of a leader that demonstrate that person's vision, values, and beliefs and that create a sense of identification with the leader among team members.
- **Individualized consideration**, which encourages and promotes each team member's sense of self-efficacy.
- **Inspirational motivation**, which mobilizes the team toward goals that are articulated by a clear vision.
- **Intellectual stimulation**, which involves bringing each team member into the development of the solution.

Jointly, these four behaviors contribute to each team member's sense of ownership and commitment to the overall goals and tasks of the project. Unfortunately, Transformational Leadership has been studied almost exclusively with either collocated teams or organizations that are usually culturally and organizationally homogeneous.

Today's virtual workgroups, however, could not look more different to the teams that existed in traditional, Industrial Age, vertical, and closed corporate structures. Therefore, the underlying assumptions on which past

leadership models were built need to be reexamined and recontextualized to understand how they may or may not apply to today's global workforce.

During VDI's research, we discovered that many of the old-world leadership behaviors are out of step with the modern-day worker and concluded that a different approach to leadership is needed. To that end, we developed a new leadership model, called *Ambassadorial Leadership*[™], which better meets the challenges of managing and effectively motivating the 21st Century worker.

Ambassadorial Leadership views the leader as an ambassador. Engaging in many of the same activities as a traditional ambassador, this leader's goal is to span boundaries. Ambassadorial leaders must understand the cultural, organizational, sociological, and relationship factors that impact Virtual Distance and learn how to minimize these challenges among team members. This understanding can help leaders better manage virtual relationships.

Ambassadorial leaders also share leadership duties with Organizational Attachés[™], who

are the local representatives of the ambassador. Like ambassadors, attachés can span organizational and cultural boundaries. Attachés can also provide valuable guidance and advice to ambassadorial leaders. Having a local attaché empowered to manage conflict, for example, is one way to manage widely distributed staff, because that attaché understands the local culture, work norms, and beliefs.

In the end, tasks need to be done and goals need to be met. Effective leaders get people to focus not only on the job at hand but also on the organization's overall mission. We have good tools for project management, and we even have algorithms for dealing with task interdependence.

Project plans and details often are not shared unilaterally, even in collocated teams. But plans are dynamic, and changes need to be communicated. Task focus must be monitored and reinforced. With globally distributed teams, it is often difficult for one person to do this effectively. Therefore, an ambassadorial leader with worldwide attachés is a necessary ingredient in the recipe for global success.

At the heart of all productive work lies effective communication.

Ambassadorial leaders must understand the cultural, organizational, sociological, and relationship factors that impact Virtual Distance and learn how to minimize these challenges among team members.

Recommendations for Overcoming the "Big 3" Challenges Posed by Virtual Workgroups

So far, we have discussed how virtual workgroup dynamics can impact the global business model. In this section, we will discuss and summarize best practices and tools that can help close the gap on many of these issues.

At the heart of all productive work lies effective communication. Without it, organizations can struggle to get even the most basic and minimal performance out of the workforce. Therefore, the first best practice VDI proposes is to revisit whether communications among virtual team members are functioning as they should or whether there are problems that need to be solved.

High-performing teams communicate fluidly. One of the most important enablers of meaningful and effective team communication is a Shared Mental Model. An SMM implies that everyone on the team is working with the same contextual information. Think of a highly successful soccer team. All of the players understand the game plan, what each player's position is, and how they can support and enhance each other's performance and the team as a whole.

The lack of an SMM, and a common context, can affect communication in virtual workgroups. In addition, geographic differences can force a reliance on asynchronous

Virtual innovation, like new product development, requires:

- A clear and stable vision
 - Effective teamwork
 - Superior information exchange
 - Good process
 - Top management support
-

communication, which can be ambiguous or equivocal, meaning that feedback loops may be longer and that task completion may be delayed.

Cultural and social differences compound these communication issues. For example, people in China generally uphold a collectivist culture with high degree of social distance, and they are often reluctant to ask clarifying questions for fear of “losing face.” People in the United States, on the other hand, are generally individualists, give very little thought to rank or affiliation, and are unafraid to ask any number of clarifying questions.

When Virtual Distance is high, all of these issues can damage communication. Therefore, to enhance communication, we must overcome Virtual Distance.

One way is to rethink the three basic building blocks of communication—Context, Information Exchange, and *Meaning and Its Interpretation*—and to apply each block to the virtual team.

Context provides the backdrop against which everything else is interpreted. For example, on a soccer team, every player knows the basic rules, how big the field is, and where the field boundaries are. This gives the players a common physical and mental context in which to play the game. And this context is the same regardless of where or when the game is played.

In virtual work, however, a common context does not necessarily exist. When people are physically separated, their environmental context—the temperature, the lighting, the noise levels, and so on—will almost always be different. Because it is not shared, the environment may be viewed in another way.

The equivalent of a shared mental context, sometimes called a “common worldview,” is also lacking in virtual work environments. Because context provides the raw material of meaning and interpretation, it is no surprise that miscommunication is a staple of the virtual workers’ communication diet.

Information exchange, which involves “swapping data,” is only straightforward when both parties—the sender and the receiver—can garner something useful out of that data. Therefore, language differences and a jagged rhythm or cadence can often lead to problems in an information exchange.

Lastly, making sure that the receiver of an e-mail or any other written communication appropriately interprets the meaning of that message is the most important element in developing a shared understanding. When barriers such as mistrust, non-inventiveness, and ineffective leadership are combined with the difficulties involved in establishing a common context and developing free-flowing information exchange, achieving a shared understanding and meaningful communication is almost impossible. Not only does this pose an organizational problem, but it also becomes highly frustrating for the individuals involved and may affect their motivation.

One of an ambassadorial leader’s most important tasks is to be “context sensitive”: To help team members understand each other’s circumstances, from both a physical and a mental perspective.

VDI had one client, for example, who told us he would never schedule a conference call for those in Chennai, India, when it was late at night their time. The reason, he explained, was because it was very difficult for people to get to a phone at that hour. It was dangerous for many of these workers to get from their homes to the office and, more importantly, trekking through the streets of that city at late hours was quite offensive to the senses. Comparatively, it was a piece of cake for him to get up in the middle of the night. So he always scheduled calls at times that were convenient for these team members, rather than for himself.

Such sensitivity to team members’ needs builds higher levels of commitment and satisfaction.

Other things may improve communication among team members. These include the following:

- Meet face to face at the beginning of large, complex projects that require people to interact over long periods of time. We often get pushback from managers, because travel budgets are constrained or eliminated all together. But having team members get together initially will avoid many problems, including higher costs, missed deadlines, and other adverse financial situations, down the road. It will also foster good crisis management, should the need arise.
- Use e-mail sparingly. Make it a practice to use e-mail only for the most straightforward messages, like setting appointments or sharing files. For longer discussions that involve problem solving, conflict resolution, personal feedback, or any other issue that might stir up emotions, use a phone or videoconferencing. Discussing such matters in e-mail should be avoided; it is sure to cause misunderstandings that can lead to destructive conflict later on.

When it is not possible to meet face to face, phone and video provide the most personal cues. In these alternative communication methods it is possible to set the context, have useful data exchange, and establish a shared understanding with the highest probability of success. Voice intonation, for example, can be a powerful way for team members to better interpret other members' meaning and context.

- Train leaders on Ambassadorial Leadership techniques and ensure that Organizational Attachés are developed to bridge cultural boundaries and further open the lines of communication between team members.

In addition to enhancing communications, best practices should be developed to overcome not only trust issues but also innovation and leadership challenges, as summarized in the following table:

How to improve communication among team members:

- Meet face to face at the beginning of large, complex projects that will extend over a long period of time.
 - Use e-mail sparingly. For longer discussions that involve any type of personal feedback, use a phone or videoconferencing.
 - Train leaders to further the lines of communication among group members.
 - Develop practices to overcome trust issues, in addition to innovation and leadership challenges.
-

Practice/Tool	Trust	Innovation	Leadership
Developing a Project or Organizational Culture	Set expectations around norms and state values that reinforce integrity and create expectations that people will behave in a trustworthy and benevolent manner.	Establish group norms and values that stress openness, innovation, and collaborative solutions.	Develop a “super-culture”—one that leaves intact existing culture and builds upon it. Stress empowerment and shared leadership.
Monitoring	Reward helping (organizational citizenship behavior). Monitor relationships and conflict through e-mail threads, virtual meetings, and personal visits.	Set clear goals and time lines. Monitor performance through shared leadership and shuttle diplomacy. Ask those involved to self-rate progress and success levels.	Visit team members and attachés periodically face to face. Monitor performance through shared workspaces, electronic communications, e-mail threads, and periodic conversations.

3 basic building blocks of communication:

- Context—knowing the basic rules
- Information Exchange—swapping useful, straight-forward data
- Meaning and Interpretation—achieving a shared understanding

Selection	Select individuals with requisite competencies, especially a high propensity to trust others.	Select individuals who are personally interested in the project (self-selected) and who are open to new experiences. Look for those who have high levels of self-motivation and a track record of successfully working in virtual innovation teams.	Select leaders with cross-cultural experience or interest and a capacity to share power. Leaders should have established informal status among team members as a result of their contributions and their formal status in prior assignments.
Recognition	Recognize helping behaviors in virtual forums, through attachés, and personal visits.	Recognize and reward new ideas, collaborative problem solving, and goal performance.	Make sure leaders recognize team members by reporting successes and other contributions to a wide group, including a broad range of peers and senior management. Conduct virtual reward ceremonies. Report to functional managers on employee behavior.
Teleconferences	Use the beginning of video/audio conferences to share personal information and build relationships.	Focus on divergent and new ideas during some part of teleconferences. If trust has been established, encourage productive dissent to mine additional ideas and approaches to the innovation process.	Use teleconferences to reinforce vision, celebrate successes, and recognize key individuals or sub-teams.
Project Management Software	Communicate planning, changes in plans, and resource interdependencies.	Include results of prototypes, test versions, and other resources.	Keep track of task performance with input from attachés.
Develop Shared Repositories	Encourage team members to share examples of collaborative efforts.	Generate and evaluate ideas. Post learning and encourage tacit knowledge exchange.	Allow all team members to keep track of progress and see relationships between other tasks and the project as a whole.
Team Web site	Include team members' professional and personal background, expertise, and experience.	Use as a community point for practice information on seminars, books, Webinars, and so on.	Reinforce vision, recognition, and important news.

Conclusion

Advances in information and communications technology have allowed global virtual workgroups to collaborate in ways that could only have been imagined just a few short years ago. Therefore, it is important to recognize that many of the past approaches to building trust, managing innovation, and establishing effective leadership skills will require some rethinking if we are to build and enable high-performing virtual teams.

By letting go of some of our time-honored beliefs in traditional management practices

and opening our minds to new approaches, we will be better able to establish new methods for improving performance, increasing productivity, driving higher levels of innovation, and producing effective leaders in today's Digital Age.

The guidelines and best practices outlined in this paper are only a first step. By remaining vigilant to Virtual Distance challenges, managers and team members alike will enjoy a more fruitful work life and achieve higher levels of satisfaction with organizational and personal performance.

About the Authors

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References

- ⁱ Baker, E., Karen Sobel Lojeski, and Richard R. Reilly. "The Way We Work Now." Redmond, WA: Microsoft. 2007.
- ⁱⁱ Lojeski, Karen Sobel and Richard R. Reilly. "Making Virtual Distance Work in the Digital Age." Redmond, WA: Microsoft. 2007.
- ⁱⁱⁱ Lynn, G. and Richard R. Reilly. Blockbusters: The Five Keys to Developing Great New Products. New York: Harper Collins. 2002.

This research was funded by the Institute for Innovation and Information Productivity with the support of Microsoft Corporation.

