Initiating Uninitiated Clients to Remote Collaborations: Approaches, Obstacles, & Solutions

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Abstract
Remote collaboration is becoming more common, especially in business. However, some academic, small business, and nonprofit workers, especially in non-technical disciplines, may be uninitiated to collaborating remotely. Such clients may not understand how remote collaboration works or lack the hardware or software to support remote collaboration. To coin a statistical phrase, the assumptions of statistical consultancy do not include that all clients are mature remote collaborators. How do research and statistical consultants respectfully and successfully initiate the uninitiated to remote statistical collaboration? To serve clients responsibly, consultants may need to teach clients to be effective remote collaborators or to devise effective remote collaboration systems that are consistent with the client's knowledge and technology capacity. This paper comprises a description of unexpected obstacles to remote collaboration, such as clients who don't know how to use online file sharing or video conferencing services or who are unable to operate their computer's webcam. Examples of remote collaboration systems that were devised to be compatible with the clients' knowledge and technology capacities will be described.

Key Words: statistical consulting, remote collaboration, communication, soft skills, clients, knowledge, technology

1. Introduction

When I started my consultancy, I ran into the unexpected occurrence that some of my clients were lacking in collaboration skills, especially remote collaboration skills. In this article, I'm going to discuss my experiences with, what for me as a research and statistical consultant, is a practical problem, which is initiating uninitiated clients to remote collaboration. Undoubtedly, most of my readers will have encountered similar situations so they may recognize some of what I will discuss. Also, while I'm focusing on remote collaboration in this article, some of the things that I discuss apply to in-person collaboration, as well. I will describe characteristics of clients who I have encountered who are uninitiated to remote collaboration, two social science theories that I use to inform how I approach helping these clients to overcome remote collaboration obstacles, and general solutions that I have devised to remove obstacles to remote collaborations with uninitiated clients.

2. Characteristics of Clients

In my practice, clients who are uninitiated to remote collaboration tend to be workers who started their careers before Internet-based remote collaboration technologies either were available or well-developed. However, based on the results of a recent industry poll, it appears that my experience may be the exception. The Collective Creativity Survey of over 4000 IT workers, which was commissioned by DropBox, indicates that people over age 55 find using tech in the workplace to be less stressful than do younger workers, that older

workers tend to use slightly more forms of technology in their jobs than do younger workers, and that older workers report fewer problems with technology than do younger workers (Baesman, 2016; DeNisco, 2016; Morris, 2016). However, in my experience, regardless of age, the uninitiated clients who I encounter tend not to use or to have access to remote collaboration technology in their workplaces. These clients have included academics who focus on teaching and workers in business or nonprofit organizations. The common characteristics of these clients are that, because of a sudden need or desire to undertake a research project, they must undertake a remote collaboration with a research and statistical consultant. However, because they are unfamiliar with or have little experience with remote collaboration technology, they all have significant anxiety about using remote collaboration technology and about how using remote collaboration technology will affect progress on and the outcome of their project. Consequently, my job as a hired research and statistical consultant who must facilitate a remote collaboration has to include helping clients to overcome obstacles to remote collaboration by teaching them how to use the technology, by helping them to become at ease with the technology, and by pointing out to them how the technology will benefit their project. If I can do this successfully, I will ultimately help them to reduce their anxieties about using remote collaboration technology.

3. Approaches to Initiating Clients to Remote Collaboration

So how do I approach this? First, a disclaimer: In addition to being a statistician, I am a hard scientist. My PhD is in molecular pharmacology. Given my hard science bent, I always will view social science theories with extreme skepticism. However, most of my clients are, using the term broadly, social scientists of one sort of another. So, with apologies to Dr. George Box (G. E. P. Box, 1976; G.E.P. Box & Draper, 1987), while I always will consider all social science theories to be wrong, my social scientist clients have convinced me that some social science theories can be useful using in directing action in some circumstances. For initiating uninitiated clients to remote collaboration, two useful theories are Everett Rogers' Theory of Diffusion of Innovations and the concept of living laboratories. I am not an expert in either theory—you will have to find a social scientist for that. I do understand these theories on a level that allows me to apply the theories practically in situations where I need to initiate my clients who are uninitiated to remote collaboration.

3.1 Rogers' Theory of Diffusion of Innovation

Rogers' theory describes how innovations are communicated over time between members of a society (Sahin, 2006). In Rogers' theory, innovation is synonymous with technology (I tend to use the word technology) and no matter the age of the technology, if a given person hasn't encountered that technology previously, then it is new technology to that person. In Rogers' theory, specific components must exist to allow technology to be diffused from users to non-users. First, the technology must exist. Internet-based remote collaboration technology does exist and is highly developed. Second, there must be effective interpersonal communication about using and, importantly, the benefits of using the remote collaboration technology. The interpersonal communication originates from an experienced user of the technology—the "source" of the technology—and is directed to a person who has not encountered the technology previously—the uninitiated "adopter" of the technology. Third, the adopter needs time to be able to understand the use and benefits of the technology. The amount of time required will differ between individual adopters. Finally, for the previous three characteristics to occur, there must be an effective social

system in place that allows the adopter to feel comfortable to take the risk of using (as well as experiencing some failures and frustrations with) unfamiliar technology.

So why is Rogers' theory useful to me as a research and statistical consultant when I initiate uninitiated clients to remote collaboration? Rogers' theory is useful because it provides a roadmap to use to accomplish initiating the uninitiated to remote collaboration. I must be prepared to communicate clearly and repeatedly with the client about how to use the technology and why the technology will benefit the outcome of the project in the long run. I must be patient and allow the client the time they need adopt the technology. And, here's the kicker for hard scientists like me who, similar to Sheldon Cooper on *The Big Bang Theory*™, may prefer data to social interaction, I must provide an understanding and supportive social environment for my client so that my client feels safe to take the risk of adopting a new and unfamiliar technology.

3.2 Living laboratories

The second social science theory that I find to be useful in initiating uninitiated clients to remote collaboration is the concept of living laboratories (Bergvall-Kåreborn, Ihlström Eriksson, Ståhlbröst, & Svensson, 2009; Leminen, 2015; Pieter & Dimitri, 2015; Sauer, 2013). Living laboratories are real or virtual, user-centric platforms to facilitate collaborations by combining methodology and a social system for organizing user participation in innovation (i.e., technology) processes (Bergvall-Kåreborn et al., 2009; de Jager, Buitendag, & van der Walt, 2012; Leminen, 2015; Pieter & Dimitri, 2015; Sauer, 2013; Van der Walt, Buitendag, Zaaiman, & Vuuren, 2009). The platform brings together the social system that is required for problems to be solved and also provides the tools required to accomplish practically the collaboration. These tools include the strategies for action, the processes to accomplish the action, and the software tools required to create the actions that underlie problem solving and innovation.

So why is the concept of living laboratories useful to me as a research and statistical consultant when I initiate uninitiated clients to remote collaboration? The concept of living laboratories is useful as guide for providing for my clients a remote collaboration environment that provides them with the processes and strategies that are required to accomplish a collaboration. I need to encourage my clients to think collaboratively. I also need to encourage my clients and myself to apply innovation and discovery thinking. The client needs to be willing to discover the new technology that is an innovation for them. I need to think innovatively in order to discover solutions to unforeseen problems that impede the collaboration. Finally, I need to create strategies and processes and provide tools for my clients to use accomplish the collaboration.

3.3 How Is the Combination of These "Wrong" Theories Useful in Initiating the Uninitiated Client to Remote Collaboration?

Taken together, these two "wrong" but useful social science theories—Rogers' Theory of Diffusion of Innovation and the concept of living laboratories—suggest that, in order to initiate my uninitiated clients successfully to remote collaboration, I need to give the client the opportunity and means to learn, to absorb, to apply, and to understand how the remote collaboration technologies will benefit their project. Finally, I need to provide a virtual platform that includes tools that are required to accomplish the remote collaboration. In essence, I need to create a virtual laboratory where the client can discover and learn to

apply remote collaboration technology, where the client can become comfortable with the technology, where the client can understand that the technology provides a benefit.

4. Problems and Solutions: Removing Obstacles to Progress

After starting my practice, I was quickly confronted by my first situation where my client had no idea that a remote collaboration technology existed. This was a tool that was so commonplace to me that I hardly thought about using the tool: It was there, I knew its purpose and how to use it, and so I applied it without thinking about it. My second experience with a client who was uninitiated to remote collaboration technology resulted in a particularly spectacular failure and that was when I decided that I needed to reconsider how I approached initiating uninitiated clients to remote collaboration. I began to look at these "problems" as obstacles faced by my clients that potentially could slow our progress on their projects. I also began to consider how I, as their research and statistical consultant, could help them to climb over these obstacles. In the next section, I will list a few of the unexpected obstacles to remote collaboration that my clients have encountered. I'm sure my readers also have experienced clients struggling with these or similar problems.

4.1 Obstacles

In my experience, the barriers to remote collaboration experienced by clients generally fall into three categories: problems with computer hardware, problems with computer software, and problems with communications. Remote collaboration relies on all collaborators having the requisite, functioning hardware to support collaboration and communication. Particularly for internet-based videoconferences, remote collaborators need to be able to see, hear, and speak to each other (Fuld, 2014; State of Maine, n.d.). These video conferencing functions are based in computer hardware and, when hardware doesn't function, the video conference can't occur. The main computer hardware problem that my uninitiated clients have encountered is being unable to operate the computer hardware that is associated with their computer that is required for video conferences, such as webcams, microphones, speakers, and headsets. For example, a client may obtain a new headset but may not realize that, for the headset to be able to function with their computer, the driver software for the headset must be installed on their computer.

The software problems facing my clients have been more diverse. Remote collaboration requires sharing documents; however, most of my uninitiated clients don't know that file sharing services, such as DropBox, differ both in function and in use from coauthoring services, such as SharePoint (Basu, 2013). Many of my uninitiated clients have never used either type of service.

Remote collaboration also requires coauthoring of documents (Microsoft, 2016a; Pinola, 2015). Few of my uninitiated clients have ever formally coauthored a document previously. Consequently, coauthoring tools embedded in software are sources of obstacles to remote collaboration. For example, if a client doesn't know of and how to use the "tracked changes" function in Microsoft Word, their fellow remote collaborators won't be able to easily identify another client's insertions and deletions to text. Many of my clients aren't aware of additional coauthoring tools available in Microsoft Office programs, such as the various document formatting tools that are available in all Office programs. Further, with each new version of Office, Microsoft has had a problematic history of moving tools around in the ribbons so that tools are placed differently in different versions of Office. If my clients know of and have used a Microsoft Office coauthoring tool previously, they

may be frustrated when they can't easily find that tool after upgrading to a newer version of Office.

Finally, a major danger during document coauthoring in remote collaborations is what I call "version confusion". Version confusion occurs when multiple people add text to multiple copies of a document so that all text, edits, and insertions are not present in one master document. Invariably, someone's hard work will be lost, which causes hard feelings, wastes time, and slows progress. The majority of my uninitiated clients aren't aware of the potential for version confusion so they don't understand the importance of controlling versions (Basu, 2013; How-To Geek, 2016; Niaulin, 2016). They also have no idea of how to control document versions (Microsoft, 2016b; Northumbria University, n.d.).

Remote collaboration requires clear and reliable communication. Blocks to communication can introduce confusion into the collaboration and can slow progress on projects. Unexpected communications problems that I have encountered among uninitiated clients include clients who have poor cell phone coverage combined with no landline. Poor or fluctuating internet service can complicate videoconference communication. These can be a particular limitation during natural disasters. Once, I was unable to communicate for several days with a client who lived in an area that was affected by severe flooding. Overly restrictive junk mail settings both at the institutional and individual level can complicate email communication. In terms of videoconferencing, some clients have never used online video conferencing services before. This includes not having used Skype. For me, a real head scratcher is clients who don't understand that, as in any conversation, the client and I need to be able to communicate with each other during video conferences and that background interference decreases or abolishes our ability to communicate (ScienceDaily, 2016; State of Maine, n.d.; Williams, Kling, Labonte, & Blair, 2015). I have experienced clients who refused to turn off TVs playing in the background or who insisted on conducting extraneous telephone calls during video conferences.

4.2 Solutions

What are the solutions to these problems that arise when working with clients who are uninitiated to remote collaboration? This is when I turn to the two "wrong" but useful social science theories for guidance.

From the concept of living laboratories, I drew the idea of providing for my clients a basic platform of tools to use to accomplish remote collaboration. I selected the specific tools after considering cost of the tool, availability of the tool, and ease of use of the tool as criteria. For example, I maintain a Microsoft SharePoint site to use to coauthor documents with clients. SharePoint is a powerful, and powerfully intimidating, document coauthoring and management tool and, while some of my clients have heard of SharePoint, none of them have experience using SharePoint. However, while I have to make a special effort to teach my clients how to use SharePoint, the long-term benefits to the remote collaboration of using SharePoint make that a worthwhile effort. In addition to these tools, I make an effort to be familiar with using various other remote collaboration technologies. To accomplish this, I make a point of reading the information technology industry literature. I also must model the appropriate types of thinking—collaborative, innovative, and discovery thinking—for my clients so that our collaboration will be successful.

From Rogers' Theory of Diffusion of Innovation, I drew several ideas for initiating uninitiated clients to remote collaboration. During remote collaborations, I provide a social system for my clients that includes courteous and polite interpersonal interactions and a shared responsibility for the success of the remote collaboration. I make sure to communicate clearly and repeatedly about remote collaboration, emphasizing the benefits of using remote collaboration technologies to the progress of the project. I inform my clients at the beginning of the collaboration that the responsibility for a successful remote collaboration is shared by both of us and that accomplishing the collaboration will require effort and learning on the client's part. I respect that, by agreeing to use remote collaboration technology that is new to them, my clients are facing the frightening proposition of taking the risk of making mistakes and experiencing failure. Because of this, I create a social environment for the collaboration where there is no "failure" and mistakes and missteps are important and necessary because these will help the client to learn to apply the technology. I repeatedly remind my clients that I understand that learning to apply remote collaboration technology is difficult because I remember how I felt when I was first exposed to this technology. I attempt to put the client at ease by using humor; "Let me tell you about the fiasco of the first time I did this." I try my best to be patient and positive. "Yes, this is a problem but we will work together to solve it."

In general, I have learned to be prepared for anything. At the risk of insulting my client, I never, ever assume that the client knows something and I always assume that I will run into something that is commonplace to me but is completely new to the client. Before specific remote collaboration tasks, I give my clients fair warning. For example, before the first few video conference of the collaboration, I might ask, "We're going to need to do an internet-based video conference. Have you ever done that before? Do you have any questions about that?" I conduct trial runs of practical remote collaboration activities both between myself and me by using two computers and between the client and me. I always begin collaboration with new clients by having a trial video conference where we get to know each other and, in which, I might conduct a screen share to demonstrate a remote collaboration task, such as using the tracked changes function in Microsoft Word.

Finally, I'm always prepared to create solutions on the fly. I have taken remote control of client's computers to fix hardware issues, such as turning on a client's webcam. Further, I have used screen sharing of my own screen to show clients how to accomplish coauthoring of documents.

5. Conclusion and Summary

In conclusion, every one of my clients is different and each client's remote collaboration problems are different. Consequently, it is my responsibility as the consultant to be prepared to offer different solutions depending on my clients' needs. I provide a set of remote collaboration tools for my clients but I also read the technology literature to be aware continually of new and changing challenges to remote collaboration. I must be able and willing to teach remote collaboration skills, and I must be patient and understanding with my clients as they adopt the remote collaboration technology. Above all else, a sense of humor is absolutely required. No matter the magnitude of the inevitable failures that will occur while clients are learning to use remote collaboration technology, if I can get my clients to laugh about the situation and to view the failure as an opportunity to learn, they'll enjoy their first remote collaboration experience.

In summary, in this paper I have listed characteristics of clients who I have encountered who are uninitiated to remote collaboration. I have discussed two social science theories—Rogers' Theory of Diffusion of Innovations and van der Walt's concept of "Living Laboratories—that provide guidance for approaching the process of initiating uninitiated clients to remote collaboration. I have listed some of the obstacles to remote collaborations that my clients have had to overcome. Finally, I have listed some general solutions to helping my clients to conquer the obstacles to remote collaboration that they encounter.

Every research and statistical consultant is different. Every client is different. The infinite possible combinations of consultants and clients provides the possibility that some consultants will have experienced the same or similar specific problems as I have described here. However, other consultants will have clients who have experienced completely distinct problems and these consultants may have devised distinct solutions to the same problems that I have encountered. Sharing these experiences will allow statistical and research consultants to better serve their clients.

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