

GOING VIRTUAL: Some sources of teleworking success and failure

Arent Greve, Janet W. Salaff, Barry Wellman, and Dimitrina Dimitrova.

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When a large Canadian company selling high-tech telecommunications equipment propelled two sales departments out of the office, the company (which we will call Telecom) assumed that the knowledge-based work of both groups would readily lend itself to teleworking. But one group floundered, and the other thrived. By looking at the two departments and their different teleworking experiences, we can gain some insight into why some kinds of knowledge work lend themselves to telework and others do not, and perhaps provide some guidance to other organizations that are contemplating telework for some of their own groups of employees.

By telework (also known as telecommuting), we mean the work of employees connected to corporate communications networks from their homes or other remote locations. Some teleworkers spend a few days of the week in an office and other days at their home office. In the company we studied, they gave up their company cubicles entirely, working out of their homes or hotelling from a location shared with others.

Telecom is a large telecommunications provider spanning two Canadian provinces. Telecoms sales teams do collaborative selling, implementation and after-sale service of complex, integrated telecommunication solutions to business clients. One department that shifted to teleworking sells standardized equipment to small businesses. The other tailors telecommunications systems to large corporate customers. Telecom turned the members of these departments into teleworkers to save money on office rental and expenses (a common justification for telework). Since both of these sales departments manipulate information and ideas rather than objects, and information can be shared electronically, they, like other knowledge workers, seemed ideal candidates for teleworking. Nevertheless, the corporate teams thrived in the new arrangement, while the small business department struggled. The reasons for this difference can be found in the different ways their work was structured.

The small business department had what we call a bureaucratic work structure. In the bureaucracy, jobs are strictly defined. Employees apply explicit routines to narrowly defined tasks. Established procedures dictate the exchange of materials and information. A linear work flow of closely coupled tasks requires that information be passed promptly from one person to the next to get the job done. Even in this highly structured work, though, standard routines are not always adequate to meet the demands of particular situations, and employees use their own informal channels to get the information and help they need. The radical decentralization of teleworking forced a rearrangement of communication patterns that deeply affected this work and, as we will see, made the kinds of collaboration the work requires more difficult.

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The members of the corporate sales department work much more autonomously. Their projects unfold over longer stretches of time and are hard to blueprint. Work partners are more flexibly defined. Employees take risks and form alliances on their own initiative. They coordinate loosely interdependent departments, groups, and specialists. Decentralized actors network widely to get the information they need. Telework tends to increase the flexibility their work called for and reduce some of the impediments and distractions they find in the central office.

To help understand the pros and cons of teleworking in different situations, we will take a closer look at these two departments and the effects that going virtual had on each of them.

Telework Experiences: Small Business Sales

Jane has worked for three years as a small business sales representative. She has over 300 business clients scattered outside the city. Customers are incredibly demanding, Jane tells us. She has to work hard, or they don't forget it. They don't forgive you. She is on the road all day, juggling a briefcase loaded with folders, a cellular phone, and a laptop. After each client visit, she phones in to check her voice messages. As soon as she gets home, she grabs the phone to reach team members and clears up paper work.

Teleworking helps her to stretch the day, but Jane misses the interactions with peers. When working at the office, coworkers can at least run into each other here and there or stop and share a thought or an idea or a frustration. As a teleworker, she complains, you come home and there is no one, so you get on the phone and you call somebody and you get voice mail every-where. She tries to arrange informal lunches with sales rep friends, but admits it is not easy. All of them travel and have a heavy load of appointments. Jane is not alone in finding telework problematic: *"Everybody has the same feeling. But weren't sales reps constantly with clients before teleworking? Why are these mobile workers frustrated with telework?"*

Bureaucratic Work as Telework

The small business market sales department in which Jane works sells standard phone switches, data lines, and 1-800 phone lines to business clients with under \$10,000 billed revenue a month. When we met a number of small business market sales representatives before they began teleworking, we saw this department on an office floor. The organizational structure we observed then did not change when they began teleworking. The department is divided into administrative groups of nine to fourteen people organized around clients in a particular territory. Each team includes several long-distance sales people (called Primes) who see the sales through, bringing in others as needed. Primes work with colleagues in a linear, bureaucratic

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work flow, from locating a sales opportunity to completing the proposal. Developing a proposal for her client, a prime calls on complementary specialists in long distance lines, hardware, and software. These experts work together to configure the telecommunication system for the client. An administrative support person in the same building does the paper work. Once a sale has been completed, other departments carry out the actual installation.

Each prime works with hundreds of unconnected small business clients scattered across one territory. Telecom redistributes territories yearly to equalize sales peoples earnings opportunities. Though well-intentioned, this annual shift destabilizes customer loyalty. Sales people are expected to achieve high sales volume, to do each job quickly and get on to the next one. Recently, the company has increased the required number of contacts, pushing the sales people to move even faster.

Every sale follows a set of bureaucratic routines. Since the routines are supposed to convey all the knowledge needed to do the work, supervisors do not realize that the sales representatives may also depend on extensive informal consultation with outside experts or people from other teams. Among other things, the invisibility of these consultations to the official organization means that supervisors do not recognize that increasing the number of clients may require increased communication and connection with others.

Even before telework, these sales groups had difficulty meeting Telecoms goals of high-speed routine work. High volume and short delivery times demand a quick response. But since the detailed routines are often inadequate to complete a job, employees must take time to locate needed information. Extensive paper work involving many forms and many other departments also slows the process. Customer requests to adapt new products to existing equipment require special handling. To reach their sales targets, employees need to know which buttons to push to get work done quickly. Part of being a seasoned sales person is learning how to bypass bureaucratic procedures by consulting more experienced peers. Although most exchanges take place within the formal work team, sales people communicate informally to resolve problems and speed up work, often crossing group lines to get information on pricing, functionality, capabilities, and integration. To do what needs to be done quickly, sales representatives have fashioned dependable office-based ties with coworkers inside and outside their formal work flow that is, they have created a community of practice, a group of people who informally share information about their similar work.

When they were together in the office, sales did do not have to go far for quick, informal help. Employees in the nearby cubicles who serve other districts often have faced similar customers requests and have found solutions. When telework dispersed these workers, informal contacts became more difficult, and information harder to come by. One sales person comments:

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The down side [of telework] is because you're not meeting with your coworkers on a regular basis, you might be knocking your head against the floor trying to figure out a solution. Before it would be like you would talk over a coffee and that person would have that solution for you in two minutes. You took two days to figure it out. So there's less group cohesion, you know So the only way I'd find out is if I call around but if everybody's out on the road, the way we're supposed to be during the day, you're not going to get hold of somebody. So you don't get to bounce a lot of ideas off each other.

Even formal ties work better with an informal touch. To compete for the attention of the overloaded administrative support staff and technicians, many build sociability into the needed relationships through exchanges that show consideration. Under great pressure to get extra service from supports or other departments, they grease the wheels, and bypass the formal chain of command. They go to their supports office or work sites. They never forget a birthday, buy flowers for their support staff, coffee and donuts for their installers and repair-men. Although these members are part of the formal work flow, the nature of the contact is not purely formal. Short term reciprocity is key. The need to maintain these relationships brings them back to the office. But they cannot count on finding other sales workers, who are now mobile workers, to get help or to make the social contacts that maintain working relationships.

A saleswoman who left the company shortly before the shift to teleworking describes her work this way:

The only way I'd be able to get the job done right is to be on top of things. And the only way I can be on top of things is to see the individual and what they've done, not necessarily every day but it may be every other day [W]e deal with so many different individuals on a daily basis within the organization. We have people responsible for phone equipment for our customers that we have to meet with on an ongoing basis. To pass leads to them, to talk about a specific application with the customer, and to even sometimes go out to see the customer together with them.

A saleswoman who found that the department that was supposed to follow up with customers she had won back to the company often failed to do so arranged for her support person to make sure that the returning customer was not ignored: "*I have Dolly follow through. And I'll say Dolly I won this [person] back, follow through in a week. And she'll phone them and make sure it is done and then call me on my cell phone just to let me know, so then I don't have to worry.*" To build an inside track to her support takes a lot of personal work that is hard to do at a distance. The example further suggests that physical distance between teleworking sales workers creates the

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worst problems when routines break down, the linear flow falls apart, and people scramble to piece the work together.

Since the company does not recognize the extensive informal work that shadows formal workflow, however, it has not done anything to support it in the transition to telework. Nor have they reduced the paperwork and other bureaucratic procedures that do not readily lend themselves to remote work. Furthermore, the technological resources it did provide have not worked smoothly. The small business sales department got new notebook computers; new on-line data bases contain customer information; telephone hot lines respond to major pricing queries. But the software to connect to databases is poorly organized and not interactive. Databases are proprietary. Employees cannot log in away from the company office. The on-line software that coordinates work schedules does not work properly. Even if the technology worked better, though, much of it would be ill-suited to work that requires such close coordination and rapid response. To try to overcome uncertainty about whether their messages are received promptly, small business sales people often send duplicate messages by phone and e-mail:

I haven't checked my [intranet] in three days to tell you the truth. Because if I don't do it first thing in the morning or if I don't do it from home late at night, then I don't get a chance to do it. [I] communicate with [my supervisor] to get advice. Mostly I would send her a voice mail, though, because I would know that she will get that voice mail right away. Cause if she hasn't checked her [intranet] either, I could be waiting a couple of days to get a response. So I would e-mail her to ask her a question or to keep her updated on a couple of customer situations, to let her know what I've been doing in some cases, to give her highlights. Or to let her know of some problems that I'm running into At least maybe once or twice a week.

Even when up and running, software programs prove less useful than the people they replaced. A teleworking with the company for six years remarks:

The most difficult part is the resources in terms of the orders and the procedures are not up to snuff If we had the confidence that we could go to our laptops and input all our needs and know that someone's going to do it at the other end, providing we provide them with the proper information. [I]'ts the procedure There should be more done on-line. As I said, there's too many people touching paper They have to fax [the order] somewhere else. My support [is not always able to] input the order on line I should be able to download it directly to the per-son that's going to complete the order and get a due date for me and it should be downloaded back to me on my computer.

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So these teleworkers struggle with a range of problems: sub-par technology; paper-work and other process not fully adapted to electronic handling; and asynchronous communication that does not suit the requirement for close coordination. Burdened with paper work, unsure if their requests have been read, and unable to check if the flow is completed, they still have to return to the office to resolve the resulting information and communication problems.

Telework Experiences: Corporate Sales

Dana has been with Telecom for fifteen years. She has two clients, huge companies with branches across the country, and she sells them many hundreds of different things. Responsible for all their telecommunications needs, she has in-depth knowledge of the business problems of her customers and even those of her customers customer. After years of working with them, she has developed extensive personal networks and a solid reputation in each client company. To keep her good relations with clients who are themselves busy, she sets up less formal meetings on evenings and weekends at least twice a month.

Dana started teleworking three years ago, when one of her client companies ran into serious problems with a teleworking program it had recently introduced. Instead of looking for assistance from their own managers, the teleworkers turned to Dana for help. She decided she needed first hand experience to see what the problems were and started teleworking herself. Laughing at the memory, Dana says at first she wondered Gee, what could be the problem? Within a week, though, she had a list of suggestions for her client to work on. While sorting out this clients troubles, she quickly realized that what she was doing could become a new source of revenue for Telecom. She prepared a business case, and her idea led to the establishment of a new consulting group in the company. She likes teleworking: it gives her time to catch up with things. At home, she explains, *“coworkers from other provinces can call pretty early and they know that I’m up that early and I don’t mind them calling then, its a quiet time to talk to people. I find talking on the phone [at home] you’re less under pressure because I’m not interrupted by people so I find that I can spend time and talk for longer and probably share more information than I can from here [in the Company office] when you have someone standing at your desk waiting for you to get off your phone.”*

Decentralized, Networked Work as Telework

High-end corporate sales teams like the one Dana belongs to are marked by long-term dedication to specific clients, organized around industry, not location. Among their corporate clients are automobile plants, basketball teams, universities, and banks. One manager supervises several small teams with similar functions, who craft

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their proposals to different clients. Corporate sales workers accounts are clearly delineated. They are dedicated to a few corporate customers and spend most of their time developing relationships with them.

With ownership of their accounts, consultants and sales people generate their own projects adapted to the customer and make major decisions. Whom they work with varies by project. The team includes a dedicated support person, but not the full complement of experts their complex projects require, so sales people draw on a range of technical contacts to configure a system. To meet specialized client needs, corporate sales people also activate informal networks of people for information and tips. They cross lines of reporting to discuss complex questions with sales people on their level, drawing on their specific experience. Most of these conversations are on the phone. Many of their corporate customers, such as banks, are national. They talk to each other across provinces in order to exchange tips and information about the same or similar customers. Cross communication helps overcome the limitations of specialists, and broadens the range of experiences they can draw on.

To achieve uniformity and share information about the client, sales people coordinate work with their Telecom counterparts across the country. Much of their networking is at a distance. Part of the sales network are other Telecom representatives to corporations in other provinces and those of allied companies. They get in touch with a wider range of coworkers outside their reporting group for specific information. Those in their informal networks that are competent to answer questions might be some distance away and so the members of this far-flung informal consulting network do not all know each other personally. They link essentially separate networks to get customers and do the work. One explains:

I can't be in Vancouver and I can't be in Montreal because we have territory assigned, but we are working with the same customer so I would call my counterpart in B.C., in Montreal, all over the country. We exchange information and say, this is what we are doing in Toronto, what are you doing in Vancouver?

Locally, they may take colleagues to lunch, take clients to baseball games, attend clients golf days and Christmas parties. Face-to-face communication passes on information and gets accounts. The flexible timing of telework helps them maintain these contacts outside regular office hours. The clients to whom they have been special representatives for years are part of their information networks. They get new orders in a multi-branched company through clients in the company that have already installed the same system. The customer network is an additional social context for the sales person. Some work in the clients territory are even assigned a temporary office in the clients office further reducing the significance of centralized location.

The corporate sales person knits together client networks in two ways. First, she presents a package of products to the client, nurturing a loose informal network com-

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prised of distant representatives of different departments within Telecom and from outside companies. Dana, who has two large manufacturing firms as clients, says: *“There’s a number of ways we would meet with the business units. Because I’ve been on the Chemical Inc. account for a long time, most of them know who I am and would call me directly. Often I go with my contact out of head office to meet with them as her source of expertise. Sometimes, the head office people bring me in when the application is starting to develop and they get a little over their heads. I deal with everyone from director down.”*

Second, the sales person nurtures the corporate clients customers, becoming a broker between two networks. Dana continued, At the higher levels and the senior executive levels we need to talk about business issues. We just had a meeting with one of [Chemical Inc.s] business units to talk about the marketplace they’re in and the problems they’re having selling and problems that consumers are having. Then we would come away from that and probably develop a solution to help them. So I guess part of some of the sales training we have is to understand our customers customer.

Another sales person, on the job for six years, explained that a crucial part of her job is networking her client’s clients to organize their telecommunications systems to become more homogeneous, like one large corporation. *“[There’s] a lot of social coordination. It’s like I always say We’re Julie, the cruise director! I think we do about 15 social events a year.”* The clients request to provide Internet service precipitated one event that combined technical information with social connection. The client was an umbrella organization of other associations:

They had actually called a couple of weeks ago because they wanted to get a costing to add some more lines on their digital network. I asked them what they needed it for and they said it had to do with the Internet. So that’s where the conversation started off. First I found out that the general manager was looking at X Internet service provider and they were looking at getting Internet access for all the members of Sports and Rec. which is about 250 people. Sports and Rec. is actually a corporate administrative kind of service for people such as the Hockey Association, the Soccer Association, there’s 40 associations and a bunch of these associations have gone on independently and put up their own web sites. So what they want to do is amalgamate everything together, have everybody have Internet access and e-mail internally, and also to have some web development done so that it comes off as one web site. So you would have Sports and Recreation as a home page and then you could go off to the various associations.

I wanted to invite all the directors of each of the associations downtown to Telecoms communications centre [where] they show you applications for ISDN and wireless technology and cellular and all kinds of things. Then we

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would provide them a luncheon and have guest speakers speak about applications that I thought would be specific to them. and that's, I mean its just a huge circle cause then you have all these associations going out independently and then they all decide oh its better if we all go together, its more cost effective.

The network sales persons skill at social coordination among her clients solves their problem and brings business to Telecom. Telecom supervisors encourage corporate sales people like her to use their social networks for support during sales projects, build trust and good customer relations, acquire knowledge, and hear about new opportunities. More than selling a given product, corporate sales people work on the relationships connecting people and products.

Prior to teleworking, the corporate sales force occupied their own floor at the company headquarters. Several began working from home two years before the official program, however, because the sales unit was expanding and short of office space. They refer to this as guerilla teleworking. Now that the whole group is teleworking, their supervisor remains in the office, but they and their support staff work from home. This does not faze them because they are used to unbounded work relations. Since they do not work with the other office members, and their client work also occurs away from the office, they have no special need to return to the office just to be seen. They can turn their attention to creating relationships, unhampered by the confines of the office hours and locations, undistracted by office activities that have little to do with their work. They can more flexibly organize their time in concert with the demands of the customer. A lot of their work is not virtual, they spend time face-to-face with clients but being untethered from the office makes that easier. Also, because they work on long-term projects and have a great deal of autonomy, they seldom require the kinds of rapid responses that the small business sales people depend on. In fact, the asynchronous communication that caused problems for members of that department provides advantages for corporate sales people whose advice networks cross several time zones.

Matching Work and Telework

The different products and market segments of the two Telecom sales departments structure their division of labor, how they communicate, and their interdependencies. We can summarize in a table the differences between the bureaucratic and network organization, differences that affect how well they can adapt to telework.

Table 1: Conditions of work group structures that affect telework

	Routines	Dependency	Time	Group Location	Technology
Bureaucratic	Formal procedures, and Informal communities of practice	Linear work flow, frequent interruptions	Short work cycles, tight coupling, synchronous feed-back	Local, office based	Requires immediate response
Network	Flexible, mostly non routine work	Interactive, mutual interdependence and adaptation	Long work cycles, loose coupling, asynchronous feedback	Dispersed, includes people from external firms	Asynchro-nous com-munications

As our discussion of the small business sales department demonstrates, the linear work flow and short work cycles of the bureaucratic structure are at odds with the dispersion and asynchronous communication that characterize teleworking. Delays in picking up information or responding to requests can quickly bring this closely-coupled work to a halt. The pressure of tight deadlines and the need for rapid response makes immediate access to informal sources of information and help especially important, and that access is best guaranteed by being in the same place at the same time. Together, these factors explain the difficulties and dissatisfactions that members of this department have experienced when they moved out of the office and suggest that this kind of work may be ill-suited to teleworking.

The networked structure of the work of the corporate sales department approximated characteristics of telework even before they made the change. Members of that department communicated asynchronously to exchange expertise and request help. They spent most of their face time with clients, not with colleagues inside Telecom. Their long-term projects and called on talents and cooperation of a dispersed and changing group of participants, rather than a single, consistent community. In all of these ways, their jobs were already compatible with working virtually. In addition, the shift to telework freed them from some of the interruptions and bureaucratic elements of working in an office that distracted them from their work with clients.

Telecom assumed that it could turn members of both sales departments into teleworkers because they were knowledge workers and because they already spent a great deal of time on the road. The contrasting experience of the departments shows, however, that determining whether a group of workers can make a successful transition to telework depends on a deeper analysis of the structure of their work than Telecom carried out. In some cases, teleworking may not be the answer. In others, it may work only when some processes and requirements are modified to harmonize with virtual work. Organizations considering a shift to telework for some of its groups and departments should first evaluate some key issues:

1. The structure of work. A workflow of closely-coupled, coordinated small tasks does not readily lend itself to the geographical separation and asynchronous communication of telework; work carried out by a flexible network of semi-autonomous knowledge workers may actually benefit by being freed from restrictions of time and place.
2. Informal processes and communities. Because the informal elements of work are invisible to the official organization, they are often ignored by planners and decision-makers. Teleworking decisions should be based on an understanding of the informal supports of work and an analysis of how the change would affect them. In some cases, the important role of informal advice networks and communities may argue against teleworking; in others, it may be possible to design supports for informal exchanges into the new system.
3. Mutual adaptability of processes and technology. Part of telework planning should be identifying elements of work processes that do not lend themselves to teleworking. Extensive paper work, for example, and eliminating or modifying them so that they are less burdensome or can be accomplished on-line. Technology design and testing, and teleworker training should focus on meeting the real-life requirements of the work.

Debate about the viability of telework is sometimes carried out in very broad terms. Some argue its benefits for knowledge workers and companies; others point to its drawbacks. Our study of the transition of two Telecom sales departments to teleworking suggests that teleworking is neither bad nor good per se, but is likely to suit some kinds of knowledge work and not others. The decision about whether or not to turn a group of office workers into teleworkers should depend on a careful and detailed analysis of their work to determine if it is compatible with the changes that accompany going virtual.

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