

Personnel Implications of Public Sector Virtual Organizations

By Daryl D. Green and Gary E. Roberts, PhD

This investigation explores the operational nature of virtual teams in the federal sector. As more federal agencies allow employees to work from home, there is an increasing problem with office staffing and organizational effectiveness. Utilizing the Department of Energy (DOE) employees as virtual participants, the investigation uses the triangulation method approach for data collection. The primary goal is to explore human resource issues as they relate to virtual organizations. The significant findings include the following: (a) organizational selection practices should incorporate methods to identify the behavioral attributes and (b) characteristics associated with effective virtual team performance should be identified, and (c) organizations should celebrate accomplishments to help promote group cohesiveness. The paper concludes with a discussion, highlighting strategic implications for researchers and practitioners. This effort contributes to further exploration into the application of virtual teams in the government sector.

Introduction

One of the most important organizational structural innovations of the 21st century is the “virtual organization.” With the aid of emerging technologies such as videoconferencing, employees work in teams that transcend time and distance. In addition, leaders rely on virtual organizations to confront the emerging global frontier and to reduce personnel cost. Every organization appears to be reviewing the merits of virtual organizations, including the federal government. According to a recent report, 102,900 federal employees worked in a telecommuting environment in 2008.¹ Many agencies cite telecommuting programs as an effective management tool.² However, when there is no “face-to-face” interaction between leaders and their teams, key performance and personnel management issues arise. Therefore, it is essential for managers to understand the strengths and weaknesses associated with virtual teams.

The purpose of this article is to provide exploratory data on the implementation of virtual teams within the public sector. The paper addresses two major objectives. The first objective is to identify the salient human resource issues associated with virtual organizations. Second, this investigation offers recommendations for both human resource managers and organizational leaders for enhancing effectiveness in virtual organizations. There are two categories of virtual team employees. The first

consists of on-site employees interacting with colleagues at distal geographic locations with the second group telecommuters working at home. Virtual teams can be composed of various permutations of on-site and telecommuting employees.

The Emerging Trend

As more federal agencies allow employees to work from home, there is an increasing problem with office staffing and organizational effectiveness. A virtual team (VT) challenges today's personnel management system by their very existence as a rising number of federal employees are telecommuting. Telecommuting possesses several key benefits, including the promotion of employee work/life balance, reduced commuting times, attenuated employee stress levels, lower sick time utilization, and increased employee job satisfaction thereby enhancing employee recruitment and retention strategies. In addition, there is a reduction in office space requirements and travel expenditures.³ Managers must weigh telecommuting's benefits against its weaknesses, including reduced employee oversight and accountability, lower productivity, and less direct interpersonal contact thereby decreasing team building opportunities and isolating employees.⁴ Given the increase in telecommuting and computer networking technology, it is evident that these issues will remain and increase in importance throughout the 21st Century.⁵ Virtual teams are one method for addressing the weaknesses of telecommuting.

To address the human capital issues, an institution must understand the nature of virtual organizations. A virtual team is geographically separated and has very little personal contact; it depends on computers and telecommunication technologies such as the internet and videoconferencing.⁶ Other terms associated with this "virtual" concept include teleworking and telecommuting. VIs provide the benefits of bringing talented people together, providing international perspectives, and saving millions in traveling costs.⁷ Organizations can also reduce real estate expenses by 40 to 60 percent and increase work productivity significantly (Cascio, 2000). The advantages of VIs are offset, however, by high home office setup and maintenance costs, lost of cost efficiencies with duplicated computer and office equipment, and isolated employees (Cascio, 2000).⁸ Therefore, VT teams require a shift in leadership paradigms. The old paradigm in leadership required managers to be technical experts who defined the tasks for the employees. According to Wall, Solum, and Sobol, the new leader will be a symphony conductor ensuring that all the autonomous parts work together harmoniously toward a single objective.⁹ This new leader is still, however, a technical expert providing employee direction, but he allows employees to participate and listen to their suggestions. Current scholars suggest that an effective team leader may be the primary ingredient for team success; therefore, it is essential to understand the role of leaders within teams to avoid any failures.¹⁰ VIs have the same general characteristics as a traditional team; as such, a team is a group of individuals who coordinate with each other to accomplish an objective.¹¹ Any effective team, regardless of its size and objective, must possess some key attributes such as a sense of interdependency, a

common goal, high trust levels, and a belief that working together will lead to more effective results than working alone.¹²

Establishing trust within a virtual team environment is a prerequisite for an effective team. Good teamwork must contain the key ingredients of trust, empowerment, and the ability to overcome organizational barriers to group effectiveness.¹³ Managers assume that an employee equipped with a computer and fax machine can stay connected to an organization. This view is simply not realistic. Kouzes and Posner further explain, "...how do leaders create commitment in a virtual organization? Can there be such a thing as virtual commitment?"¹⁴ According to a *USA Today* poll, nearly half of those interviewed said that corporations can be trusted only a little, or not at all, when it involves looking out for the best interest of employees. A leader's credibility depends on the quality of the relationship maintained with followers.¹⁵ Although many organizations are loaded with talented people on their teams, teamwork cannot exist unless there is trust. Once members establish trust in a VT setting, an organization can enjoy the advantages of going virtual; however, given the nature of working remotely from the organization, an employee may feel isolated and become fearful.

VT organizations are creating a buzz in the academic community. There is a burgeoning literature on virtual teams.¹⁶ Effective virtual teams manifest a variety of characteristics including well-defined group sponsorship, goal consensus, effective selection practices, an appropriate skill mix, and specific performance measures linked to goal achievement. An effective team also includes comprehensive orientation meetings, a lucid team identity, an encouraging and rewarding group culture, agreed upon behavioral norms and values, the celebration of achievements, the selection of appropriate technology, and the sharing of information proactively.¹⁷ According to a study by the Cyber Security Industry Alliance, the federal government has made little progress in implementing a telework program government wide despite fifteen years of presidential directives, legislative mandates, pilot programs, and budgetary threats.¹⁸ The Internal Revenue Service, the Trade Division of the Patent and Trademark office, the Federal Communications Commission, and the Tax and Trade Bureau of the Treasury Department have received praise from employees on their telework programs.

The government's implementation of telework has not kept up with private industry. In contrast, the number of the Americans teleworking in the private sector grew from 41.3 million in 2003 to 44.4 million in 2004, a growth rate of 7.5 percent.¹⁹ In a 2004 report, the General Accounting Office (GAO) noted the uncertainty of the federal government fully implementing a telework program. GAO cited the following as obstacles for telework implementation: (a) lack of full funding to meet needs of telework program, (b) no eligibility criteria established for teleworkers, (c) lack of top management support, (d) resistance by managers, primarily in middle-level ranks, and (e) lack of training and information on telework programs.

The failure to fully implement a broad virtual program is not restricted to the American federal system, however. Mello and Sakuda (1997) conducted the first Brazilian telework survey among different industries and surveyed twelve Brazilian

organizations located mainly in the city of Sao Paulo. The sample size was over 1,000 employees, with sales staff most cited for telework (7 of the 12 organizations). The results helped map out the demographics of the Brazilian teleworker and outlined the necessary managerial and behavior skills to develop a telework program in the Brazilian social, economic, and entrepreneurial environment. The following were the major factors inhibiting a telework program: (a) managers' lack of knowledge about how to plan and organize activities, (b) problems related to security, confidentiality, and insurance, (c) difficulties to manage and supervise the teleworkers, (d) reasons related to work productivity or quality, (e) high investments in computers and teleworkers, (f) workers unions' resistance, and (g) employees' lack of interest. Considering the sample size of these studies and variety in organizations, virtual organizational issues will continue to pose a problem for contemporary organizations.

A Federal Government Virtual Group Case Study Example

The U.S. Department of Energy (DOE) traces its roots back to the Manhattan Project during the development of the atomic bomb and is the largest civilian-contracting agency in the United States.²⁰ Today, the participants in this study perform management oversight of DOE contracted, environmental work and consist of a technical staff of engineers and scientists. The official title of this function is a facility representative (FAC REP) in the DOE environment.²¹ Because 90% of their oversight is conducted in the field, facility representatives are remotely located away from the rest of the Environmental Management (EM) organization (working more than 50% of time from the main office); therefore, they operate in a teleworking environment. The mostly male (89%) GS-14 senior level virtual group consists of 19 members dispersed across three work sites.

Methods

The investigation uses the mix method (triangulation) approach for data collection and takes advantage of the attributes of quantitative and qualitative research. According to Creswell, the mix method represents an emerging research tool and is gaining greater acceptance in the academic community.²² Data was generated by an email survey instrument distributed to 19 group members supplemented by seven team member interviews. EM management approved this investigation. The quantitative analysis was conducted using the Statistical Package for Social Sciences (SPSS) software. The survey response rate was 37 percent and lower than desired, but given the exploratory research purpose, the sample size is sufficient to generate information for future research hypotheses. A coding and category system was developed and the results were verified with the Facility Representative Team Leader. The interviews focused on the facility representatives' opinions in several areas, including group dynamics, remote team concerns, leadership skills, and organizational communications. The participants were asked to respond to the following statements:

1. Identify what communication tools you use to correspond with the identified parties and how often.
2. Why do you think that interaction with your peers is beneficial to you and to the EM FR Program? If not, why?
3. What are your concerns related to being remotely located away from the other EM staff?
4. What leadership skills are important when working in remote locations?
5. From which of the following sources do you receive most organizational information.
6. From which of the following sources do you prefer in receiving your organizational information.
7. Why do you most prefer this particular source for organizational information (from Q. 5)?
8. What selection criteria for future facility representatives would you recommend?
9. What training concerns do you have when you consider your remote location?
10. Please add any additional comments below:

Group Dynamics

The investigation evaluated group dynamics. The study asked participants to identify communication interface sources and their overall frequencies. The communication choices included personal contact, telephone, cell phone, fax machine, email, and other Internet communications. Utilizing SPSS software, quantitative analysis was used to calculate frequency of medium usage. The results showed that the facility representative team leader was a critical factor for the remote team to stay connected to the organization. A data analysis matrix was developed to outline the results of this portion of the study (See Table 1).

Concerns of Virtual Teams

The investigation evaluated concerns related to working remotely. The participants did not provide complete sentences but did give insight by their word selections. There are five major concerns: (a) knowing when meetings were occurring, (b) getting timely information related to job impacts, (c) determining “the issues for the day” onsite, (d) having to attend meetings at inconvenient times, and (e) dealing with interfacing issues (viz., EM staff, and contractors).

Leadership Skills

The investigation also evaluated the leadership component. Question three asked what leadership skills were important when working in remote locations, and the results were placed in similar groupings for identification purposes. The final categories were (a) communication, (b) decision-making, and (c) self-initiative (see Figure 1).

Table 1: Facility Representative Organizational Interfaces

Organizational Contact	Primary Communication Medium	Data Analysis
EM Management	1.Phone: 100% communicate monthly or annually 2.Personal Contact : 86% communicate weekly or monthly 3.Email: 57 % communicates weekly or monthly	The FAC REPs have less frequent communication with EM management. There are several factors to consider which are: the management layers between FAC REPs and the proximity factor. Unless there are pressing issues, many problems are handled at a lower level.
EM FAC REP Team Leader	1.Personal Contact : 100% communicate weekly 2.Email: 71% communicates weekly 3.Cell: 57% communicate at least weekly 4.Phone: 43% communicate daily; 27% weekly	The data shows routine interaction between FACREP Team Leader and FACREP group. This analysis shows the <i>importance</i> of staying connected with the home organization. Most of the FAC REP members cited the FAC REP Team leader as the preferred source to gather information.
ORO/EM Staff	1.Fax: 57% communicate daily 2.Personal Contact : 43% communicate daily; 51% weekly 3.Phone: 43% communicate daily; 29% weekly 3.Cell: 43% communicate daily; 27% weekly 3.Email: 43 % communicates daily; 43% weekly 4.Net: 28% communicates at least weekly	The data analysis shows an interdependent relationship between FAC REPs and the other ORO/EM staffs. Other EM staff deals with programmatic and project-oriented functions; therefore, there are common work interests by all parties to work together.

The participants were also asked what selection criteria for future facility representatives they would recommend to their management. These results were placed in similar categories for identification purposes. The final categories were (a) communication, (b) decision-making, (c) self-initiative, and (d) computer literacy. After careful analysis, it was discovered that the most preferred leadership skill was decision-making followed by self-initiative, communication, and computer literacy (see Figure 2).

The participants were asked to list any training concerns due to working remotely. The facility representative's concerns were the following: (a) understanding the contractor's training requirements to perform work, (b) having each facility representative determine his or her training needs and keeping it current, (c) obtaining training in wireless equipment (laptop, cell, digital camera, etc.), and (d) ensuring that facility representative training will be available when and where it is needed.

Figure 1: Leadership Matrix

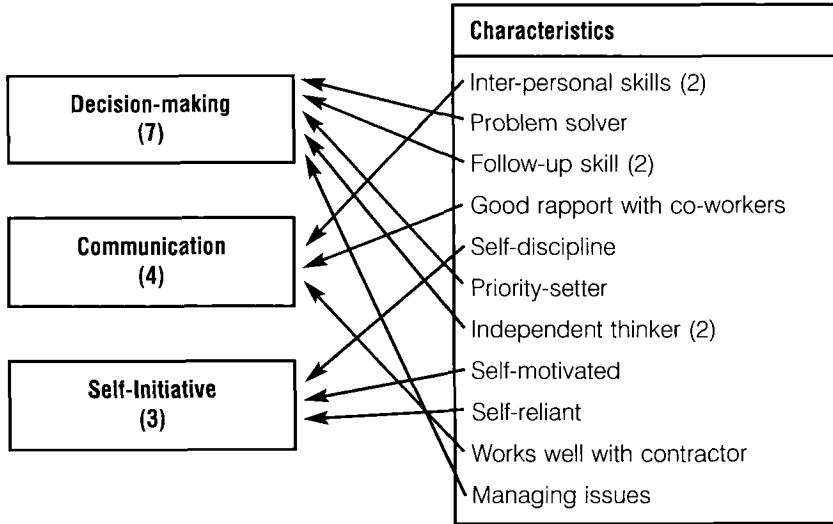
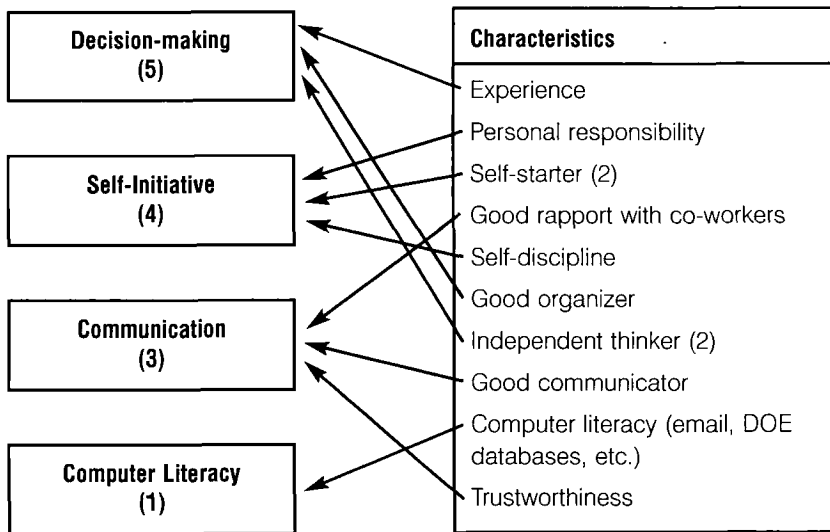


Figure 2: FAC REP Selection Criteria Matrix



Organizational Communications

The investigation evaluated organizational communication as it related to information flowing down to facility representatives. Question two asked if the interaction among facility representatives (their EM peers) were beneficial. There was a positive response for maintaining this peer interaction. One participant said, "Interacting with our peers is a very important aspect to our future job success. We can learn from their

experiences, and when something that they discussed comes into our area, we are familiar with the issue and can respond in a more professional manner.” The participants were asked how they receive organizational information. Interestingly, the results were generated based on frequency and are as follows: emails (four), grapevine (four), group meetings (three), agency newsletter (two), supervisor (one), and voice mail (one). Overall, the analysis showed that facility representatives receive organizational information electronically and through personal contact. The grapevine was not an official source for organizational information but served as a primary information conduit or as an important supplement.

The participants were also asked what the preferred method for receiving organizational information was. The results were as follows: supervisor (five), group meetings (two), agency newsletter (one), and email (one). Overall, the analysis showed that facility representatives desired the personal contact of their team leader because it provides a reliable source for organizational information. It is therefore concluded that facility representatives were not getting organizational information in their preferred method. A follow-up question asked the participant why he or she prefers this method to receive organizational information. The results are in line with group interdependency theory.²³ The team leader was a critical source for keeping the team connected with the home organization. One participant stated, “This particular source for organizational information is preferred simply because it’s the most reliable and authoritative source. More clarity and information can be gained by questioning this source than any other. Typically, this source is in the best position to know and was involved in the decision-making process.”

Strategic Implications

The following strategic implications emerged as a result of this investigation and are offered to enhance the effectiveness of virtual teams:

Group Cohesiveness

- Virtual team managers should increase the use of synchronous communication technological tools to increase the quality and quantity of interpersonal communication between group members and team leaders.
- VIs still need to meet periodically at the same location in order to clarify organizational issues and celebrate group accomplishments to enhance group cohesiveness and effectiveness.²⁴ Numerous studies have shown that communication is less efficient in virtual as compared to “face-to-face” teams. VT members also have a difficult time staying connected to each other.²⁵
- Organizations should disseminate information in a method that employees prefer in order to maximize efficiency. This entails implementing formal and informal methods for gathering preference information, including surveys, brainstorming sessions, focus groups, and reviews of performance evaluations. If organizational communications are poor, it could decrease the efficiency of the organization and its remote employees.

Human Resource Recommendations

- Organizations should systematically integrate virtual team management competency and skills building for both managers and team members into training and development programs. The foundation is a systematic needs assessment process that identifies present and future virtual team KSA's and the associated performance gaps. Based upon the results, individual development plans are crafted to address the identified needs and deficiencies.
- Organizational selection practices should incorporate methods to identify the behavioral attributes and characteristics associated with effective virtual team member performance.
- Organizations should provide a proactive training program and encourage career development opportunities for employees. Promoting a healthy, virtual team requires developing the members through coaching, feedback, tangible rewards, and professional career development.
- Human resource managers should consider using a mixed method approach for getting the true story of organizational effectiveness. The quantitative method allows the researcher to objectively measure key variables such as communication usage while the qualitative method allows for exploratory investigation into potential causes of any organizational ineffectiveness.

In summary, virtual teams are playing an increasing role in public sector organizations, with an associated elevated need for additional research of this type.

Conclusion

Today's leaders must understand the many design and implementation issues associated in a virtual operation. This case study indicated that virtual team members prefer personal contact to purely electronic means. This insight would be valuable to any manager trying to disseminate information throughout his or her virtual organization. The study also supported the theory that trust was a critical factor for team cohesiveness. The key personnel issues identified included employee selection, career development, and training. The study manifests broader application to other public and private institutions as more employees operate in virtual environments. Understanding the uniqueness of virtual organizations may increase leadership effectiveness and better human relations strategies for virtual organizations in the public sector.

Notes

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Authors

Daryl D. Green

Department of Energy
P.O. Box 2001, EM-94
Oak Ridge, TN 37831
(865) 241-6198
greendd@oro.doe.gov

Gary E. Roberts, PhD

Associate Professor
Regent University
1000 Regent University Drive
Virginia Beach, VA 23464
(757) 226-4962
garyrob@regent.edu

Daryl D. Green is employed by the Department of Energy as program manager in the Office of the Environmental Management Office. Green has a bachelor's degree in engineering and a master's degree in organizational management. Currently, he is a Regent University doctoral student in strategic leadership. He has more than 15 years of professional management experience.

Dr. Gary E. Roberts is a faculty member in the Regent University Robertson School of Government. Roberts occupied a variety of positions in the field of human resource management in local government and private industry. His teaching areas include human resource management, organizational theory, organizational behavior, public budgeting, and principles of public administration. Current research interests center on the influence of religion and spirituality on occupational stress, the impact of the religious friendly workplace, organizational policies to promote employee work-life balance and mental health policy. He has authored numerous journal articles and book chapters on various human resource and public management issues.