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Organizational Culture and Telecommuters' Quality of Work Life and Professional Isolation

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ABSTRACT

While much has been studied and written about the adjustments managers must make when supervising remote workers in virtual work arrangements, little has been written about the potential change in the organizational culture and the effect the culture has on the virtual worker's quality of work life and professional isolation. Not only may culture affect the implementation and success of telecommuting arrangements, but the increased isolation and independence of a virtual worker may impact the culture surrounding remote workers and create an organizational subculture. This study examines the relationship between quality of work life, professional isolation, and an organization's cultural values surrounding telecommuters and non-telecommuters.

INTRODUCTION

With virtual work arrangements comes a change in communication patterns. The loss of the daily face-to-face interaction forces the organization to adapt. This adaptation affects both managers and employees. Although much has been written about how managers must change, little has been written about the telecommuter's satisfaction based on how the organization adapts. Evidence exists that employees' primary reluctance in telecommuting, defined here as the use of telecommunications and/or computer equipment to carry out normal day-to-day activities while physically located offsite from the standard workplace, is their concern about isolation (Kurland & Egan, 1999). The concern can be professional or social. Professional isolation occurs when telecommuters fear that they will be bypassed for promotions or other organizational rewards (Kurland & Bailey, 1999; Kurland & Egan, 1999). Social isolation occurs because of lack of interaction with people. The most important perceived disadvantage of telecommuting cited by individuals is missing "out on peer interaction which is critical for my professional development" (Teo, Lim & Wai, 1998, p. 337).

If employees feel isolated from the workplace, they may be outside the informal network and organization's socialization process. After studying the effects of formalization on fairness perceptions of telecommuters, Kurland and Egan (1999) called for research on whether telecommuting presents a challenge to maintaining a corporate culture because those who telecommute can no longer be exposed to the organization's beliefs and values. Organizations may find it difficult to transmit their culture to telecommuters (Kurland & Bailey, 1999). Meanwhile, Baruch (2001) suggests that little research has been done on organizational culture's effect on telecommuting and calls for research on what organizational culture types support telecommuting, noting that culture may range from supportive, submissive, indifferent, or rejecting.

Culture describes the set of beliefs, assumptions, shared core values, and important understandings that organizational members hold (Sackmann, 1992). How supportive the organizational culture is to telecommuters and the fit of telecommuting with the worker's attitudes, values and norms are two of the top four most important

antecedents to successful telecommuting arrangements (Baruch, 2001).

While culture can be evaluated from a qualitative approach, it can also be measured by how organizational members describe the values that the organization uses to position itself. Quinn and Rohrbaugh (1981, 1983) developed a framework that they believe describes organizational values, including a commitment to innovation. Their view of culture is that it is defined by values that provide competing viewpoints on the meaning of organizational effectiveness. This "competing values" framework juxtaposes organizational flexibility with organizational order, and external (to the organization) focus with an internal (within the organization) focus. Of interest to this study are their hierarchical and rational dimensions. Hierarchical values are oriented toward control, conservativeness, procedures, and rules (cf. Zammuto & Krakower, 1991). Rational values are oriented toward control, goal setting, outcomes, competence, and efficiency. Both culture dimensions focus on control, but hierarchical focuses on the people internal to the organization, whereas rational focuses on control or outcomes with respect to the organization.

This paper examines the relationship of rational and hierarchical values to telecommuting implementation and to telecommuters' quality of work life and professional isolation.

CULTURES SUPPORTING TELECOMMUTING

There are many advantages to both employees and employers in the use of telecommuting, and while these are documented more in depth elsewhere, they include more flexibility, fewer distractions, reduced office space cost, compliance with environmental regulations, increased productivity, and increased talent pool (cf. Apgar, 1998; Baruch, 2001; Kurland & Bailey, 1999). Telecommuters gain autonomy and control over their work lives. Popular press accounts of successful telecommuting programs report that telecommuters take fewer sick days, have higher job satisfaction and have higher work performance ratings (Kurland & Bailey, 1999). A study by the Office of Information Resources Management (2000) reported a substantial increase in satisfaction levels and quality of work life as a result of a virtual work arrangement, or what they called flexiplace:

- 93% achieved greater balance between their professional and personal lives
- 88% experienced a lower level of stress
- 82% reported their morale improved
- 59% were more motivated while telecommuting

Equally important, 100% of the managers of the participants were satisfied or very satisfied with flexiplace as an alternative work arrangement and understood the value of flexiplace as a business tool to attract and retain skilled employees.

However, the major challenge is that a virtual office requires drastic changes to the way workers are evaluated, organized and informed (Davenport & Pearlson, 1998). Managers no longer are able to manage by "walking around" and viewing employees. Formal, scheduled meetings may not be enough (Kurland & Bailey, 1999), and scheduling meetings and gathering people together for informal sessions is a problem (Borenstein, 1996). Difficulty in communicating between telecommuters and their peers may also be an issue, since much office communication tends to be informal, and telecommuters are not where they can be part of those communications (Kurland & Bailey, 1999).

From the management perspective, the organizing principles of the workplace are discipline and inspection which leads to organizational hierarchies (Perin, 1991). However, among the defining characteristics of virtual organizations is the "separation of conceptualization from execution of tasks" (Mowshowitz, 1994, pg. 269), or, in other words, the separation of those who specify requirements and inspect results and those who satisfy the requirements (Mowshowitz, 1997). The separation of requirements and satisfiers results in managers necessarily being explicit in stating outcome criteria for assignments (Mowshowitz, 1997).

This management change is necessitated because telecommuting involves employees who are working outside of the gaze of their managers (Baruch, 2001). The manager's sense of loss of control can result in excessive efforts to contact the employee, usually via phone or in person, or monitor the worker's efforts rather than outcomes (Wiesenfeld, Raghuram & Garud, 1999). Where the culture emphasizes output, rather than process, greater delegation and trust have occurred and resulted in higher levels of performance (Jarvenpaa, Knoll & Leidner, 1998;

El Sawy, 1985). Trust of employees will lessen the need for control and encourage telecommuting (Soule, 1998). In addition, sustaining trust after telecommuting implementation will reduce the transaction costs associated with monitoring remote employees.

Trust between managers and telecommuters can occur by having pre-existing work relationships. Evidence suggests that the more distant employees are from the vision of the company, the less they understand the company's strategy and are less able to execute their jobs without close supervision (Borenstein, 1996). Integrating new employees into the vision is a challenge (Borenstein, 1996). New employees pose a major barrier to the trust and socialization important to telecommuting, for they have little opportunity to learn from others (Davenport & Pearlson, 1998; Wiesenfeld et al., 1999).

Often organizations do not allow new employees to telecommute: i.e., only those who already understand the culture and their job expectations can qualify to become telecommuters. However, another way to increase trust is by providing procedures and rules that clarify responsibilities or rewards. Researchers (e.g., Sitkin & Roth, 1993; El Sawy, 1985) suggest that organizations frequently adopt formal rules when trust is lacking: i.e., as the manager's ability to monitor diminishes, performance evaluation becomes increasingly formalized through greater institutionalization of rules, and clearly specified job descriptions and performance standards increase (Kurland & Egan, 1999). Kurland and Egan (1999) found that communication formality and job formalization were correlated with telecommuters' perceptions of procedural justice (the process of distributing rewards) and perceptions of distributive justice (rewards from work, such as promotions). Thus it would be expected that greater job formalization would lessen the problem of professional isolation.

Although formalized procedures can lead to increased justice perceptions and trust, it is believed that an open, dynamic, nonhierarchical, technologically advanced organization and organizational culture is more likely than a highly structured, command-driven one to initially adopt an alternate work arrangement (Apgar, 1998). A mass production mentality of having a rigid bureaucratic structuring, with concentrations of people for control and coordination, is reflected in the cultural values and norms of a hierarchical organization (Jackson & Van der Wielen, 1998). The new governance and altered role of managers of telecommuters creates a new organizational form not consistent with the traditional hierarchical organization (Wiesenfeld et al., 1999). These changes create uncertainty about the organization's enduring character and alter factors that are symbolic of the organization's values (Wiesenfeld, et al., 1999). Tradition-conscious, hierarchical organizations may require greater adjustment to virtual work arrangements, and the ability to be more flexible and informal is believed to be a key to telecommuting satisfaction and success (Apgar, 1998). Because of hierarchical control, large organizations are not conducive to trust, and it is better to devise smaller, fairly constant groupings of employees in such organizations (Handy, 1995).

Telecommuters have indicated that having the program in organizations that encourage innovation is important, thus confirming the importance of an innovative culture in facilitating the change (Ford & McLaughlin, 1995). Managers and workers should be trained for the new culture: how often to communicate, whether to talk or type, and what to say when they do (Apgar, 1998). The organizational culture cannot be taken for granted, and it is not easy to carry forward standard office culture into a telecommuting environment (Apgar, 1998).

While one concern is the transmission of cultural values to telecommuters, it may also be that the isolation or environment of telecommuters results in a change to the culture. Arguments in favor of an altered culture suggest that when employees are removed from the informal discussions that reinforce and clarify values, the culture is weakened. Alternately, arguments exist that suggest that the culture may be strengthened because employees are more independent, flexible and results-oriented (Gainey, Kelley & Hill, 1999). Gainey et al. (1999) argue that: (a) those cultures without procedural guidelines that depend on close supervision by a central manager would be most weakened by telecommuting, (b) those cultures that are procedure oriented and have procedures in place would be strengthened, and (c) those cultures where the employees are independent and can independently accomplish their work would be strengthened. Gainey, et al. (1999) developed but did not test the hypothesis that isolation may differentially alter culture strength depending on the existing type of culture.

It is believed that organizations that have been most successful at implementing virtual offices have developed new cultures that support the new work environment and are based on results (Davenport & Pearlson, 1998). However, we found no scholarly research that looked at the culture within an organization once telecommuting has occurred. The above discussion implies that the telecommuting environment must be flexible, less bureaucratic and rational (outcomes-based) but have procedures in place that support the virtual work arrangement. While one may argue that

the implementation of telecommuting may be affected by the entire culture, it is also likely that the subculture surrounding the virtual work arrangement may be affected by telecommuting.

However, in a study on the existence of subcultures, Sackmann (1992) found that cultural homogeneity exists across divisions, tenure, function, or hierarchy with respect to how tasks are accomplished, how people relate to each other, adapt and change, and how new knowledge is acquired. Changes to accomplishing tasks, relating to each other, and knowledge acquisition are all part of telecommuting implementation, and so it would be expected that the cultural values relevant to telecommuting would be homogeneous across the organization. If a difference in subculture exists after telecommuting implementation then evidence would exist that subcultures may arise from virtual work arrangements.

In sum, based on the above literature, a bureaucratic culture is generally seen as less conducive to the adoption of telecommuting because of its inflexibility and implications of centralized control. However, procedures associated with bureaucratic cultures may aid trust and reduce professional isolation. In an examination of previous research findings, Adler and Borys (1996) found that bureaucracies do poorly in the generation of innovations but well in the implementation of innovations. In implementation, some level of bureaucracy is important in maintaining trust and justice among telecommuters. In particular, bureaucracy that results in formalized procedures that allow the employees to master their tasks and allow managers to fairly distribute rewards improve quality of work life attitudes and reduce professional isolation (Adler & Borys, 1996). Formalized procedures enable employees to see the overlap between their goals and those of the organization, reduce role stress and ambiguity, and reduce feelings of alienation (Adler & Borys, 1996). Therefore, it appears that hierarchical cultures tend to block telecommuting adoption but facilitate trust and telecommuter satisfaction once it is implemented. For the sake of this exploratory study, we propose:

H1:   Telecommuters will tend to be found in less hierarchical organizational cultures.

H2:   Among telecommuters, the stronger the hierarchical culture, the higher the telecommuter's satisfaction:
        H2a: The stronger the hierarchical culture, the greater the telecommuters' quality of work life.
        H2b: The stronger the hierarchical culture, the less the professional isolation.

The literature generally supports the idea that an outcomes-based culture is seen as more conducive to successful telecommuting. In one of the few studies on culture and telecommuting, Harrington and Ruppel (1999) found that companies with an outcomes-based culture (i.e., a rational culture) were more likely to adopt and diffuse telecommuting. Therefore, we propose:

H3:   Telecommuters will tend to be found in more rational organizational cultures.

H4:   Among telecommuters, the stronger the rational culture, the higher the telecommuter's satisfaction with the
        virtual work arrangement:
        H4a: The stronger the rational culture, the greater the telecommuters' quality of work life
        H4b: The stronger the rational culture, the less the professional isolation.

METHODOLOGY

Sample

Our sample consisted of management and non-management employees from a federal government agency. This agency provides technology-related services to other federal agencies. At the time of the survey, the federal government had begun a progressive movement toward allowing more employees to telecommute, with Congress passing legislation the following year to allow all federal employees to eventually telecommute.

After defining telecommuting, as "the use of telecommunications and/or computer equipment to carry out normal day-to-day activities while physically located offsite from the standard workplace," the participants were asked if they currently telecommute and, if they telecommuted, how many hours per week they spent telecommuting. They were also asked if they were a manager or supervisor. Of the 78 participants, 38 telecommuted on average for 24 hours each per week. Thirteen participants were managers.

Measures

Telecommuter Professional Isolation. Consistent with the questions posed by Teo, et al. (1998), professional isolation was measured with four 5-point Likert-style statements, such as "Telecommuting would adversely affect my career development due to reduced physical presence in the workplace." The statements loaded on one factor in a factor analysis with orthogonal rotation, resulting in a measure with adequate reliability (see Appendix A).

Quality of Work Life. Quality of work life was measured by agreement or disagreement to three Likert-style statements, such as "Telecommuting would improve my quality of work life." The statements loaded on one factor in a factor analysis with orthogonal rotation, resulting in a measure with adequate reliability (see Appendix A).

Corporate Culture. Based on the emphasis on hierarchical and rational corporate cultures in this paper, an appropriate instrument for this study is the competing values of corporate culture framework, which includes hierarchical and rational culture types. As previously mentioned, the rational culture type emphasizes organization, control, goal setting, outcomes, competence, management evaluation of performance and efficiency. The hierarchical type emphasizes people, control, conservative, procedures, and rules (cf. Greenwood & Hinings, 1993; Zammuto & Krakower, 1991).

Respondents were asked to rate on a 5-point scale the extent to which each statement described their work environment. Examples are:
- Rational: "My organization is a very production oriented place. People are concerned with getting the job done " (3 items)
- Hierarchical: "My organization is a very formal and structured place. People pay attention to procedures to get things done." (3 items).

The questions for each culture type loaded on the same factor in factor analysis with orthogonal rotation and had adequate reliability (see Appendix B).

RESULTS

To test whether the culture was different between telecommuters and non-telecommuters, the Wilcoxon rank sums test was used. This test is equivalent to a non-parametric t-test and is appropriate to Likert style scales. Managers and non-managers were used to measure culture, since culture at an organization level would affect telecommuting adoption. In accordance with the hypotheses, only non-managerial telecommuters were used to measure quality of work life and professional isolation. The results (Table 1) suggest that telecommuting does tend to occur in a less hierarchical culture (Z=-1.8719, p=.03, one-sided), supporting hypothesis 1. However, there was no significant difference in the rational culture between telecommuters and non-telecommuters, giving no support for hypothesis 3. Of interest also is that quality of work life and professional isolation were significantly higher for telecommuters than for non-telecommuters, supporting the literature and theory surrounding virtual workers.

As can be seen from Table 2, the dispersion of responses for hierarchical values was wider than for rational values. While rational values (on a 5-point scale, with 3 the midpoint) were generally showing agreement, hierarchical values fluctuated from disagreement to strong agreement. This dispersion was true for non-telecommuters and telecommuters alike, suggesting much less consensus within the organization on whether hierarchical values are part of the organizational culture.

	Non-telecommuter mean score	Telecommuter mean score	Z Score	p-value
Managers and non-managers	**N=48**	**N=30**		
Hierarchical culture	43.281250	33.450000	-1.8719	.03
Rational culture	40.614583	37.716667	-0.5549	N.S.
Non-managers only	**N=41**	**N=24**		
Quality of work life	29.914634	38.270833	1.7336	.04
Professional isolation	28.975610	39.875000	2.2462	.02

Table 1: Wilcoxon Scores (Rank sums test)

	Minimum	Average	Maximum	Std Dev
Hierarchical				
Non telecommuters	1.67	3.15	5.00	0.82
Telecommuters	1.33	2.76	4.33	0.90
Rational				
Non telecommuters	2.67	4.20	5.00	0.52
Telecommuters	3.00	4.14	5.00	0.51

Table 2: Comparison of Cultural Values Between Non Telecommuters and Telecommuters

Hypotheses 2 and 4 suggest that higher rational and hierarchical cultures will lead to greater quality of work life and less professional isolation. Both of these sets of hypotheses were supported (see Table 3).

Variable	1	2	3
1. Hierarchical culture			
2. Rational culture	0.394		
3. Quality of work life	0.463^*	0.704^{***}	
4. Professional isolation	-0.595^{**}	-0.600^{**}	-0.686^{***}
$*p<.05$ $**p<.01$ $***p<.001$			

Table 3: Spearman Correlation Coefficients
Telecommuter Evaluations of Quality of Work life and Professional Isolation
N=24

DISCUSSION AND CONCLUSIONS

As suggested by the literature, telecommuters reported a significantly lower quality of work life and higher level of professional isolation than their peers. A goal of this research was to examine the relationship of organizational culture to telecommuting and to these negative outcomes.

This paper hypothesized that telecommuting will tend to be adopted in more rational and less hierarchical cultures: i.e., those that support objectives-setting within a less bureaucratic or controlling environment. It also hypothesized that, after telecommuting adoption, telecommuters themselves would report higher quality of work life and less professional isolation in outcomes-based (rational) and more procedurally oriented (hierarchical) cultures.

A major result of this study is that higher levels of hierarchical and rational values were associated with higher levels of quality of work life and less professional isolation among telecommuters, suggesting that procedures and objectives-setting add clarity and trust to the telecommuting environment. Managers should ensure procedures and outcome based measures are in place to aid the telecommuter and foster mutual understanding.

Contrary to hypothesis, the level of the outcomes-based rational culture was no different between non-telecommuters and telecommuters. It may be because the organization already had values that are associated with a rational culture and compatible to telecommuting, with no pockets of more rational subcultures or no culture change necessary. The generally high and consistent agreement to the rational culture statements supports this view. A rational culture is especially suited to telecommuting, and telecommuting may be more likely to be implemented in a rational culture.

As hypothesized, telecommuters did report a less hierarchical culture than their non-telecommuting peers. Because this study is cross-sectional, it is unknown whether the less hierarchical culture existed prior to or after telecommuting was implemented. Based on the theory presented here, less hierarchical subunits would be more likely to implement an innovation such as telecommuting. If so, telecommuting may be viewed as countercultural to highly bureaucratic organizations, where it may never be initiated or may be susceptible to failed implementation attempts. Future research may wish to examine implementation of virtual work arrangements into a hierarchical culture, paying special attention to the specific culture within the subunits.

Combining the two results, i.e., that telecommuters in general reported lower levels of hierarchical values than their non-telecommuting peers, and higher levels of hierarchical values were associated with quality of work life and less professional isolation within telecommuters themselves, it is suggested that once past the initial adoption phase, existing bureaucratic values may promote telecommuting. As proposed by Adler and Borys (1996), bureaucracy that results in formalized procedures that allow the employees to master their tasks and allow managers to fairly distribute rewards improves quality of work life attitudes and reduce professional isolation.

Because the dispersion of the mean of hierarchical values is wide within the non-telecommuters as well as the telecommuters, it appears that subcultures exist within this organization. Therefore one could argue that telecommuting most likely occurred within subunits that were less hierarchical than the non-telecommuting subunits. Alternately the variability of hierarchical values within telecommuters only (from 1.33 to 4.33) suggests that telecommuting was adopted even in more hierarchical subunits; from that perspective, it could be argued that telecommuting subunits may have been like all other subunits within the organization and become less hierarchical after adoption.

This finding is consistent with Sackmann (1992) who proposed that subcultures can exist within an organization. However, Sackmann (1992) found that the organization was homogeneous across subunits with respect to how tasks were accomplished, how people related to each other, how adaptation and change are accomplished, and how new knowledge was acquired and existing knowledge was perpetuated. Similar homogeneous values were not found in this study. The implication is that subunits that are removed from the daily communication and interaction of the organization may experience an evolution of organizational values. The result is in line with Gainey et al.'s (1999) proposition that those cultures that do not have procedural guidelines and that depend on close supervision by a central manager would be most weakened by telecommuting, and those cultures that are procedure oriented and have procedures in place would be strengthened. If so, predictions that virtual work arrangements may alter the

organizational culture and that subcultures may arise from telecommuting are true. This finding has implications for management and researchers alike.

For management the implication is that the virtual worker may have different values than traditional workers, leading to misunderstandings, differences in opinions on what is best for the organization, and perhaps some unpredictable work behaviors. It would be up to management as to whether the virtual work arrangement should mandate a specific amount of time or interaction at the physical workplace to help communicate values and avoid such problems.

From a research perspective, a promising area would be a longitudinal study on the initiators and consequences of a subculture within the organization. Greater understanding of initiators and consequences would aid management in avoiding the development of subcultures and the possible problems that might arise from their existence. Greater understanding of the evolution of subcultures would also aid researchers who use culture in a wide variety of studies in an effort to understand organizational change. If research is based on the belief that culture is homogeneous within organizations, research results may not be valid for organizations where subcultures exist.

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APPENDIX A
Factor Analysis of Dependent Variables

		Quality of work life	Professional isolation
P1	Adversely affect my career development due to reduced physical presence in the workplace.	-0.2572	**0.6077**
P2	Force me to miss out on technical discussions that are important to the development of technical expertise.	-0.0753	**0.9022**
P3	Cause me to miss out on peer interaction which is critical for my professional development.	-0.0463	**0.9003**
P4	Make participation in meetings difficult to schedule because of reduced time spent in the workplace.	-0.4450	**0.5979**
Q1	Allow me to learn to plan and organize my time better.	**0.8453**	-0.0915
Q2	Improve my morale because I would feel treated as a responsible professional.	**0.8694**	-0.1622
Q3	Improve my quality of work life.	**0.8674**	-0.2449
	Standardized Cronbach alpha coefficient N = 65	0.86	0.80

APPENDIX B
Factor Analysis of Independent Variables

	Hierarchical	Rational
My organization is a very formal and structured place. People pay attention to procedures to get things done.	**0.9292**	-0.1066
The glue that holds my organization together is formal rules and policies. Following rules is important.	**0.8117**	0.1850
My organization emphasizes permanence and stability. Efficiency is important.	**0.7201**	0.3693
My organization is very production-oriented place. People are concerned with getting the job done.	-0.0057	**0.7524**
The glue that holds my organization together is an emphasis on tasks and goal accomplishment. A production and achevement orientation is shared.	0.1310	**0.8206**
My organization emphasizes outcomes and achievement. Accomplishing goals is important.	0.2433	**0.7972**
N=22		
Standardized Cronbach alpha coefficient	0.79	0.73