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ARE WALLS JUST WALLS? ORGANIZATIONAL CULTURE EMERGENCE IN A VIRTUAL FIRM

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ABSTRACT

Though we often take it for granted, we often think of organizational culture as occurring in a physical location. For enduring utility, the concept needs an extension to encompass alternative conceptualizations. As such, this paper includes contributions from organizational culture (Schein, Chatman, Spillman, Martin), virtual work (Wiesenfeld, Raghuram, and Garud, Cummings, Wilson) and anthropology (Anderson and Appadurai), among others to develop a framework for maintaining organizational culture without a physical environment. Using data from a qualitative and quantitative case study, I explore whether a small, completely virtual organization can maintain a shared imagined community using selection, socialization, and other processes needed to compensate for being completely virtual.

Key words:

Virtual work, organizational culture, mixed methods

Recent work on organizational culture has focused on links between organizational culture and organizational memory (Fiedler and Welpe, 2010, Rowlinson, at al, 2010), organizational learning (Berends and Lammers, 2010), innovation (Bartel and Garud, 2009, Gebert et al, 2010) and cultivation (Harrison and Corley 2010). It has not focused on explicitly reconceptualizing where an organization's culture 'lives'. In fact, conceptualizations of organizational culture have tended to anchor a firm's artifacts, symbols, shared norms, beliefs, and behavioral expectations in a physical location, in proximate space (Whyte 1956, Allaire and Firsirotu, 1984, Hatch, 1993). Assuming that patterns of interaction, and the ways an organization's culture can be sustained are linked to the brick- and-mortar location where the organization 'lives' may once have been sufficient for understanding organizational culture.

Removing the constraint of thinking about culture as a manifestation of direct, face-to-face interactions makes it possible to extend discussions of organizational culture to a form of organization and work that does not have a physical space. Specifically, I build on Wiesenfeld, Raghuram, and Garud's (2001) treatment of virtual work as a situation where an employee works outside of a traditional office space. Virtual work is a growing practice, with as many as 34 million Americans working at least part time from home (Chafkin, 2010). Virtual work also has many benefits. For example, Sun Microsystems estimates that having almost one-half of its employees work remotely saves the company $300 million in real estate costs per year. (Business Week, 2005). According to internal studies conducted by IBM, white-collar employees who moved from one of the company's corporate offices to work from home had a 15-40% increase in productivity (Lococo and Yen, 1998, Cascio, 2000.). While there is little recent academic work identifying specific business-related benefits, the fact that Sun and IBM tout "virtualism's" virtues is one reason the business press has accepted as fact the perception that virtual work is both important and cost-effective.

Despite the increasing reliance on virtual work and its apparent benefits, there are questions about what effects virtual work has on the communities of workers that are the core of business practice and productivity. Canonical conceptualizations of organizational culture (Meek, 1988, Hatch and Cunliffe, 2006), which tie both the production and persistence of culture to location, suggest that the lack of face-to-face interaction that characterizes virtual work – the reliance on maintaining relations virtually -- means culture is attenuated and often less positive.

However, if we take seriously arguments about the creation of community and culture through a shared image (Anderson, 1983) and the indirect interaction of community members through this shared image, we may be able to explain the organizational culture of virtual firms better than we currently do – and know more about if and how they work, as we have been able to explain organizational cultures of traditional brick and mortar firms. The extent to which the virtues of virtual work in a virtual *firm* can be realized is an empirical question and ought to be demonstrable through empirical research, which I pursue in the current work.

Specifically, I use an in-depth, qualitative case study and quantitative survey data to explore organizational culture at a small, entirely 'virtual firm'. I find that it indeed is

possible for a virtual organization to exist primarily as an 'imagined community' and that physical space is not necessary for an organization to have a strong culture.

THEORETICAL BACKGROUND

Though it is rarely enunciated, most discussions of organizational culture are about social structures that operate within four walls (see Ouchi & Wilkins, 1985, Deal and Kennedy, 1982, Alvesson, 1990, Hofstede, et al. 1990, Denison and Mishra, 1993, Fletcher, 2002, O'Mahony, 2007, among others). Thinking about culture manifested primarily in a direct way extends even to the discussion of organizational culture in a "virtual" setting (Townsend, DeMarie, and Hendrickson, 1998, Cascio, 2000, Duarte and Snyder, 2001, Dani et al 2006). But what actually happens to the culture of an enterprise in a company when some co-workers work "virtually"?

As virtual work has become more prevalent, researchers have begun to look at the impacts on a company's behaviors, rituals, and interactions when its employees are not all in the same location. "How we interact with those around us influences what they think of us, how they judge our actions, and our relationships with them." (Cameron and Webster, 2011:767). How we interact is affected by whether we interact in person or virtually. Some of the existing organizational culture models may be relevant in virtual settings, but given the priority placed on direct reinforcement of culture, such models may not adequately address the complexity of this arrangement.

Without explicitly theorizing alternative conceptualizations of culture, we may be less well positioned to understand the organizational cultures of many modern firms. For example, Anderson (1983) argues in his non-organizational work on diasporas that community can be based on a shared image, even though members may not see each other often, or at all. Instead, members hold in their minds a mental image of their affinity for the community and a shared image of a heritage and homeland to which they may never physically travel. Group members are connected to each other, indirectly, through their shared attachment to a psychosocial space[1] that represents and reinforces their culture. Appadurai's work on modernity focuses on the new role of the imagination as a "collective, social fact" (1996, p. 5), which has broken out of its traditional domain of creative individual expression and entered the daily lives of ordinary people. This interweaving of imagination and everyday life, combined with an emphasis on the collective, enables what Appadurai (1990) has termed a 'community of sentiment', one that feels and imagines things together without needing to be in the same location. Their actions indirectly support and reinforce the "imagination as social practice" (Durkheim, 1995, Appadurai, 1996, p. 31) since they are all engaging in this behavior.

The concept of the imagination as social practice is incorporated in Anderson's and Appadurai's work on diasporic communities (Anderson, 1983, Appadurai, 1996), where the development of a collective social imagination for a particular group has enabled them, through accessing an 'imagined world', to feel part of a group they do not often see face-to-face. A shared culture can exist, reinforced indirectly, and it can incorporate references to

common artifacts or behaviors, or common imagined places, even in the absence of a shared physical location. As Castells (2009, p. xxix) points out, "the development of digital communication… transformed the spatiality of social interaction by introducing simultaneity, or any chosen time frame, in social practices, regardless of the location of the actors engaged in the communication practice." But an indirect, non-spatial model of culture has mainly been applied to ethnic or national culture, and few investigations have extended the new perspective into the Organizational Culture literature.

The most recent (2006-2011) work in organizational culture and virtual work tends to focus on managing performance of global virtual teams (Brown et al, 2010, Sarker et al 2011), ensuring knowledge management, managing virtual worker/coworker tensions, or maintaining a virtual community of practice within a traditional organization (Alavi, 2006, Duarte and Snyder, 2006, Dube, 2006, Golden, 2007, Golden, 2008, Peters, 2007, Ale Ebrahim et al 2010 among others). The indirect view of culture suggests a virtual firm can create a 'shared imagined community' even without physical proximity, through a combination of strong person-organization fit, strong employee socialization, and compensating techniques for being virtual. This in turn can moderate the effects of working virtually and can lead to strong levels of employee commitment – as an outcome of shared imagined community. Figure 1 highlights the relationships among "virtualness" (computer-mediated communication), shared imagined community, and commitment.

Figure 1: Indirect View of Culture – Link Between Imagined Community, Consensus About Culture, and Employee Commitment
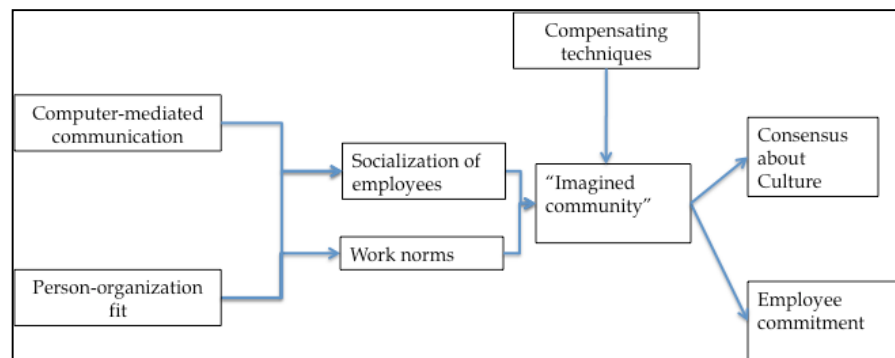
Person-organization fit theory (Chatman, 1991) describes the process by which individuals choose to join an organization. There is a selection effect for any organization, where the individual chooses to be part of a firm because of some combination of characteristics that individual finds appealing. In firms that are not traditional, we might expect fit effects to be much stronger, because the specific characteristics of the workplace reflect a conscious choice on the part of the new employee rather than a background taken-for-granted. In the case of the completely virtual firm, this theory would suggest that there are individuals with specific characteristics the organization wants and who choose to be part of a virtual firm, value being part of that firm, and feel very committed to their co-workers

and the firm as a result. This fit between the person and the virtual organization would in theory moderate the impact of being virtual.

When employees are dispersed or working virtually it becomes increasingly important to create and maintain certain levels of socialization and social control. We would expect socialization to occur differently in a primarily or wholly virtual firm than in a traditional firm with some workers working virtually. Virtual work "reduces direct supervision, coordination, feedback, and the conditions under which rules and norms are communicated." (Thatcher and Zhu, 2006: 1079). Research examining the socialization of virtual workers suggests that direct (i.e. traditional, physically located) positive employee socialization is associated with increased employee commitment, which both feeds back into ongoing socialization and leads to increased willingness to socialize other employees (Wiesenfeld, Raghuram, and Garud, 1999). Crucial to the view expressed above, and where empirical observation of a virtual firm is so important, is the assumption that employee socialization occurs primarily and needs to be created and maintained in a physical location.

Compensating techniques also play important roles in a virtual firm – literally replacing the face-to-face reinforcement of norms, social support, and other activities found in firms with a physical location. In their ethnographic study of an intra-company message board/chat room Menchik and Tian (2008) point out that common language, common symbols and operating norms can control terminology, relevance, and situational/background ambiguity in computer-mediated communication. This is important because [c]omputer-mediated communication reduces nonverbal cues about interpersonal affections such as tone,   warmth,   and   attentiveness,   which   contribute   to message   clarity and communication richness." (Gibson and Gibbs, 2006: 458) On a related point, in dealing with dispersed groups, Ghosh, Yates, and Orlikowski (2004) highlight how important it is to manage group communication norms to minimize conflict and ambiguity-- preventive norms, which occur before a distributed group undertakes its tasks, and corrective norms, which help get the group back on track after some unplanned event or crisis occurs. One might extend this to predict that in a virtual environment, preventive norms take on a more critical role; 'getting it right the first time' in communication becomes more important when you cannot read social cues in person.

In studying virtual work, Wilson et al. (2008) see increased achieving perceived proximity (the feeling of being close when physically you are not) as enabling organizations with dispersed workers to achieve many benefits of co-location. One can extend Wilson's argument about perceived proximity to say that in the absence of direct interaction and physical proximity, perceived proximity is needed to have the dispersed group of co-workers function well together in support of company goals.

STUDY DESIGN AND SAMPLE

Research Setting

In order to test whether a virtual organization can achieve a shared imagined community, a qualitative and quantitative case study of the organizational culture of a small, virtual financial services consulting firm/hedge fund (referred to as VirtualCo) was conducted. VirtualCo has approximately 40-50 clients. This company seemed particularly interesting given the kind of work they do, and the collaborative work required to do it well. The company's formal structure is relatively flat, with a CEO, a COO, an analyst team, and administrative support. The firm has a total of seven employees, both professional and administrative, all living within the Eastern time-zone. Four of the employees had previously worked together, and the firm has been in existence for six years. For purposes of anonymity I have given the firm's employees pseudonyms. The CEO is referred to as Max, the members of the Analyst team have been given names starting with the letter "A" (for "analyst"), and the COO and administrative assistant have been given names starting with the letter "S" (for "support staff").[2]

Data Collection

I collected qualitative and quantitative data on VirtualCo in order to get an understanding of their culture and corresponding commitment levels. For the qualitative data collection, I interviewed all employees of VirtualCo with open-ended interviews, lasting between 60 and 120 minutes. Where possible the interviews were conducted in person, and since the company does not have an office, the in-person interviews were conducted in coffee shops. Given the dispersed nature of the firm's employees, two of the interviews were conducted via telephone. Anthropologists or ethnographers might argue that without the ability to see body language in conversation, interviewers lose some information about their subjects. However, information collected via telephone interviews was confirmed by questionnaire responses for those individuals as well as in-person interviews with other employees. The interviews were recorded and transcribed.

Adami (1999) discusses three types of control necessary in a dispersed environment; direct/input control, process control, and output control. She defined input control as recruitment, development and socialization processes, process control as control designed to shape employee behaviors, and output control as specific measures that determine whether a set of tasks has been completed to the satisfaction of a superior and/or a customer. I created an open-ended interview guide using the Adami typology. All employees also completed an online closed-ended questionnaire. I take Martin's (2002) view of culture as both objectively and subjectively constrained and combine it with Schein's (1999) view of culture as a construct including both easy to observe layers, such as language, and harder to observe layers, such as values. The closed-ended questionnaire included information on both easy and hard to observe layers. In particular, the questionnaire asked each employee to describe the

values of the organization. The data collected by the interviews and questionnaire, and summarized in this paper, is focused on observing shared work values and norms along with shared language as examples of the organization's culture. Table 1 indicates how I have operationalized and how I am observing each of the variables.

Table 1: Summary of Variables in Case Study		
Variable	Operationalization	How Observed
Selection/person-organization fit	Company is selecting new employees with specific traits that make them more likely to succeed in this firm's virtual environment	Qualitatively via interview questions asking specifically about where employees worked prior to joining VirtualCo, how new employees are hired, what has happened when hiring mistakes have been made, and asking for employees to provide 5 adjectives to describe the firm
Employee socialization	Process by which employees adopt VirtualCo's norms and behaviors	Qualitatively via interview questions asking about the process of receiving and completing work assignments, questions about how employees know what is expected of them at work, how they treat other employees, and how they interact with the CEO (where relevant)
Computer-mediated communication	Type of communication engaged in by members of VirtualCo	Qualitatively via description of how firm operates

Quantitatively via survey questions asking about frequency of different media used to communicate |
| Work Norms | Specific processes VirtualCo does to operate in a purely virtual environment | Qualitatively via interview questions about use of Blackberry-based common email symbols, common email phrases, and other processes |
| Physical proximity | Face-to-face interaction and working in the same physical environment | Proximity did not vary across respondents. It was zero (i.e., non-proximate) for everyone.

Qualitatively via interview questions asking about impact of virtual work, work norms |
| Consensus about culture | VirtualCo employees' description of the company | Qualitatively via interview question asking employees to provide 5 adjectives to describe the firm

Quantitatively via survey questions gauging employee descriptions of the firm to an existing instrument (Competing Values Framework) |
| Employee commitment | VirtualCo employees feeling invested in VirtualCo's success and engaging in 'good citizen' behaviors | Quantitatively via survey questions and gauging employee answers to an existing instrument (Porter's Organizational Commitment Questionnaire) |

Analysis

In my qualitative analysis I used thematic coding to group interview and open-ended survey answers in the computer program nVivo. I began coding with some a priori themes, or etic codes. These included themes present in existing research on virtual work and organizational culture, the research question I was addressing, and questions from my survey and interviews. While evaluating the data I also used an inductive approach to let new codes (emic codes) emerge from the data as I read it. At the end of the first round of coding I had 25 codes. After reviewing and refining the coding several times, I ended with 8 major codes that were applicable to my research question. As Pike (1954), pointed out, these two approaches are complementary ways to study culture; the analyst can take the point of view of either the outsider (etic) or the insider (emic). Table 2 shows the eight codes I used as well as an example of the qualitative data in that category.

Table 2: Qualitative Thematic Codes and Examples	
Code	Example/Quotation from Interview
Communication (etic code)	"I get a lot of support from Max, lots of emails and incoming calls from Max. Andrea and I will talk when we're together. Sometimes we'll call each other. I don't talk to Amanda much."
Interaction (etic code)	"The less official interaction? You know, there's very few and far between. You know, Andrea made it one of her things that she was gonna call one person once a week type of thing and she'll call up and we'll have a little chitchat and that's that..but it's not as frequently as we like 'cause everyone's running around doing different things."
Employee connectedness (etic code)	"We look out for one another. If I can't make the trade, Amanda, on vacation, will do it. Or if Samantha needs a document I can help find it even though I'm in Sweden [on vacation] for a month."
Physical office environment (emic code)	Like the social, it's really difficult. I don't know, there is no way to replicate being able to poke your head over a cubicle and start talking about last night's episode of "The Office."
Virtual Work (etic code)	"I think what I miss about most of the stuff is like I think working with people, you have that time of talking about just regular things than you would talk about or you don't talk about on email. Like there's other interactions that I miss sometimes that you don't get from working virtually. "
Work Norms (etic code)	"I remember there was one moment when we were in a team meeting in Max's office and—so we're having a meeting, we're right in the middle of it, and we don't want to be disturbed. His phone rings and Samantha, went to answer it, he didn't want to talk. And she said, "OK, no, he's not here right now, can I take a message?" And that didn't fly because he was there—so that was, like, pounded into our culture from a very early time, too. It's like, there's a way to say "no" but not lie, she lied. It's not like he fired her for it or anything like that, it's not, like, that cutthroat crazy. These are little lessons that have stuck with me in my formative years when all this integrity, and accountability, and loyalty was instilled in me."
Social Hierarchy (emic code)	"No one has titles. But Art outranks both me and Amy in terms of responsibility he is given by Max. He meets with clients without Max, he puts together the newsletter with Amy's and my help. Art also has more sway with Max than either Amy or me."
Culture (etic code)	"The culture at my prior job was fear-based; see what you can do, in competition with coworkers for boss' approval and for compensation. Max tries to understand how people want to develop – at my prior job this wasn't the case."

For the quantitative analysis, I used two different techniques in addition to initial descriptive statistical analyses. I used the Competing Values Framework (CVF) (Quinn and Rohrbaugh, 1981, Cameron and Quinn 1999, and Scott 2003) to measure imagined community. The CVF tool allows me to compare perceptions of culture across respondents, using a standardized and validated instrument. This will enable me to see whether the firm has succeeded in creating a shared 'imagined community', as measured by proxy via consensus in the employees' views.

The second type of quantitative analysis involves measuring imagined community using the proxy of employee organizational commitment. Employee commitment is both affective and calculative. Meyer and Allen (1991) use affective commitment to refer to the employee's emotional attachment to, identification with, and involvement with the organization. Employees with strong affective commitment continue employment with the organization because they want to do so.[3] The case study of VirtualCo focuses only on affective commitment. I explored affective commitment using the short version of Porter's Organizational Commitment Questionnaire (Mathieu and Zajac, 1990). The OCQ (Porter, et. al, 1974, and Porter et. al., 1976), is strongly correlated (.83) with Allen and Meyer's Affective Commitment Scale (Meyer and Allen, 1990), another scale often used.

To measure employee organizational commitment at VirtualCo relative to a traditional firm, there had to be some way to compare VirtualCo employees' observed feelings of commitment. My comparison data came from the 1991 National Organizations

Survey (NOS), a representative sample of United States work organizations, with data from informants about human resources policies and practices. That data source used five of the same affective Organizational Commitment (OC) questions, asked and scaled in the same way as the VirtualCo survey. I combined the answers to the five affective OC questions and created a scale for each employee. Since VirtualCo is a small organization, I used a subset of the NOS data containing small organizations, those with 20 or fewer employees.   This yielded a comparison dataset of 85 observations. I created a linear regression using three types of variables to predict scores on an individual's Organizational Commitment scale: 1) theoretically relevant variables (those shown in prior research to be associated with affective organizational commitment); 2) individual-level characteristics, such as age, education, gender, marital status, and 3) firm-level characteristics, such as age of firm, what firm does, how many employees there are, and what sector the firm operates in. For each employee of VirtualCo I generated a predicted OC score from the NOS-based linear regression equation and compared it to the actual observed score for that employee.

FINDINGS

The findings from my case study are divided into two subsections. The first focuses on whether VirtualCo has a culture at all, and if so, how that is expressed (if at all) in terms of consensus about culture and employee commitment levels.   The second uses the operationalized variables summarized earlier in Table 1 to understand *how* VirtualCo's culture has emerged.

Overall Impressions of Virtual Co's Culture

VirtualCo is a typical young company in many ways. Amanda, one of the analysts, called the organization "a long shadow of its leader". In many respects, Max – the charismatic leader -- is a larger-than life "father figure" to his employees. He constantly wants to teach, coach, and redirect his employees, to support and push them to get to the next level in their work and personal lives. His employees see him as a mentor, and want to learn from him.   Max's dealings with his employees are very structured and follow a similar approach to what Adami (1999) laid out in dealing with dispersed employees – a great deal of control over process and output. This includes clearly defined time spent on tasks and projects and clearly defined desired outputs from employees.

Separate from the actual work produced by his employees, Max has tried to foster an environment where VirtualCo's co-workers actively look out for each other both professionally and personally, and he has nurtured and reinforced that supportiveness. Both Steve and Andrea described support from co-workers in terms of professional courtesy and development:

> Steve: "We look out for one another. If I can't make the trade, Amanda, on vacation, will do it. Or if Samantha needs a document I can help find it even though I'm in Sweden [on vacation] for a month."

Andrea: "It feels like there is more support than at my previous jobs. Max tries to understand how people want to develop. At my prior job that wasn't the case."

There does seem to be a visible culture at VirtualCo, driven largely by Max, supported and reinforced by his employees. The company is a demanding, intense, and task-oriented place to work. It is also supportive, with coworkers actively looking out for each other both professionally and personally. VirtualCo''s shared "imagined community" is the culmination of Max's leadership style, selection, socialization, physical proximity, work norms, and other compensating techniques. It is also an important direct determinant of consensus about the firm's culture and employee commitment. The CVF provides six questions, or categories, relating to different aspects of culture, and asks respondents to force-rank answers within each category. Each answer corresponds to a type of culture, measured on dimensions of flexibility vs. control, and internal vs. external orientation. The tool asks respondents to identify which of four archetypes of culture from the intersection of these dimensions best describes the company's approach.

Table 3 shows agreement among employees by showing the correlations in CVF cultural-type answers for each employee and each question in the CVF. The CVF questions are forced-ranking, or ipsative. These kinds of questions control response bias but can pose problems for analysis due to constraints on correlations – in other words, within each question there are artificially negative correlations.

I ran a separate correlation matrix for each type of culture, using employee responses to the six CVF questions. This allowed me to see the relationships among each employee's Clan-type answers, Hierarchy-type answers, etc. without these artificial negative correlations. I found that in general there were moderate to strong correlations among VirtualCo employees for the Clan and Hierarchy cultural type answers. The inter-employee correlations were weaker, though still present, for the Adhocracy and Market type answers. These statistical relationships would tend to indicate that there is agreement about the kind of culture VirtualCo has at an overall level, and where those cultural aspects are most prevalent.

		Max	Andrea	Art	Amanda	Amy	Samantha	Steve
Table 3: Correlation Matrix of Employee CVF Type Answers to Each Question, By CVF Cultural Type								
Clan	Max	1.000						
	Andrea	**0.7317**	1.000					
	Art	**0.8672**	**0.7316**	1.000				
	Amanda	**0.6088**	0.2083	**0.4279**	1.000			
	Amy	-0.1237	**0.245**	-0.2306	-0.0771	1.000		
	Samantha	**0.715**	**0.5657**	**0.5117**	**0.5887**	**0.5352**	1.000	
	Steve	**0.8218**	**0.7011**	**0.4959**	**0.4208**	0.000	**0.5681**	1.000
Hierarchy	Max	1.000						
	Andrea	**0.6292**	1.000					
	Art	**0.7964**	**0.3843**	1.000				
	Amanda	**0.6211**	**0.4189**	**0.942**	1.000			
	Amy	**0.9203**	**0.7313**	**0.4989**	**0.3001**	1.000		
	Samantha	**0.8249**	**0.3277**	**0.9869**	**0.8904**	**0.5424**	1.000	
	Steve	**0.8498**	0.1745	**0.7334**	**0.4629**	**0.7163**	**0.8033**	1.000
Adhocracy	Max	1.0000						
	Andrea	**0.5499**	1.0000					
	Art	**0.8769**	**0.6788**	1.0000				
	Amanda	**0.9299**	**0.7201**	**0.9348**	1.0000			
	Amy	0.0627	-0.2739	-0.0641	-0.2390	1.0000		
	Samantha	**0.6972**	**0.7000**	**0.8594**	**0.7014**	0.1565	1.0000	
	Steve	0.1087	0.2214	-0.0740	-0.0621	**0.6928**	0.0858	1.0000
Market	Max	1.0000						
	Andrea	**0.5542**	1.0000					
	Art	**0.7946**	-0.0120	1.0000				
	Amanda	-0.0366	-0.3904	0.1470	1.0000			
	Amy	**0.4055**	**0.2572**	**0.5037**	-0.6325	1.0000		
	Samantha	-0.1505	0.2227	-0.5034	-0.1369	-0.3608	1.0000	
	Steve	**0.5045**	**0.4923**	**0.2506**	0.2181	0.1293	**0.4107**	1.0000

Note: Correlations >=.25 shown in bold.

According to the CVF (Quinn and Rohrbaugh, 1999), a Clan organization has less focus on structure and control and a greater concern for flexibility. In a Clan-type environment, employees are motivated through vision, shared goals, outputs and outcomes. The company has a strong inward focus and a sense of family and people work well together, driven by loyalty to one another and the shared cause. Rules are often communicated and reinforced normatively through social means. Leaders act as coaches and facilitators, and as the name indicates often see employees as children. As Art commented, the employees of VirtualCo see themselves as being a family:

"Why would you want to join a family? If you consider us a family, with all the wonderful things that come with family and all the weird, can't use certain words that might come with family. But it is, it's an unbelievably loving family."

The second cultural area where there is strong inter-employee agreement is Hierarchy. A Hierarchy-based culture has a very traditional approach to structure and control that flows from a strict chain of command. In its most famous incarnation, this is outlined in Max Weber's view of bureaucracy (Weber, 1947). Hierarchy-based cultures often have well-defined policies, processes and procedures. And Hierarchical leaders are typically coordinators and organizers who keep a close eye on what is happening. This can be difficult to become used to, as the following quote from Amy illustrates:

> Amy: *"During the first 2 years – acclimating to his way of being -- I thought it was hell. I told Max I would design a handbook and training program for the next new hire, to make it easier for that person.*

There is moderate agreement on the items within an Adhocracy-based culture. Mintzberg (1979) referred to adhocracy as the postindustrial era's innovative organizational design, a flexible organizational form specialized for ad hoc tasks. It is characterized by several elements (Mintzberg and McHugh, 1985), with two being particularly relevant for VirtualCo: 1) the operating environment is simultaneously dynamic and complex, requiring sophisticated innovations, and 2) due to the complex and unpredictable nature of the work, organizational coordination is based on mutual adjustment and is stimulated by informal structural parameters. Coordination through direct control and standardization is generally considered undesirable.

This is important to note because at VirtualCo the management of employees is Hierarchy-based, not Adhocracy-based, so the culture has to be finely calibrated in order to avoid conflict and tension. The Adhocracy elements appear as secondary characteristics supporting the overall Clan-type culture. I would interpret the combination of cultural types as the company describing itself as a family, with a strong parental figure who can give the 'children' (employees) some flexibility and independence, but stands ready to reassert control if he thinks an employee is struggling or the process is breaking down.

Employee Commitment

The Organizational Culture/Virtual Work literature claims that working virtually leads to lower levels of employee organizational commitment as compared to working in a traditional office. I measured VirtualCo employees' feelings of commitment by asking them affective commitment questions from Porter's OCQ and comparing their answers to a linear regression generated from a subset of the NOS data containing small organizations, those with 20 or fewer employees. The adjusted R^2 for this linear regression equation was .3228. Table 4 shows the results from the linear regression. Appendix A contains more detail about the regression.

Table 4: NOS-Based Linear Regression Output				
	Variable		Coefficient	Standard error
Firm—level characteristics	Financial Sector		-0.00412	-0.00411
	Company sells product and service		2.336**	-1.162
	Organization in existence 5 years or less		-3.007***	-0.805
	# of FTEs		0.264***	-0.0742
	% of Employees that are women		3.379*	-1.794
	% working from home		0.000154	-0.0173
Individual-level characteristics	Respondent Age (years)		-0.0610**	-0.295
	Years of Education		0.0173	-0.153
	Number of Children		-0.183	-0.232
	Married		0.83	-0.783
Job-level characteristics	Found job from someone who worked there		0.0676	-0.905
	Found job from a friend		2.385***	-0.841
	I make decisions for my job		1.095	-1.038
	I can work independently		-1.215	-0.924
	I have a lot to say on my job		1.16	-0.953
	I supervise the work of others directly		0.66	-0.866
	How many FTES do you supervise?		0.00182	-0.00249
Constant			9.892***	-2.732
*** $p<0.01$, ** $p<0.05$, * $p<0.1$				

I then generated a predicted OC score from the NOS-based linear regression equation and compared it to the actual observed score for each VirtualCo employee. Prior research on virtual employees would lead one to expect higher predicted scores than observed scores. Table 5 shows the predicted and observed scores on the organizational commitment scale for each VirtualCo employee.[4]

Table 5: Predicted and Observed Organizational Commitment Scores for Employees of VirtualCo				
VirtualCo Employee	Predicted OCQ Score from NOS-based Linear Model Regression	Observed OCQ Score from Survey	Absolute Difference (Observed-Predicted)	Difference Measured in Standard Deviations from NOS Data
Max	16.53	19.00	2.47	0.72
Amy	15.34	14.00	-1.34	-0.39
Andrea	15.01	14.00	-1.01	-0.30
Amanda	13.30	14.00	0.70	0.21
Art	15.41	17.00	1.59	0.47
Steve	15.00	17.00	2.00	0.59
Samantha	13.63	17.00	3.37	0.99

The Organizational Culture literature argues that VirtualCo's affective OC scores should be lower than those of employees working in traditional physically located offices. But when comparing the observed affective OC scores with the predicted scores, five of the VirtualCo employees are not lower in absolute terms. Even the observed scores for Amy and Andrea, the two VirtualCo employees that have lower than predicted OC scores, are within one-half of one standard deviation of the predicted OC score. Overall, my findings indicated earlier that VirtualCo was able to develop a shared culture in the absence of a physical location by relying on selection, socialization, and other compensating techniques. The firm's employees have affective OC levels that are not different from those of employees working in traditional firms – this is an important manifestation of that shared culture.

Employee Selection/Person-Organization Fit

Max explicitly incorporates his assumptions, beliefs, and behavior into the work process. These beliefs and behavior are manifested in how employees are selected, coached to behave, work is organized, etc. The selection process is especially critical at VirtualCo; it occurs over months, with multiple interviews, meals, and conversations occurring between the potential hire and multiple VirtualCo employees, even when the individual in question is known by some of the current employees. As Chatman's (1991) work on selection discusses, it is important, particularly for a small firm, to be able to assess who a new person is when he or she enters the organization. As Andrea put it, "We are careful who we bring in. " VirtualCo's process also indirectly accords with the work of Wilson et al (2008), who point out that selecting individuals who have worked together before, or those with high tolerance for working out of an office or alone, can mitigate conflicts usually experienced by dispersed groups.

Socialization of Employees

After selecting employees with the right combination of specific traits, Max works hard through socialization and normative control to help set and reinforce a shared organizational image. (Van Maanen & Schein, 1978). Max encourages his employees to help each other out and also tries to support his employees as they are completing their tasks. Generally the employees of VirtualCo perceived their co-workers and Max as providing sufficient support to accomplish their tasks. In answering survey questions, one respondent disagreed with "feeling supported by the supervisor," and Max answered N/A to those questions. Andrea, the employee who feels least supported, did not work directly with Max before joining VirtualCo and sees him less than every other employee since she does not live in the New York metropolitan area.

Work Norms

Adami (1999) described process controls as controls designed to shape employee behaviors. Anderson (1983) spoke of creating a shared language to enable dispersed individuals to access a shared 'imagined community'. VirtualCo's employees are (almost) constantly working in a dispersed environment, and they communicate intensively via email and phone. Opportunities for correction or redirection are limited, so implementing preventive norms of how and when to communicate is critical. One way VirtualCo does this is through the intensively structured environment Max has instituted. They also try to control terminology, relevance, and ambiguity through common language, common symbols and operating norms, as Menchik and Tian (2008) described.

VirtualCo's communication norms and common language include internally agreed-upon definitions of words, such as *commit,* and prohibited words, such as *try*. They also have common symbols for Blackberry communication including: ? (I have a question), # (scheduling), or **** (extremely urgent). This shorthand enables all the VirtualCo employees to know what each person means in a given interaction and what the appropriate response is to a given symbol, and makes accessing the 'imagined community' of VirtualCo significantly easier. Amy explained how they came up with some of the Blackberry symbols:

Max sends emails as he is reviewing work -- you can get 10 emails on the same subject. [I]t was hard to know the difference between angry and excited on email. We gave Max suggestions on a Blackberry symbol for 'get back to him Monday' and to give us some breathing room for over the weekend.

All employees mentioned the words they could and could not use, with the following example from Art illustrating how he has absorbed the rules around VirtualCo's language.

Art: "Our company has our own rules about certain words, so we don't use the word "commit" unless it's a definite, like there is no way in hell I'm gonna fail. So commitment, there's this spectrum of trying, commit is 100% you're going to get it done. On the flip side, whenever I hear the word "try", you're basically telling me you're not going to do it. I've seen it too many times. So in our group, we don't use the word "try." If Andrea uses the word "try," I'll call her out."

Steve emphasized that the common language minimizes conflict.

Steve: "In a virtual firm that is really important because it minimizes differences and conflicts – everyone uses the same language."

SUMMARY OF FINDINGS/OPPORTUNITIES FOR FURTHER RESEARCH

VirtualCo is in many ways a typical young firm, one whose culture is particularly dependent upon the personality of its leader. VirtualCo has used a combination of a strong and lengthy selection process, extensive socialization, common language, and a great deal of structure in its work to create shared internalized norms. There are significant opportunities to further explore these relationships. First, the completely virtual setup will change. As

noted earlier, the company's revenues are comprised of hedge fund management fees and investment consulting fees. The growth opportunity is in the hedge fund, and the company is targeting deep-pocketed investors, since it has passed the three-year mark, an industry standard to move out of the high-risk category. However, this group of investors is loath to take risks, particularly in light of the Madoff scandal. As Max put it:

> *"Our hedge fund business is emerging. There's a lot of people that, when they ask us where are we, we don't want to start that conversation because they don't understand the virtual thing. We don't want to have to explain ourselves, or make it tough for someone to go take a chance on us."*

In September 2009, the company rented an office space where employees work two days a week.   The only exception to this was Andrea, who lives in a different metropolitan area from everyone else. She is in the office one week per month. All employees expressed the belief that it would help in increasing hedge fund revenues. Some also added that they hoped it would alleviate some of the isolation they currently feel. However, many of the employees indicated that they did not think they would use the office more than the two days per week required. And several commented that Andrea would feel particularly left out, since she lives further away than anyone else. As Steve pointed out, in comments echoed by others:

> *"The office thing is not so good for Andrea. She will feel left out . She will only have access to Max in review mode. She won't have access to "warm Max" and that will drive a wedge between her and everyone else. "Warm Max" is a lot of fun to hang out with.*

Max is particularly aware that she may feel this way:

> *Max: "The benefit of Andrea being [where she is] is far greater than the benefit of forcing her to live [near all of us] and commute to the office. Will she – she may be left out, she may have a feeling of being out of the loop. My suspicion is that the weeks that Andrea comes down, a week every other month, roughly, that we'll probably spend more time than normal in the office."*

Second, the firm plans to add two employees in the next two years. The increase from 7 to 9 employees is dramatic, and it is critical to VirtualCo's ability to develop a shared 'imagined community' that the current employees socialize the new hires into how VirtualCo does things.   That said, Max's need to touch and control information, his shaping of processes and, by extension, his employees also limits the ultimate size of the firm, by constraining layers of bureaucracy and demanding his own contact with all employees. Art and Steve expressed their views on the potential size of the firm. While they differed in their projections, they both think the number of employees will remain in the low double digits:

> *Art: "Once you cross the threshold of like 12 people, 11 people, something like that, and all of a sudden, vacation time and just the managing that number of people becomes—more complicated to try to make it all work."*
> *Steve: "we will only get to 25 people at the max because of how [Max] manages."*

Constraining the size of the firm makes it easier to keep the culture Max wants, which is in keeping with Hallett's (2003) view of the balance between integration and conflict within organizational cultures. Hallett describes the balance as being dependent on the number of "audiences", or individuals within the organization – "the likelihood that conflict replaces integration in the organizational culture increases as … internal audiences increase" (p. 135).

VirtualCo's ability to organize around a common image – in this case the person of Max -- is similar to those of groups involved in virtual nonprofits or virtual social movements. But there are other kinds of firms working in environments that are also virtually organized, where a common cause is not in place to hold them together virtually. Some of those firms even have employees that are not located in the same time zone. It would be interesting to explore what impact this asynchronicity, combined with lack of a common cause, could have on a company's ability to create a shared 'imagined community'.

And while employee commitment levels are not lower than those of a traditional firm, VirtualCo's employees are affected by their virtual set-up. The employees do have different job-related tensions to manage than workers in a traditional environment, and these need to be considered along with their quantitative affective commitment scores. On the one hand, the entire company works virtually, so there is an illusion of freedom; with a few exceptions, each person decides when they do their work. On the other hand, the amount of work they have to complete each week is clearly defined, which makes any longer periods of freedom unlikely. And VirtualCo employees need to manage the constant internal pressure of working because they think others are constantly working – especially since that cannot be verified since they cannot see their coworkers.

The employees of VirtualCo believe that their co-workers are always working so they should be as well. Employees' internalization of being 'always on' echoes Mead's work on the 'generalized other', the normative pressure to meet the expectations of the CEO and co-workers (Mead, 1956). Samantha explained that they all have Blackberries because "Max wants us to always be found." And a recurring theme across most of the interviews was that VirtualCo employees *assume* that their co-workers are constantly working when they are not communicating with each other, as illustrated by Andrea and Art's comments.

Andrea: "I'm working on developing relationships ... where I can pick up the phone and ask a question – the tendency is to assume everyone is working hard and I am interfering with their work when I ask questions."
Art: "Like if I took today off, it's not like we'd go out of business tomorrow, it's not like a "full of myself" feeling, it's more like a, "I don't want to mess this up and I know I'm letting teammates and clients down if I take the day off." ... To the extent that anyone wants to matter, it's a huge, huge selling point."

While there is a perception of lack of direct control , which may be related to the physical walls of the corporation, VirtualCo's employees have created their own controls to fill the void. As Jackson (2006, p. 232) points out in his case study of employees in a dispersed division, "The employees…appear to be driven by an 'inner panopticon' of high performance which transcends external surveillance and sanction. They don't wish to fail or

be seen to fail…. norms provide the focal point around which self control mechanisms cluster."

CONCLUSION

VirtualCo employees' shared view of culture has primarily been enabled by individuals' ability to virtually compensate for the lack of physical work-based interaction in their everyday lives. Appadurai (1995) argues that the rise of electronically-mediated communication has brought the role of the imagination into our everyday social lives. Schneider (1987) makes the more Meadian case that 'the people make the place'; that organizational culture is the total of all the patterned interactions that occur among and between members of the company. Wellman (2001) describes how a community, or 'network of interpersonal ties', (p.228) can exist in a "cyberplace," one with no actual physical location. VirtualCo employees have a shared language and communication norms, enabled via computer-mediated communication, that in turn shape their interactions in the virtual world. They are able to construct their organization in cyberplace, *socially,* access a shared imagined community, and feel part of VirtualCo.

The employees all see the firm's culture in the same way – like a family with a strong paternalistic leader guiding them through their work. Some of this may be due to the firm's small size. As Kotter and Heskett (1992) point out, "[larger] firms have multiple cultures...usually associated with functional groupings or multiple locations." (p.5). In this case I believe there is a heightened selection effect, where the effect of the firm being small, still seeing itself in startup mode, focused on hiring people that are known by current employees, and with an unorthodox style of organization, all combine to act as a tight screen for potential applicants for any opening at VirtualCo.

Some of this shared view of culture also comes from all the hard work Max and other employees do to ensure employees feel part of the company. The employees work hard in their day-to-day jobs and yet also seem much invested in the success of VirtualCo. Drucker (1999) and McKinlay (2005) note that the primary means of managerial control of collaborative, knowledge-based work are regulating the employees' work selves and allowing internal motivation and socialization to drive performance, while Ghosh (2004) emphasizes communication norms. VirtualCo appears to have been able to push its employees to embed its norms – both communication-based and other – and self-reinforce them.

VirtualCo has created virtual artifacts such as the weekly non-work meeting, and a company wellness program to stand in for a lack of physical artifacts, and used these artifacts to lay a foundation for how they interact. They 'do' culture in many of the same ways that a traditional organization 'does' culture. In many ways what makes this firm so interesting in discussing its culture is how *not* different it is from a firm with a physical location.

But a shared view of culture does not mean that working virtually does not affect the individual employees. In fact, virtual work does seem to have a negative effect on individuals, if not necessarily on how they act as a group or interact with each other. No

matter how much the employees like their co-workers and like what they do, talking to people on the phone or exchanging email messages with others does not, apparently, provide enough interaction to offset feelings of loneliness or social isolation. While the virtual nature and small size of the firm have freed its employees from bureaucracy, they have also lost the learning that goes on accidentally when people see each other at work. As Art described:

> *"I know, last month we all got together for, like, three days in a row and just worked together, and it was odd because in one sense it was hugely disruptive to our research time. So, it was hard to not want to go back and say, "I just need like three hours to wrap up this reading that I have to do for this client." But, as far as just pure satisfaction and getting bonding, it was outstanding. It was still one of the most satisfying weeks I had in quite a while."*

Much research has been done on virtual work and organizational culture. It has, generally, been done in the context of direct interaction, within the four walls of a physical office. Little research has been done on how organizational culture emerges in the absence of physical proximity and synchronous work schedules, and what the mechanisms are through which culture can be developed and maintained in a virtual environment. Even less research has focused on how an organizational culture could emerge in a service industry-based virtual company whose employees' work is collaborative.

This in-depth analysis of the culture of a completely virtual company begins to fill the gap that currently exists in the organizational culture literature regarding virtual work and its impacts on a firm's culture and its employees. Through connections with broader work on culture, we gain understanding of how a firm set up in a wholly non-traditional way can construct itself, socially, to be a community. We can see how it is possible to develop an integrated, shared culture that includes employees' feeling committed to the organization even when they are working virtually. This will become ever more important as more and more companies rely on virtual work as part of their overall approach to personnel management. When it comes to thinking about organizations, space, and culture, we may come to believe, that, as Amy put it, "in the end, walls are just walls."

ENDNOTES

1. In this article, I use the word space to refer to a potentially boundless and abstract context that represents sites of interaction, whether they are physical, psychic or cyber.

2. Since so much of VirtualCo's work is collaborative, survivor bias may exist. I believe the risk of survivor bias is outweighed by the importance of examining a setting where collaboration is a central challenge of doing business instead of being taken for granted. This paper's central argument is that culture can be created in a virtual firm, but that effort is required; if the firm is operating in a setting where the effort would not be worth the trouble, there is no way to examine that claim. The firm in my case study is still young and has had very little turnover so far. One could argue that this firm is still at a point in the lifecycle where even a sub-optimal firm would still be surviving –thus minimizing issues of survivor bias. There is some risk, still, that the co-occurrence of compensating techniques and culture could be taken as evidence that the techniques are sufficient to produce culture – when, in fact, many non-survivors tried the same techniques without success. I believe I have minimized this risk due to my single case study setup and focus on qualitative methods.

3. Calculative commitment, by contrast, refers to an awareness of the costs associated with leaving the organization. (p. 67).

4. Note that due to the small sample size I was not able to run tests of statistical significance.

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APPENDIX A: REGRESSION MODEL BASED ON THE 1991 NATIONAL ORGANIZATIONS SURVEY (NOS)

The National Organizations Survey (NOS) is a representative sample of work organizations in the United States, with data from informants about human resources policies and practices. The principal investigators for the NOS combined industry data from published government sources with these data. Topics covered include staffing practices, organizational commitment, employee benefits and incentives, and organizational structural characteristics.

Universe: All business establishments with one or more paid employees
Sampling: Cross-sectional implicit sample proportional to size of establishment

Number of observations in total sample: 727
Number of observations in sample with complete organizational commitment data: 237

I created an Organizational Commitment scale based on five questions from the NOS that were worded the same way and scaled the same way as five questions I asked in my survey of VirtualCo employees.

Table A1: Questions comprising the Organizational Commitment scale	
How strongly do you agree that:	Scale
I am willing to put in a great deal of effort beyond that normally expected in order to help this organization?	1 = Definitely disagree 4= Definitely agree
I am proud to tell others that I am part of this organization?	1 = Definitely disagree 4= Definitely agree
I would take any job to keep working for this organization?	1 = Definitely disagree 4= Definitely agree
I really care about the fate of this organization?	1 = Definitely disagree 4= Definitely agree
My values and the organization's values are very similar?	1 = Definitely disagree 4= Definitely agree

Since VirtualCo is a small organization, I used a subset of the NOS data containing small organizations, those with 20 or fewer employees. This yielded a comparison dataset of 85 observations. I then ran a multivariate linear regression using seventeen NOS variables -- a combination of theoretically relevant, firm-level, individual-level, and job-level characteristics-- to predict an individual's score on the Organizational Commitment scale. For the 85 observations in the small firm sub-sample of the NOS, the model showed an adjusted R^2 of .3228. The output from that model is below.

Even though not all variables were significant, they were the best estimate available, so I took a conservative approach and left them in the model. The equation gave me an individual's predicted score on the Organizational Commitment scale:

Organizational Commitment Score = β0+ β1 Financial Sector +β2 Company sells product and service +β3 Organization been in existence 5 years or less +β4# of FTEs +β5% of Employees that are women +β6% working from home +β7 Respondent Age (years)+β8Years of Education+β9 Number of Children +β10 Married +β11 Found job from someone who worked there +β12 Found job from a friend +β13I make decisions for my job+β14 I can work independently +β15 I have a lot to say on my job +β16 I supervise the work of others directly +β17 How many [FTES] do you supervise?

Table A2: Statistical Coefficients from Subsample of NOS

Source	SS	df	MS
Model	538.100243	17	31.6529555
Residual	632.087993	67	9.43414914
Total	1170.18824	84	13.9308123

Table A3: Statistical output from Subsample of NOS	
Statistics Output	Value
Number of observations	85
F (17,67)	3.36
Prob>F	.0002
R-squared	.4598
Adj. R-squared	.3228
Root MSE	3.0715

Table A4: Coefficients and Standard Errors for Variables in Equation			
	Variable	Coefficient	Standard error
Firm—level characteristics	Financial Sector	-0.00412	-0.00411
	Company sells product and service	2.336**	-1.162
	Organization been in existence 5 years or less	-3.007***	-0.805
	# of FTEs	0.264***	-0.0742
	% of Employees that are women	3.379*	-1.794
	% working from home	0.000154	-0.0173
Individual-level characteristics	Respondent Age (years)	-0.0610**	-0.295
	Years of Education	0.0173	-0.153
	Number of Children	-0.183	-0.232
	Married	0.83	-0.783
Job-level characteristics	Found job from someone who worked there	0.0676	-0.905
	Found job from a friend	2.385***	-0.841
	I make decisions for my job	1.095	-1.038
	I can work independently	-1.215	-0.924
	I have a lot to say on my job	1.16	-0.953
	I supervise the work of others directly	0.66	-0.866
	How many do you supervise?	0.00182	-0.00249
Constant		9.892***	-2.732
	*** p<0.01, ** p<0.05, * p<0.1		