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Play it Again, Sam: Contextual Communication in Virtual Teams

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Abstract

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Findings of in-depth interviews with managers of a very large multinational organization and a focus group of their virtually managed, non-colocated subordinates are presented. Despite a rich selection of communication media available to both parties, primarily a very narrow selection is used. It is striking that while managers tend to prefer leaner and asynchronous media, those being virtually managed strongly prefer richer and synchronous media.

This difference in preferred modes of communication results in a misinterpretation of actual leadership style. Further analysis reveals that this is caused by a lack of context when leaner, asynchronous communication is used. This can apparently be remedied by face-to-face meetings prior to the management relationship. These findings do not conform to extant theory or the rationale underlying current practice. Possible explanations of these phenomena may lie in cultural differences, lifestyle choices, and the complexity of working across time zones.

Keywords: culture, media richness, synchronicity, virtual teams

1. Introduction

“Play it again Sam” shows that in the communication process, perception can become reality. Despite it being a misquotation from the film Casablanca, it is listed on the American Film Institute’s 2005 list of most famous films quotations at number 28 and it has been widely reported as a Humphrey Bogart legendary cliché. Thus, avoidance of such misperception of communication becoming reality, particularly when virtual teams are attempting to complete tasks efficiently and effectively, is an important concern.

As suggested by Friedman (2006), the operationalization of global strategies often involves the use of virtual work arrangements and the use of communication technologies to facilitate these arrangements. Not only have these technologies made working from home a reality, multinational companies have sought to find competence globally and integrate individual work virtually. The practice of allowing employees to work from home has evolved from a cost saving measure into a strategy to seek competitive advantage (Boudreau et al. 1998). Individual workers and the environment also benefit from less travel as a result of working virtually. A joint study by NSF and the Telework Exchange showed that “each NSF teleworker saves on average 62 hours of commuting time, \$1,201 in commuting costs and 1,751 pounds of emissions annually” (Bain 2008).

However, as reported in the Wall Street Journal, many companies are eliminating or reducing telework/virtual work arrangements despite potential benefits (Shellenbarger 2008). Among the companies that have recalled workers are AT&T, Intel, Hewlett-Packard and parts of the federal government. This resulted in a loss of personnel who did not wish to return to traditional work arrangements. Shellenbarger (2008) suggests that among the factors that drove

these business decisions were a push to consolidate operations and the notion that teamwork improves when employees are face-to-face.

The emphasis in using these recalls to improve impromptu dialogues and collaboration suggests that the communication process in virtual teams requires further study and refinement. Similarly, Akkirman and Harris (2004) call for further examination of communication satisfaction among virtual workers in a variety of organizations and situations. On a broader scale, Hambley et al. (2007) suggest further work in the area of leading a virtual team effectively as well as the use of appropriate communications media to accomplish this goal.

While virtual managers' choice of communication media has been the subject of many studies (e.g., Lengel and Daft 1989, Malhotra et al. 2007), we combine the perspectives of virtual team members and their managers who work from home. We further consider the choices made relative to the perception of the receiver of the message and its original intent by the sender over a period of time. Currently, many studies of virtual teams have been laboratory experiments (Kahai et al. 2007), thus, there is a need for field work to be conducted studying virtual work arrangements in organizational settings to further explore contextual factors.

The purpose of this research was to explore the use and consequences of communication media choices in virtual teams. In the following sections, we will discuss virtual teams, and their work processes. The theory concerning the attributes of communication media and the concept of communication satisfaction will be discussed. This theory may be used to guide the choice of media by team members and their managers for efficient and effective communication. We then report our study methodology and the findings in light of extant theory. We further suggest how these findings support, as well as contribute to, theory and practice.

2. Literature Review

2.1. Virtual Teams

There is much discussion in the literature concerning the definition of virtual teams on many dimensions (Curseu et al. 2008). Are they groups or teams, or are the terms used interchangeably? Are team members all from the same organization or different organizations? Are members permanent or temporary? What amount of the team's output is derived virtually versus from face-to-face meetings? Are they global, implying they come from different cultures and perhaps time zones, or are they more homogeneous and synchronous? All of these factors may impact both the leadership style of the manager and the communication choices of both the team members and their manager. Some acknowledge that "virtualness" is a multidimensional construct with degrees of virtuality (Kirkman et al. 2004). They state, "A highly virtual team might have members who are spread throughout the world in different time zones, while a less virtual team might have members located in the same city and who are temporally entrained" (p. 179).

2.2. Media Richness

Media richness theory suggests that communication channels vary in their capacity to convey information. A face-to-face meeting between the sender and the receiver is considered the richest media since it communicates the message without losing information concerning the social context in which the message is embedded. Alternatively, a written memo is an example of lean media because it eliminates any information that is not codified. Inherently, rich media is not necessarily better than lean media in facilitating performance. Rather it is argued that job

performance is enhanced when the richness of a chosen medium corresponds to the organizational context as well as the task itself (Daft et al. 1986).

However, empirical research has provided mixed support for media richness theory. For example, Daft et al. (1987) found that high performing managers are more sensitive to the match between media richness and the complexity of situation than low performing managers. Similarly, Rice (1992) reported that individual performance is high when lean media was used for an analyzable task environment and rich media was adopted for an un-analyzable task environment. However, Straus and McGrath (1994) observed groups working on three tasks and found that the choice of media did not affect the quality of the resulting group task, although face-to-face communication did speed up group coordination. Similarly, Hambley et al. (2006) studied team problem solving and their results suggest that media richness choices did not predict task performance. The findings of these studies challenge the argument of Daft et al. (1987) that the fit between a media's richness and the task environment is essential for performance.

While Daft et al. (1986) and his colleagues developed the idea of matching media richness to the characteristics of the environment, the original concern was task-driven. Their assumption was that as far as the capacity of the media meets the demand of the tasks, performance is ensured. Many researchers adopted the construct of media richness and went a step further to question whether it will affect other factors such as motivation despite its fit with the task demands.

One of the factors that may have an impact on collective performance is the perception of the media chosen. It is plausible that it is the perception, rather than the real capacity of the media that determines performance. Barry and Fulmer (2004) review the literature and argue that

choosing lean media to convey authoritative information tends to imply little interest in receiving feedback. Also, managers may shield themselves from detecting their subordinates' resistance to their requests if they choose lean media. Thus, as team members perceive the managers' intention in choosing a certain medium, their willingness to communicate is influenced. As a result of the choice of a lean medium, the team members may decide not to maintain the communication process with prompt feedback, regardless of whether the capabilities of the media meet the requirements of the tasks.

The content of the message may also affect the choice of media richness. While lean media are likely to be perceived as unwelcoming and not particularly important (Barry and Fulmer 2004), people seem to prefer their use to complete challenging communication tasks such as sending bad news. Sussman and Sproull (1999) observed that people felt it was easier to accurately communicate negative information through lean media than through rich media. They explained that perceived pressure from a receiver is less salient when social cues are removed from the communication. However, Beise et al. (2004) argue that rich media tend to be more effective than lean media in having the receiver seriously consider the message. This contrast indicates that there can be a mismatch in the perceptions of the media; that for the sender lean media seems to be favored due to the lower demand on cognitive effort relative to face-to-face media, whereas for the receiver, lean media are resisted because they imply limited commitment to conversations.

The social pressure that accompanies face-to-face communication is also used by the sender to urge a response from the receiver in spite of the task's demand for a specific level of media richness. Beise et al. (2004) surveyed a small group of project managers and found that face-to-face communication was perceived as more formal and presented more pressure on the

receiver to engage in a task. Similar to the above study, Kirkman et al. (2004) maintain that the frequency of face-to-face meetings can substitute for team empowerment to promote process improvement in virtual teams. Specifically, team empowerment predicted positive process improvement only when face-to-face meetings were not frequent. Therefore, face-to-face communication seems to contribute to an environment that urges team members to actively participate, just as team empowerment does.

Finally, the effectiveness of a medium may also depend on the ability of users of the medium to properly interpret it. For example, Hollingshead (1998) found that subjects who are strangers performed better on knowledge tasks when they communicated with a computer conferencing system than when they communicated face-to-face, while the opposite case applied to intimate subjects. This indicates that a strong relationship enhances one's ability to acquire important information through rich media, whereas a weak relationship was dysfunctional with such media. The literature on technology adoption also suggests that users' self-efficacy predicts their adoption of a new technology (Venkatesh, 2000). Hence, people are different in their ability to use a medium, and they are likely to choose the medium over which they believe they have the best control.

In summary, the research on media richness is far from conclusive. While researchers have arrived at some consensus on the definition of media richness, the literature shows that various factors affect the choice of a medium and the medium's effects on task performance are not easy to predict.

2.3. Synchronicity

While media richness theory was developed to study which media are most effective, it was not intended to predict which media managers should choose (Dennis et al. 2008). As stated above,

this has resulted in mixed empirical results for media richness theory studies. To address this issue, media synchronicity theory was developed. “Media synchronicity theory focuses on the ability of media to support synchronicity, a shared pattern or coordinated behavior among individuals as they work together” (Dennis et al. 2008, p. 575). They further suggest, “...the fit of media capabilities to the communication needs of the task influence the appropriation and use of media, which in turn influence communication performance” (Dennis et al. 2008, p. 576). The two main processes of communication, defined as a shared understanding between the sender and the receiver, are the conveyance of information and convergence of meaning. Thus, no one media is “better” than another, the choice of media depends upon the purpose of the communication, in particular conveyance or convergence. Further, the use of a variety of media results in a better shared understanding leading to optimal task performance (Dennis et al. 2008).

The characteristics of the media which are included in synchronicity are parallelism, transmission velocity, symbol sets, rehearsability and reprocessability (Dennis et al. 2008). These characteristics include both transmission capabilities and subsequent processing capabilities. Transmission velocity, parallelism and symbol sets deal with transmission capabilities. *Transmission velocity* is determined by the speed at which a medium can deliver a message to the intended receiver, while *parallelism* is the number of simultaneous transmissions that can effectively take place. *Symbol sets* are the number of ways in which a medium allows information to be encoded for communication (Dennis et al. 2008). These symbol sets can include physical (e.g., touching), visual, or verbal cues.

The symbol set itself, together with the actual capabilities to transmit the symbol set embedded in the medium, can impact processing capabilities including rehearsability and reprocessability (Dennis et al. 2008). *Rehearsability* is impacted by the ability to review a

message during encoding before the sender transmits it to the receiver. This includes activities such as editing an email message. *Reprocessability* is “the extent to which the medium enables a message to be reexamined or processed again, during decoding, either within the context of the communication event or after the event has passed” (Dennis et al. 2008, p. 587).

Synchronous communication, such as face-to-face meetings, has low parallelism, high transmission velocity, low rehearsability, and low reprocessability (Munzer and Borg 2008). Synchronicity, while supporting information integration, does not directly affect task performance. Rather, it provides the means to maintain a shared focus and facilitate an immediate feedback loop. This provides grounding for the communication and this grounding is associated with successful performance (Munzer and Borg 2008). In a laboratory experiment Munzer and Borg (2008) found that synchronous groups solved a problem more rapidly and with less redundant information than asynchronous groups, although both groups were ultimately able to solve the problem presented. This is consistent with findings by Herbsleb and Mockus (2003), who found that distributed work items appeared to take two and a half times longer to complete than similar items do with co-located teams. However, Scholl et al. (2006) found that student subjects prefer asynchronous communications (defined as text based chat) to synchronous communications (defined as audio). They suggested this finding may be affected by the age of the students and their familiarity with text based chat in their personal lives, indicating a personal choice of a medium rather than concern for a task-media fit.

2.3. Communication Satisfaction

Together with the impact of communication media choices on team efficiency and effectiveness, there is also a larger concern about satisfaction with communication in organizations, which may be related to communication media choices. *Communication satisfaction* is defined as “an

individual's satisfaction with various aspects of communication in his organization" (Crino and White 1981, p. 831). It has been studied in a quantitative manner using the Communication Satisfaction Questionnaire instrument developed by Downs and Hazen (1977), which was updated and expanded to become the Communication Audit Questionnaire (Downs 1990). This instrument contains eight factors including organizational perspective (information about organization as a whole), personal feedback (what an individual knows about how his/her performance is being judged), organizational integration (degree to which individuals receive information relevant to their job), supervisory communication (immediate supervisor including areas such as listening and openness), communication climate (communication environment on organizational and personal levels), horizontal communication (informal communication accuracy and free flowingness), media quality (what is available and how well it is used) and subordinate communication (includes only supervisory personnel) (Pincus 1986).

Varona (1996) reviewed studies employing survey techniques using these questionnaires and found that supervisory communication and subordinate communication are the components with the greatest reported satisfaction, with the personal feedback component resulting in the lowest level of communication satisfaction. Interestingly, consistent with his literature search, Varona (1996) found that employees in managerial roles are more satisfied with current communications than those in non-managerial positions. He also reports that communication satisfaction, particularly the personal feedback factor, the communication climate factor and the supervisory communication factors link significantly to job satisfaction which is consistent with the link found by Pincus (1986). Further, studies demonstrate that communication satisfaction links to constructs such as organizational commitment (Varona 1996), job performance (Pincus 1986) and productivity (Clampitt and Downs 1993).

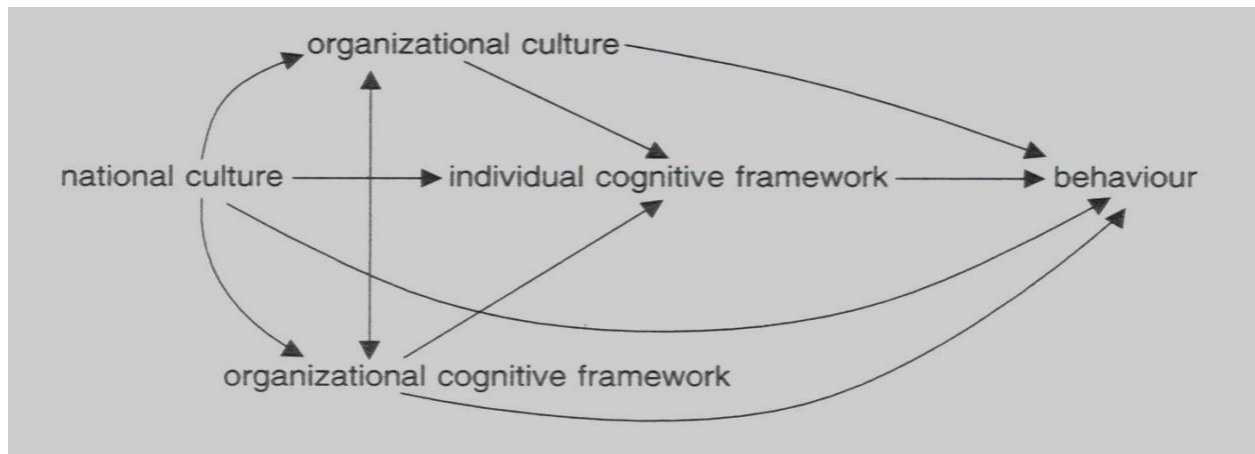
Thus, communication satisfaction is important to job satisfaction, organizational commitment, and productivity, which have also been linked to virtual teams concerns. Effective communication is obviously necessary and key to working effectively and efficiently in a virtual setting. How is organizational commitment developed and built in a virtual setting?

Productivity is also an issue in virtual arrangements such as telework. Probing the reasons for these empirical findings for these links, as well as the applicability to virtual work arrangements, particularly in a cross-cultural setting, is the suggested next step (Varona 1996).

2.5. Culture

While the beliefs and values of different societies are well described in the literature (Hofstede 1980, 2001, House et al. 2004, Inglehart 2000, Schwartz 1999), how these affect organizational behavior is less well understood. Cray and Mallory (1998) describe three traditional views on the impact of national culture on behavior. The first, naïve-comparative approach remains atheoretical and regards culture as the basic explanatory variable for differences in organizational behavior (Trompenaars 1993). The second, culture-free approach is based on contingency theory and culture is viewed as a variable that may explain residual variance since basic tasks are viewed as the same anywhere in the world. This results from organizational convergence caused by mimetic and normative isomorphism (Hickson and Pugh 2001). In the third, culture-bound approach which is based on selected theories from psychology and sociology, culture is viewed as one key explanatory variable (Hofstede 1980, 2001, House et al. 2004). Cray and Mallory (1998) propose a cognitive model which demonstrates how national culture impacts behavior (Figure 1).

Figure 1: The cognitive model (Cray and Mallory 1998, p.106)



House et al. (2004) report the cultural practice scale scores for many societies. The profiles for US and India are contrasted in Table 1.

Table 1: Societal Cultural Practice Scale Score (House et al. 2004)

Societal Cultural Practice Scale	US	India	Difference
Assertiveness	4.50	3.70	+0.80
Institutional Collectivism	4.21	4.25	-0.04
In-Group Collectivism	4.22	5.81	-1.59
Future Orientation	4.13	4.04	+0.09
Gender Egalitarianism	3.36	2.89	+0.47
Humane Orientation	4.18	4.45	-0.27
Performance Orientation	4.45	4.11	+0.34
Power Distance	4.92	5.29	-0.37
Uncertainty Avoidance	4.15	4.02	+0.13

The key differences lie in the fact that Americans are more assertive than Indians, while Indians display greater in-group collectivism. Schneider and Barsoux (1997) contend that assertiveness has a profound influence on communication:

Thus in assertive societies people will tend to use what is also referred to as *low-context* language, which is speech that is direct, clear and explicit. In contrast, less-assertive cultures tend to use *high-context* language, which is less direct, more ambiguous, and more subtle. In such cultures, directions and messages are implied rather than explicitly expressed. It is expected that the person receiving the implicit message will infer the meaning of the message or “read between the lines” (House et al. 2004, p.403-404).

Holtgraves (1992, 1997) thus argues that face-to-face communication is associated with high-context language.

The difference in the in-group collectivism score is also of considerable significance. A characteristic of individualistic societies is direct communication while collectivist societies use indirect communication (House et al. 2004). Furthermore, collectivist societies place a higher value on social interaction by way of group activities (Hofstede 1980, 2001, House et al. 2004).

3. Methodology

We were afforded a unique opportunity to study the operation of virtual teams when a large multinational Fortune 100 company hosted a team of knowledge workers located in India at one of their US offices for the purpose of training and the launch of a global initiative. This team was managed virtually by managers mainly located in the US who themselves work from home, except when interacting directly with customers. Not only is it rare for the managers to meet face-to-face as a group, but it is also rare for them to meet face-to-face with the team from India, especially in the US. We were privileged to be allowed to interview both the managers and team from India as well interacting with them socially. This event was also an opportunity for the researchers, who are from four different disciplines (leadership, organizational behavior, information systems and operations management), to collaborate and view the research problem through very different lenses.

To better understand the reality of managing and being managed virtually, qualitative data was collected from two sources. Face-to-face in-depth interviews were conducted individually with six managers who were probed about the “essence of the experience” (Creswell 2007, p. 58). A standard discussion outline was used for conducting these interviews. The sample

of managers comprised: one senior manager, one executive manager and four middle managers. Two of the middle managers had “line” responsibilities and two had “support” responsibilities. Four of the managers were male and two female.

The in-depth interviews with managers followed a phenomenological mode of inquiry (Priest 2002). The essence of respondents’ experiences as virtual managers was probed during the interviews. *Epoché* (suspension of judgment) was sought by way of active listening and the seeking of clarification to the meaning of responses. These interviews were recorded and then transcribed verbatim. The data collected was subjected to eidetic reduction to generate a summary of each respondent’s experiences and views. These summaries were then forwarded to the respondents for editing and commentary before analysis of the findings and comparison to the literature.

The focus group comprised four members of the team from India who were managed by the aforementioned virtual managers. The group included three males and one female.

The focus group was primarily facilitated by one of the researchers using a semi-structured discussion around the issues of actual media usage versus preferences, the role of national and organizational culture, the context of the communication and the role of leadership style. The focus group was recorded and subsequently transcribed verbatim. This data was content analyzed to extract key themes (Miles and Huberman 1994) and then contrasted to both the literature and the results of the phenomenological study conducted with the managers.

The behavior of the managers and the team from India during a social dinner and their subsequent interaction while playing a practical joke on one of the managers the following day was observed and noted.

4. Findings

The results of the interviews and the focus group are summarized in Table 2. In the presentation of these findings, italicized quotations represent verbatim quotes from the interviews and the focus group.

Table 2: **Summary of Findings**

Theme	Use of leaner, asynchronous media	Use of rich, synchronous media
Media usage	The virtual managers chose to use forms of media defined by the situation viz. size and level of the audience, the complexity of the task and time zone and lifestyle considerations.	The virtually managed team from India wanted richer synchronous media in order to build relationships and trust with their virtual managers.
Effective Virtual Managers	Because of the media choices by the managers, leadership style was misinterpreted by the India team.	Use of richer, synchronous media, including face-to-face meetings resulted in an informed view of the manager's style.

4.1. Media Usage

Virtual managers selected media based on “*the size, subject matter and makeup of the audience*”.

In addition, these managers have their primary office in their home, so lifestyle and time zone issues appeared to also play a role in choice of media. This flexible work arrangement resulted in the blurring of work and home life so “*the challenge becomes shutting down*”. Whether making time in their daily lives for family activities, meal times, or fitting exercise into their day, “work-family role integration” (Ilies et al. 2009, p. 88) impacted the choice of media. Furthermore, by attempting to set boundaries through their choice of media, the managers are attempting to separate their work role from their family role (Ilies et al. 2009) which had become more

difficult when the managers moved from their corporate offices to their home offices. The disadvantages of working at home are that *“you can work 24-7 and never shut down”*.

These managers were very experienced and acknowledged that richer, synchronous forms of media are essential to building relationships, but at the same time, they realized the necessity *“to have the discipline”* to set *“boundaries”*. If you don’t have *“personal time management”* you will be in the *“react mode”* and *“constantly taking on more things to do”*. They were focused on accomplishing the task in the most efficient and effective manner. Indeed, their view of what makes a communication rich and personal appears to be different than their subordinates’ views. Even though Scholl et al. (2006) viewed desktop video conferencing as providing *“presence”* and that it *“facilitates informal communication”* (p. 324) the managers chose not to use it. *“I don’t think video conferencing would change things. Seeing people physically improves the personal aspect, but to get the job done—the job can get done without seeing people. It may be a more pleasant experience to see people, and communications might be more personal..., but I don’t think it hinders getting the work done. I don’t think face-to-face is more productive or efficient”*. Another manager described video conferencing as an *“intermediate step”*, however people are *“very stilted, and it is almost like talking to robots”*. One of the senior managers acknowledged that video conferencing would not be her choice of media as she might have just *“been jogging”* prior to a call and standing in her kitchen in her workout clothes.

Even when leading and trying to *“get the mission out, you really have to do a lot more formal type communication than I like to”*. They may use multiple forms of communication *“and try to make it more personal. You may send a newsletter or you may do a conference call”*. When using conference calls, the size and location of the group dictates whether you are *“just putting information out”* or if you can arrange for two way dialogue and several calls to accommodate

multiple time zones. The level of the audience is important to the managers when choosing media. *“When senior level execs are communicating to teams about quarterly results or strategic initiatives, they will use webcasts that allow for questions and interaction. If we are using a webcast, we are trying to get information to our team, and it usually will not be interactive. If I am working with people who work with me, we might get on the phone and talk things through informally”*.

The above results suggest that, consistent with the argument of Daft et al. (1987), the virtual managers were well aware of the capacity of media to convey richness. They were able to match media richness with the task demands and determine which medium, in their opinion, was the most appropriate one for a certain task. Moreover, the virtual managers’ concern about media choices was task-driven so that any communication of non-task-related information is not encouraged. This is also in line with the assumption of the media richness theory (Daft and Lengel 1986, Daft et al. 1987, Rice 1992).

Instant messaging (IM) is viewed by the managers as important as it can *“bridge the gap”* but it is a *“distraction”* and not capable of conveying complexity. *“It was never intended for complex issues, so I tell the team to pick up the phone...you can pick up some of the nuance as you can pick up the intonation”*. Since the managers are busy, IM can be messy and prove difficult to integrate. Munzer and Borg (2008) found that contrary to popular opinion, IM is not synchronous due to the attribute of synchronicity referred to as parallelism. *“Parallelism and delayed feedback can have detrimental effects on communication...turn taking is disrupted, and principles of sequential coherence are violated”* (p. 667). The messiness that managers are experiencing due to people frequently IM’ing at the same time requires that the manager integrate the myriad of information received. One manager stated *“I despise instant messaging.*

The first reason is that, when you've got the large number of people as you have working, I'll log on, and before I can send a message to whomever, ...I will have 12 come back...you just lose so much in translation". Executive level managers are "especially reluctant to use instant messaging because you can get so much going at one time you lose control of your ability to manage your time". Another manager stated that "Instant messaging is easy when I'm the one that wants to get somebody, but when I've got something I need to get out, the ding, ding, ding of the instant messaging alarm irritates me...it can be overwhelming".

As far as providing context through various forms of media, managers were less interested than their team. *"I don't see why a picture is needed to get the job done".* Considerations about privacy concerned the managers when discussing the company directory that included pictures. *"You have to be sensitive when using them because not all people are comfortable with having team rooms and posting pictures".* Another manager indicated that if the *"picture is there it is nice, but if it is not, it doesn't matter to me, but it might matter to other cultures"*.

On the other hand, the desire for trust and connection to their managers was an overriding theme of the discussion with the virtually managed team from India. Team members desired richer synchronous media in order to build relationships involving "social presence" (Illia and Lawson-Body 2007, p. 175). Because of the ambiguous nature of being managed virtually, it is the "unknown" that is problematic, as indicated by one team member. *"When you are facing something unknown, when you are facing somebody unknown, you have a mental picture of the person—of the talker—you have a mental picture and you have preset assumptions...the person is like this. The moment you come face-to-face...it changes a lot in that person...it becomes more*

like reality. So when you go back, you are talking to a person in reality—you can feel them in reality, so you are not scared”.

Even when a manager “reaches out” virtually and encourages team members to communicate, the tendency is to hold back. The manager *“just sent out an e-mail saying you can approach me at anytime...we have never written an e-mail to her. But...since that face-to-face, it’s different—I know I can call her now”*. *“Approachability is one thing that is very very much required. ...the confidence that if I approach him for anything, it will be resolved”*. The team indicated that the face-to-face encounter was fundamental to establishing this type of relationship with the manager. *“A personal touch has always worked wonders for us”*. Face-to-face visits gave the team the ability to “visualize” and get first hand information which they felt even increased productivity.

This finding supports the prediction of Barry and Fulmer (2004) that the choice of lean media cannot convey the sender’s willingness to have further communication. As shown, even when the virtual manager explicated her approachability, the use of email trimmed the perceived commitment so the team members never respond to her message with any initiative contact. This hesitance in initiation on the team member’s side did not appear to catch the attention of the manager. One explanation could be that the use of email made the lack of response less salient than that of a rich media (Barry and Fulmer 2004).

The India team indicated that contextualizing virtual encounters builds relationships, otherwise the relationships become only about the task. *“I love pictures. I love people sending their pictures over so we could get their hobbies...”* otherwise all the team knows *“is this girl who keeps telling us what to do, what not to do”*. Other team members expressed interest in

team pages where you could put “*personal effects....cards, their interests, their hobbies and like that...* ”.

4.2. Effective Virtual Managers

Effective virtual management, according to the managers, is “*still based on relationships*”.

“*Credibility, trust, communication, leadership, are still the fundamentals of a good manager/leader regardless*”. The ability to “*communicate your point is essential, whether just talking or using tools to help you*”. It is “*very important to listen carefully, and ask clarifying questions*”. This is essential when managing “*international teams because if you don’t listen carefully...you can miss the whole thing*”. It is vital to “*try to still have the perception of a personal relationship even though you can’t*”. In an attempt to reach out through more formal channels, one manager said, “*I try to make sure that my newsletter was not some formal communication...I put jokes in the middle*” so people were always looking for what I was going to do next.

Being culturally aware and being “*culturally adaptable*” and being able to “*organize better*” is essential. Being “*prepared is key*” and being able to work with time zones and “*structurally align people accordingly*” so that “*I am not interrupting their sleep to get information I need*”. Being able to “*juggle...and set priorities...good time management...and some down time to do hard thinking... setting professional boundaries...and family boundaries*” were viewed as essential for effective managers. The managers, compared to the team members, had different perspectives on the cultural issue. One U.S. manager claimed that there were no cultural obstacles in workplace communication, except that sometimes she needed to make extra effort to understand the language being used by the India team.

The India team had not met the managers prior to this trip to the United States, although they had been supporting the managers' efforts on a major global initiative. This research was conducted on the day the India team met their managers face- to-face for the first time. In addition the researchers observed their interaction in work situations as well as at an informal dinner that evening. On the second day the researchers interviewed the team after the managers and the team collaborated on a practical joke on one of the higher level managers. They felt that after meeting the managers face-to-face, enjoying a dinner, and having some “*fun*” together that the managers were approachable and that “*I can call now*”. “*Even with video teleconferencing, I never met ...before, and the kind of person I heard of...a hard taskmaster, a good leader, someone who is not so approachable...you know, someone very high up in the hierarchy. But when I met her yesterday....she is very approachable, she is so likeable and she is such fun to work with*”.

Not only approachability was important to the team, but also “*confidence that if I approach him for anything, it will be resolved*”. In a virtual team, “*the face is missing, so the more of human touch has to come in the form of the approachability of the person*”. Virtual approachability and availability, while e-mailing and calling, comes from “*the way you talk...to be more open while you are talking*”. For example a manager can “*ask about how you are feeling today or how things are going...that touch...emotional touch...you tend to work more for a person, you tend to give more than 100% to a leader whom you have faith installed in*”. In addition, “*the team should be ready to believe what the leader has to say, and that comes when the leader has some amount of your heart here – some space in your heart – some perspective*”. Availability is important so that the team can feel that the managers are “*there on every team. For me, wanting my manager to be there is something which I need to do*”. The India team

recognizes that from a manager's perspective it is more about "*something which I need to get done*" or the task. "*There should be no barriers...I mean that stops you right in your tracks. And if you get to the point where you can't speak to your manager, it breaks down completely*".

The team felt that good managers need "*charisma*" and that "*it can come over the phone too*". In addition, "*giving clarity of what you do in terms of responsibility*" was vital. Clarity is needed in terms of "*your job roles and what is expected out of you and with a kind of emotion that comes with that ...That gives confidence—okay, this is my role and what I'm going to do*". In keeping with House's (1971) path-goal theory, the India team expected effective managers to have not only charisma, but to be "*empowered*" to help them get their job done. He should have "*some power of his own...who can make you feel like...if you share your grievances or if you share something with him he can correct it for you*" and that he can "*show you how to grow in this company...mentor me*". Being a "*complete manager*" meant having "*backbone*" and having "*the mentoring capability for the team*" and having "*influence*".

This finding is interestingly inconsistent with the Kirkman et al. (2004) results. The team members believed that if they perceived the charisma of their virtual managers, they were more willing to take responsibility and support. This suggests that face-to-face communication is likely to enhance, rather than substitute team empowerment.

This finding is consistent with the findings on communication satisfaction discussed above. The personal feedback dimension of communications satisfaction has been found to have the lowest level of satisfaction in the Verona (1996) study. The comments of the team are consistent with what is incorporated into the supervisor communication dimension indicating its importance to the India team. Pincus (1986) has placed both the personal feedback and the supervisory communication dimensions into what he labels as the informational/relational

dimensions of communication satisfaction. This desire for significant feedback is also related to the culture difference of high uncertainty avoidance prevalent in some cultures (Ross 2001).

Thus, effective managers will “*understand cultural differences*” and even though working remotely managers should take care to be “*responsive...being able to get the heart-share – share in someone’s heart – understanding the culture of the person he is working with*”. Compared to the managers, members of the India team appeared to have more need for intimate social relationships in their work. They also seemed to have the tendency to interpret good work relations as family relations. One team member praised the corporation with its values shared by employees world-wide and said, “*It’s like a family*”. Despite their current high job satisfaction and high commitment to the company, they were longing for personal interactions and some “*emotional touch*” within this big corporate family. Face-to-face communication is valued not only because it conveys rich information, but also because it allows personal interactions. For example, it was believed that gift giving in face-to-face communication helps to build rapport. For example, a team member recalled that his Canadian manager gave him a small key ring when visiting the site, “*...and I was very, very happy*”.

These findings are in keeping with Hofstede’s (1980, 2001) work on cultural dimensions. The India team is from a collectivist culture that values relationships, family, and being connected while the managers are from a more individualistic culture that focuses on completing tasks and achieving goals, frequently impacting their relationship quality (Ross 2001). Both the manager and the team are basing their understanding of each other on the cultural lens that they use. “Individualist-culture executives are often ‘low context’, that is more comfortable with arm’s length formalism” while higher context cultures are more desirous of “relationship-based business practices” (Ross 2001, p. 77).

5. Discussion and Implications for Practice

Three of the findings of this in-depth study of home-based virtual managers and their virtual team members comport with current theory. In keeping with extant theory, home-based virtual managers selected media based on the size and level of the audience, the complexity of the task and time zone considerations.

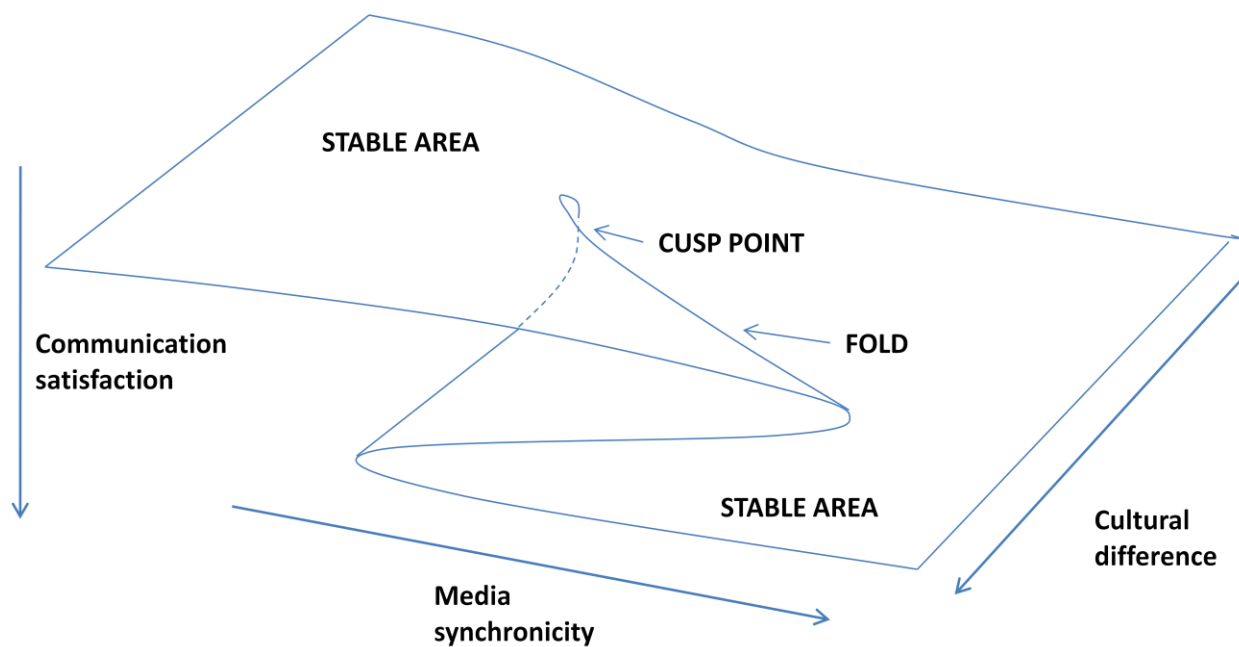
Most research on managers and their choice of media assumes that managers are working from company edifices and that if richer media is available it will be used with consideration given to task and complexity. However, a new finding that emerges from this study is that the choice of media, when working from home offices, was impacted by the lifestyle of the manager. Managers purposely selected leaner asynchronous media as a boundary setting mechanism.

An additional finding is that when teams that are being managed virtually are from high context cultures, they will be more satisfied after a face-to-face contact. This will be enhanced by social interaction and both will lead to a better understand of the manager's leadership style.

The India team was vociferous about their communication satisfaction which was clearly a proxy for their organizational commitment and job satisfaction. Also apparent was the role of differences in national culture in terms of communication preference. The American managers were strongly task oriented and tended to select asynchronous media. In strong contrast, the collectivist approach of the India team resulted in members preferring synchronous media. It was clear that the opportunity for the India team to meet the managers face-to-face and interact socially resulted in a shift in their perceptions of the managers' leadership styles. This new understanding established a relationship of trust which, in turn, resulted in a greater acceptance of asynchronous media.

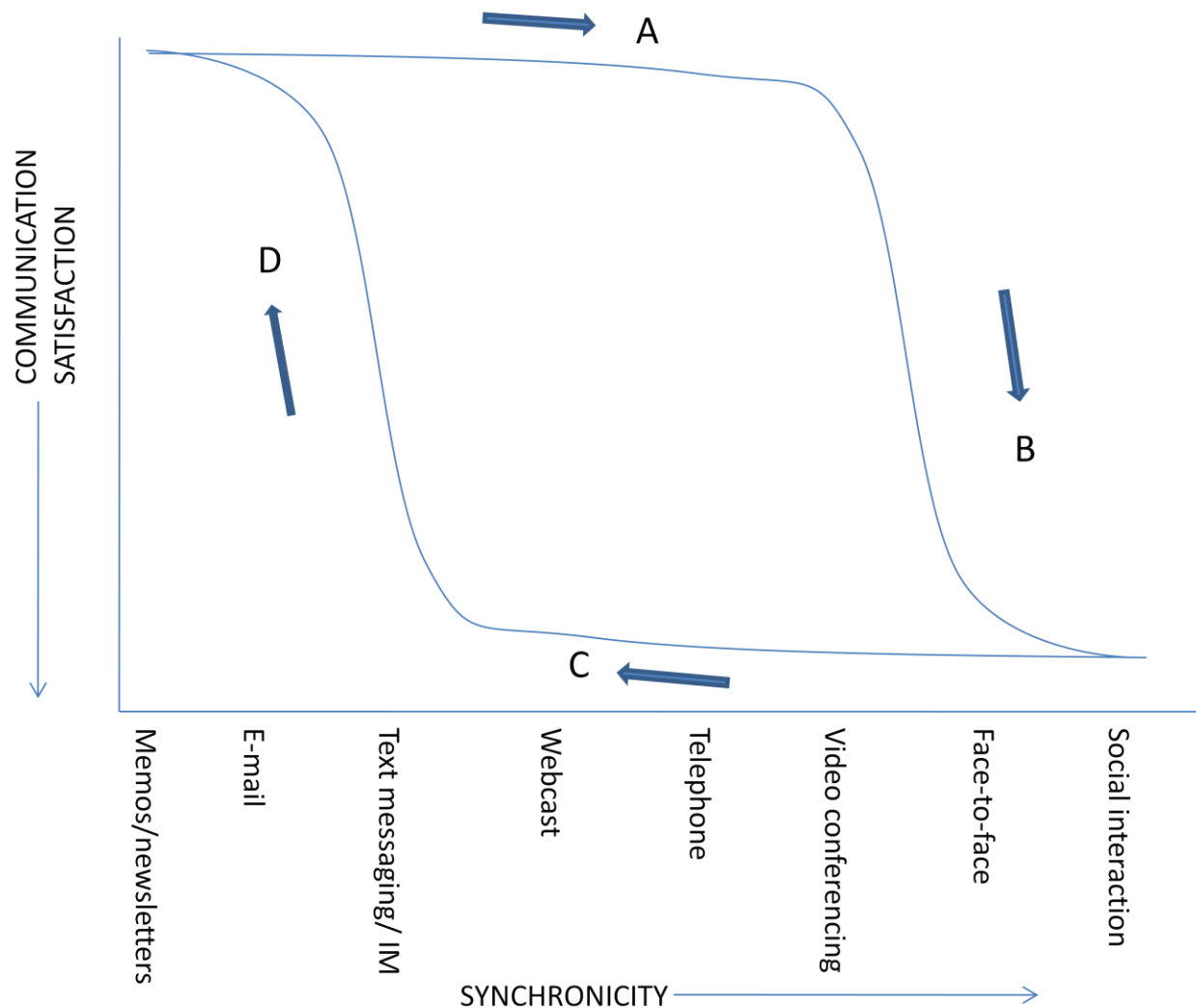
This finding implies that the surface of communication satisfaction as defined by cultural difference and media synchronicity is characterized by a cusp bifurcation (Thom 1989) as illustrated in Figure 2. The fold in this surface explains how the use of face-to-face communication and social interaction result in a catastrophic shift in communication satisfaction and thus the overcoming of cultural differences.

Figure 2: Cusp Bifurcation on Communication Satisfaction Surface



It is informative to examine the communication satisfaction – media synchronicity plane beyond the cusp point, i.e. when a substantial cultural difference exists. In this region of the dynamical system, the prevailing conditions are such that a natural hysteresis occurs as illustrated in Figure 3.

Figure 3: Hysteresis Loop

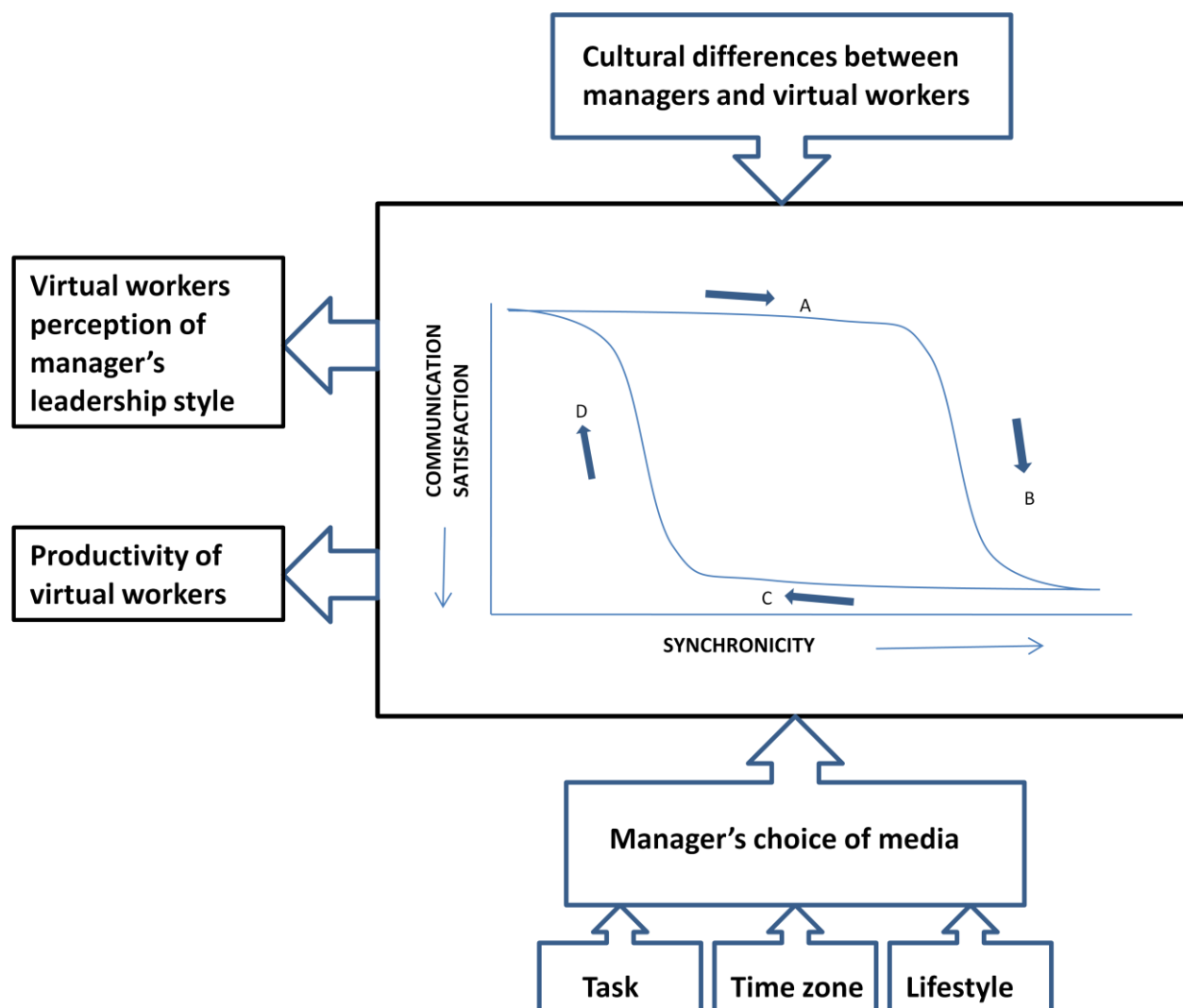


The path $A \Rightarrow B$ was described earlier and explains how highly synchronous media may be used to overcome cultural differences. The path $C \Rightarrow D$ did not emerge during the data collection but is postulated based on the dynamical system described. It would occur if, for instance, a member of the India team was operating at a high level of communication satisfaction (as a consequence of face-to-face communication and social interaction) and was subsequently

either assigned a new manager, or assigned to a new project. If the team member had not previously physically met the new manager, or if there was a large cultural difference with this manager, the previous trust relationship would be lost. The team member would likely then revert to low communication satisfaction until at least face-to-face communication was re-established (path A \Rightarrow B).

The findings concerning managers' selection of media and the consequences to the perceptions of virtual workers (the India team) are integrated in the model presented in Figure 4.

Figure 4: Integrated Model



Based on this model, the following propositions are posited:

Proposition 1: Managers select media they use to communicate with virtual workers based on the nature of the task, time zone considerations, and the circumstances of their own lifestyles.

Proposition 2: Cultural differences between managers and virtual workers influence the effectiveness of the media selected by managers.

Proposition 3a: Communication satisfaction improves with the use of synchronous media.

Proposition 3b: Face-to-face communication and social interaction are necessary to overcome the barriers created by cultural differences to improve communication satisfaction and accurate perception of their manager's leadership style.

Proposition 3c: When cultural differences have been overcome by way of face-to-face communication and social interaction, the satisfaction with the use of asynchronous media will improve.

Proposition 4: The level of communication satisfaction experienced by virtual workers affects their productivity.

There were certainly limitations to this study. First, there were only six global managers from the same company. Replicating this study with other organizations and with larger numbers of managers is suggested. Secondly, the global managers were generally within the same age group, were very experienced and had been with the company 14-25 years. In contrast, all four members of the India team were from Generation X. Generational differences, work experience and size of the team could have impacted this study and this warrants further investigation.

House et al. (2004) do not accept the convergence theory of cultures and emphasize that even with the impact of globalization, cultural differences will remain and that managers need to adapt to and anticipate issues in managing across cultural boundaries. Implicit in that is the assumption that managers need to be culturally aware and communicate based on the most effective technologies. However, as the economic turbulence continues, companies may deploy more managers to home offices to save on commercial real estate costs. This may ultimately result in boundary setting around media choices and the use of leaner asynchronous media when working with culturally diverse teams. In addition, cost cutting by companies may make it less likely that managers and teams from global outposts will meet for face-to-face meetings and social interaction. This may inhibit the breaking of cultural barriers and result in a loss of satisfaction and productivity. Ultimately this could offset any cost savings businesses were hoping to realize.

In conclusion, work in a globalized economy will continue so “Play it again Sam”, face-to-face interaction matters.

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References

- Akkirman, A.D., D.L. Harris. 2005. Organizational communication satisfaction in the virtual workplace. *The Journal of Management Development*. **24**(5) 397-409.
- Bain, B. 2008. Lawmakers push telework as overall participation drops.
<http://www.fcw.com/online/news/151884-1.html>, March 11, 2008.
- Barry, B., I.S. Fulmer. 2004. The medium and the message: The adaptive use of communication media in dyadic influence. *Academy of Management Review*. **28**(2) 272-282.
- Beise, C.M., F. Niederman, H. Mattord. 2004. IT project managers' perceptions and use of virtual team technologies. *Information Resources Management Journal*. **17**(4) 73-88.
- Boudreau, M.-C., K.D. Loch, D. Robey, D. Straud. 1998. Going global: Using information technology to advance the competitiveness of the virtual transnational organization. *The Academy of Management Executive*. **12**(4) 120.
- Clampitt, P.G., C.W. Downs. 1993. Employee perceptions of the relationship between communication and productivity: A field study. *The Journal of Business Communication*. **30**(1) 5-28.
- Cray, D., G.R. Mallory. 1998. *Making Sense of Managing Culture*. International Thomson Business Press, London.
- Creswell, J.W. 2007. *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. SAGE Publications, Thousand Oaks.
- Crino, M., M. White. 1981. Satisfaction in communication: An examination of the Downs-Hazen measure. *Psychological Reports*. **49** 831-838.

- Curseu, P.L., R. Shalk, I. Wessel. 2008. How do virtual teams process information? A literature review and implications for management. *The Journal of Managerial Psychology*. **23**(6) 628-652.
- Daft, R.L., R.H. Lengel. 1986. Organizational information requirements, media richness and structural design. *Management Science*. **32**(5) 554-571.
- Daft, R.L., R.H. Lengel, L.K. Trevino. 1987. Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly*. **11**(3) 355-366.
- Dennis, A.R., R.M. Fuller, J.S. Valacich. 2008. Media, tasks, and communication processes: a theory of media synchronicity. *MIS Quarterly*. **32**(3) 575-600.
- Downs, C., M.D. Hazen. 1977. A factor analytic study of communication satisfaction. *The Journal of Business Communication*. **14**(3) 63-74.
- Downs, C.W. 1990. *Communication Audit Questionnaire*. University of Kansas, Lawrence.
- Friedman, T.L. 2006. *The World is Flat: A Brief History of the Twenty-first Century*. Farrar, Straus and Giroux, New York.
- Hambley, L.A., T.A. O'Neill, T.J.B. Kline. 2006. Virtual team leadership: The effects of leadership style and communication medium on team interaction styles and outcomes. *Organizational Behavior and Human Decision Processes*. **103** 1-20.
- Hambley, L.A., T.A. O'Neill, T.J.B. Kline. 2007. Virtual team leadership: Perspectives from the field. *International Journal of e-Collaboration*. **3**(1) 40-64.
- Herbsleb, J.D., A. Mockus. 2003. An empirical study of speed and communication in globally distributed software development. *IEEE Transactions on Software Engineering*. **29**(6) 481-494.

- Hickson, D.J., D.S. Pugh. 2001. *Management Worldwide: Distinctive Styles Amid Globalization*. Penguin Books, London.
- Hofstede, G. 1980. *Culture's Consequences: International Differences in Work-Related Values*. Sage, London.
- Hofstede, G. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Sage, Thousand Oaks.
- Hollingshead, A.B. 1998. Retrieval processes in transactive memory systems. *Journal of Personality & Social Psychology*. **74**(3) 659-671.
- Holtgraves, T. 1992. The linguistic realization of face management: Implications for language production and comprehension, person perception and cross-cultural communication. *Psychology Quarterly*. **55** 141-159.
- Holtgraves, T. 1997. Styles of language use: Individual and cultural variability in conversational indirectness. *Journal of Personality and Social Psychology*. **73** 624-637.
- House, R.J. 1971. A path goal theory of leader effectiveness. *Administrative Science Quarterly*. **16**(3) 321.
- House, R.J., P.J. Hanges, M. Javidan, P.W. Dorfman, V. Gupta. 2004. *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies*. Sage Publications, Inc., Thousand Oaks.
- Ilies, R., K. Schwind Wilson, D.T. Wagner. 2009. The spillover of daily job satisfaction onto employees' family lives: The facilitating role of work-family integration. *The Academy of Management Journal*. **52**(1) 87-102.

- Illia, A., A. Lawson-Body. 2007. ICT use: The influence of cultural dimensions on the need for media richness and technological richness. *Issues in Information Systems*. **VIII**(2) 171-179.
- Inglehart, R. 2000. Globalization and postmodern values. *The Washington Quarterly*. **23**(1) 215-118.
- Kahai, S., J. Fjermestad, S. Zhang, B. Avolio. 2007. Leadership in virtual teams: Past, present, and future. *International Journal of e-Collaboration*. **3**(1) 1-9.
- Kirkman, B.L., J.E. Mathieu. 2004. *The role of virtuality in work team effectiveness*. Academy of Management, City.
- Kirkman, B.L., B. Rosen, P.E. Tesluk, C.B. Gibson. 2004. The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *The Academy of Management Journal*. **47**(2) 175-192.
- Lengel, R.H., R.L. Daft. 1989. The selection of communication media as an executive skill. *The Academy of Management Executive (1987)*. **2**(3) 225-232.
- Malhotra, A., A. Majchrzak, B. Rosen. 2007. Leading virtual teams. *Academy of Management Perspectives*. **21**(1) 60-70.
- Miles, M.B., A.M. Huberman. 1994. *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE Publications, Thousand Oaks.
- Munzer, S., A. Borg. 2008. Computer-mediated communication: Synchronicity and compensatory effort. *Applied Cognitive Psychology*. **22** 663-683.
- Pincus, J.D. 1986. Communication satisfaction, job satisfaction and job performance. *Human Communication Research*. **12**(3) 395-419.

- Priest, H. 2002. An approach to the phenomenological analysis of data. *Nurse Researcher*. **10**(2) 50-63.
- Rice, R.E. 1992. Task analyzability, use of new media, and effectiveness: A multi-site exploration of media richness. *Organization Science*. **3**(4) 475-500.
- Ross, D.N. 2001. Electronic communications: Do cultural dimensions matter? *American Business Review*. **19**(2) 75-81.
- Schneider, S.C., J.L. Barsoux. 1997. *Managing across cultures*. Prentice Hall Europe, London.
- Scholl, J., J. McCarthy, R. Harr. 2006. *A comparison of chat and audio in media rich environments*. Computer Supported Cooperative Work Conference. Banff, Canada. November 4-8, 2006. ACM, 323-332.
- Schwartz, S. 1999. A theory of cultural values and some implications for work. *Applied Psychology: An International Review*. **48**(1) 23-47.
- Shellenbarger, S. 2008. *Some companies rethink the telecommuting trend*. Wall Street Journal (Eastern edition), February 28, 2008, p.D.1.
- Straus, S.G., J.E. McGrath. 1994. Does the medium matter? The interaction of task type and technology on group performance and member reactions. *Journal of Applied Psychology*. **79**(1) 87-97.
- Sussman, S.W., L. Sproull. 1999. Straight talk: Delivering bad news through electronic communication. *Information Systems Research*. **10**(2) 150-166.
- Thom, R. 1989. *Structural Stability and Morphogenesis: An Outline of a General Theory of Models*. Addison-Wesley, Reading.
- Trompenaars, F. 1993. *Riding the Waves of Culture*. The Economist Books, London.

- Varona, F. 1996. Relationship between communication satisfaction and organizational commitment in three Guatemalan organizations. *The Journal of Business Communication*. **33**(2) 111-140.
- Venkatesh, V. 2000. Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model *Information Systems Research* **11**(4) 342-365.