
Electronic Communications: Do Cultural Dimensions Matter?

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INTRODUCTION

In the mid-nineties, large U.S. multinational companies literally doubled their foreign investments (Flynn, 1997). By 2050 the U.S. will be fifty percent nonwhite and almost all the population growth will come from immigration (Adams, 1997). Thus managers to be effective in tomorrow's global marketplace will require heightened sensitivity to individual needs and experiences of their employees. For the manager, this translates into a need for better understanding and awareness of cultural similarities and differences, in both face-to-face and electronic environments.

Effective operations necessitates going "virtual." It has become an operational commonplace to rely upon electronic communications to create and support global partnerships, flexible workforces, outsourced suppliers, and, increasingly, your own employees. A typical technical treatment of "virtual" evokes discussion of how to match information technology to international business requirements and entails in a cataloging of topics such as electronic data interchange, inter-organizational systems, electronic commerce, extranets, intranets, groupware and perhaps some human resources effects. Still, a critical element in "virtual" success remains effective communications.

In a usual international management approach, researchers study international joint ventures and other forms of collaborative arrangements. Much research effort has detailed the mixed record of business collaboration: Seven out of ten joint ventures fall short of expectations or are disbanded, usually

due to communications failures (Czinkota et al., 1998). Others have looked at the success side: Effective collaboration utilizes high communication quality, joint problem solving, coordination, relational commitment, and trust (Moore and Spekman, 1994). Extending this finding, collaborators gradually develop expectations concerning each other's behavior over time, which usually requires addressing organizational and cultural issues (Kanter and Yatsuko, 1994). Successful collaboration then involves many elements, but a key remains effective communications.

This paper examines communications across media and across cultures. Specifically, the focus is on how culture may act as a filter on communications over electronic channels. Three sections follow. The first section briefly discusses information richness theory (and its successors) to provide a conceptual basis for examining electronic communications across cultures. Section two employs Hofstede's (1993) data in a two-country example—China (PRC) and the U.S.A.—to explore (and adapt) cultural dimensions to electronic communications. Section three suggests a few guidelines for developing communications strategies that more effectively deal with cultural and media challenges.

MEDIA RICHNESS THEORY

From the perspective of information richness theory not all communications media are created equal. According to the theory, a lean medium, such as electronic mail, does not support the level of

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information richness typified by a face-to-face exchange. Information richness then has to do with the capacity of an information medium to influence understanding and learning. Communication channels have different capacities for processing information. In order of decreasing richness, the media are: face-to-face; telephone; personal documents (letters, memos); impersonal written documents; and numeric documents. Differences in richness are due to: a medium's capacity for immediate feedback; the number of cues and channels (body language, tone of voice); personalization; and language variety (Daft and Lengel, 1986). In effect, a communication medium acts as a channel or conduit for transporting meaning among people. Any limits on the channels or interference with the information signal sent leads to a deterioration of meaning. The theory, however, has been subjected to critical and empirical investigation (Jarvenpaa, Knoll and Leidner, 1998; Lee, 1994; Ngwengyama and Lee, 1997) and newer understandings are emerging.

Critical social theory (Habermas, 1987; Markus, 1994; Ngwengyama and Lee, 1997) argues that communication richness not only involves accurate understandings between speaker/ hearer, writer/ reader, but also enables a testing of the validity of the communication claims made by speaker or writer. Thus, people are not mere passive recipients of a communication; rather, they are critical, active interpreters of communications. Communication richness then relies on mutual understanding rather than channel capacity. The effect of active interpretation is to cast doubt on the simple assumption that channels of decreasing richness mean less ability to process information.

The social, in 'social' theory, involves organizational context, which in turn defines possibilities for action, power and status relations, and a frame of reference for organizational actors. That communication is embedded in a context is not a new finding. Hall (1976, p.79) notes: 'a high context communication... is one in which most of the information is either in the physical context or internalized in the person, while

very little is coded, explicit, transmitted as part of the message. A low context message is just the opposite; i.e., the mass of the message is vested in the explicit code.' Highest context, full channel communication, is 'face-to-face' communication. It is based upon personal relationships and formal etiquette. Least context, partial channel communications (audio only for example), omit sources of understanding, intentions, and feelings present in face-to-face encounters and formal protocol may be less important (McGrath and Hollinghead, 1994). High context countries include Japan and China, while low context countries include Germany and the United States.

A Framework for Communication Channels

Critical social theory, then, pulls together earlier work relating to communication richness. It incorporates social cues and channel capacity, reader understanding of sender meaning (including context), and reader critique of communication validity. A challenge of the new theory to information richness theory is to the assumption that face-to-face in fact results in 'rich' communications. In other words, much room for error and omission exists in face-to-face discussion. As noted, communication richness theory emphasizes understanding between parties rather than a simple notion of channel capacity. Thus parties actively engaged in interpreting each other's electronic communications (and perhaps able to share in a process of questioning meanings) may enhance understanding. Thus some doubt is cast upon the simple assumption that channels of decreasing richness mean less ability to process information and therefore lead to less understanding. An implication is that electronic communications may be rich, under certain circumstances.

Table 1 presents a simple framework for examining communication channels and matching them with several common electronic formats. The xxxx's represent the presence of channel capacity, some social cues and some context. The table proceeds from lean to rich, that is, from the communications media providing the least 'context' to highest context.

TABLE 1
Framework: Electronic Media and Communications Channels

Channel >> Media	verbal/ written/ numeric documents	verbal/ written/ impersonal documents (formal)	verbal/ written/ personal documents & messages	verbal/ non verbal cues (language, voice inflection)	face-to-face: verbal/ non-verbal & visual	face-to-face verbal/ non-verbal & sensory/ visual
Email	xxxx	xxxx	xxxx :-)			
Econference	xxxx	xxxx	xxxx			
GDSS (groupware)	xxxx	xxxx	xxxx			
Telefax	xxxx	xxxx	xxxx			
Telephone	xxxx	xxxx		xxxx		
Vconference	xxxx	xxxx	xxxx	xxxx	xxxx	
F-t-f	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Reading from the table, the three most common electronic media basically involve written exchanges; that is, they are, according to information richness theory, assumed to be low 'richness' communications. Electronic mail and electronic conferencing may be less formal in written style and rely on words to convey verbal content and emoticons (smileys) in an attempt to convey nonverbal content. Information technology communication links also include electronic data interchange, networked CAD/CAM systems, and others but these fall primarily into the verbal/ written channel. Telephone adds voice media and begins to employ nonverbal aspects such as voice inflection and the use of silence. Video conferencing and face-to-face communications add nonverbal cues and an understanding of the physical working environment including workspace arrangements, office layout, reporting relations and so on, of sender/ receiver.

APPLYING HOFSTEDE DIMENSIONS TO ELECTRONIC COMMUNICATIONS

Does adding 'culture' to the communications process explain at least some of the circumstances affecting electronic media richness? We adopt Hofstede's (1991, p.4) notion of culture as 'mental programming... patterns of thinking and feeling, and potential acting'. A caveat, however, is in order. We examine national cultural dimensions only, in a sense 'culture' at the highest level of abstraction. This could be misleading if we fail to recognize that there are many 'cultures', including: national or country; regional; ethnic; gender; generational; business, professional; occupational; and organizational or corporate (Bloor and Dawson, 1994; Gefen and Straub, 1997; Hofstede, 1991; Schneider and Barsoux, 1997; Terpstra and David, 1991). Soon, we may need to add yet another type, a global electronic culture (Targowski, 1990), which has already begun to develop a style guide (Hoemann, 1995).

As yet media richness theory does not explicitly consider the effects of national culture on electronic business communications. International management literature has long acknowledged the importance of national cultural characteristics as determinants of management behavior (Farmer and Richmond, 1965;

Kedia and Bhagat, 1988; Schneider, 1988; Tung, 1982). For example, culture affects the abilities of partners to learn to cooperate (Chen, Chen, and Meindl, 1998; Smith, Carroll, and Ashford, 1995). Effective cross-cultural communications involves understanding and dealing with dimensions of culture and requires going deeper than simply gathering recipes for dealing with different country practices. As yet, however, none of these has considered electronic communications.

A China-US Example

We illustrate with a comparative example of China-GB cultural dimensions. Table 2 sets out Hofstede dimensions for PRC China, the USA, and Germany based upon a combination of values from Hofstede (1991) and the Chinese Value Survey (cvs) (Hofstede, 1993). It sets out the implications of cultural dimensions on communications and, particularly, on electronic communications quality.

The dimensions are: power distance, individualist/ collectivist, masculinity/ femininity, uncertainty avoidance and, added by the cvs, long-term orientation. The L, M, and H (Low, Medium and High) refer to locations within the relevant range of values for a particular dimension. (Originally, Hofstede created an index score for each the four dimensions that ranged from 0 to 100, with a high score for individualism, power distance, masculinity, and uncertainty avoidance). Note that the table does not show values for either Hong Kong or Taiwan. In other words, 'national' cultural dimensions are not substitutes for many regional, ethnic and language variations. On the other hand, Germany and the United States show very similar scores, which could lead to a conclusion that few cultural differences exist which may signal the need to examine other levels of culture more in depth. Neither a country, nor a region should be treated monolithically.

The most commonly used electronic communications media --email, econferencing, groupware, telefax, (and EDI, and so on)-- may be characterized as very low context, informal, and relatively individualized. The gap in power distance, individualist/ collectivist, and long term/ short term scores suggests possibilities for misunderstandings in communications, due both to culture and to media.

TABLE 2
Cultural Dimension Scores and Partial Channel Communications' Effects

Dimensions/ Countries	PD	IND/COL	M/F	UA	LT (CVS)
CHINA (PRC)	80H	20L	50M	60M	118H
USA	40L	91H	62H	46L	29L
GERMANY	35L	67H	66H	65M	31M
Interactive Effects: Culture/Partial Channel	negative	negative	neutral	neutral	negative

Source: Based on Hofstede, G.(1993): Cultural constraints in management theories. *Academy of Management Executive*.7,p. 91.

Dealings with Chinese firms provide special challenges for international business. Reading from the table, three main dimensions draw attention -- power distance, individualist/ collectivist, and long term orientation. China scores 'high' in power distance (PD), or the extent to which a society accepts the unequal distribution of power within its institutions, and with a relatively high uncertainty avoidance (UA) or preference for stability and predictability. Thus, PRC Chinese will likely prefer bureaucratic organizations and thus a relatively high level of formalism in relations and in communications. Shenkar and Ronen (1987) observe that Chinese negotiators are greatly influenced by their notions of politeness, emotional restraint, and emphasis on social obligations. On the other hand, US companies with low PD and low UA scores will likely be more organic, less formalized in procedures and so on. Note, however, that German and PRC scores in UA are relatively similar, which implies an easier organizational match. Trust is needed to overcome differences in uncertainty avoidance between cultures (Bjorkman and Lu, 1997).

The individualist/ collectivist dimension represents a pattern of shared beliefs and values around a single theme (Triandis, 1995). Triandis's (1995) extensive literature review summarizes four attributes of the individualist/collectivist dimension dealing with: conceptions of the self; goal relationships; attitudes and norms; and emphasis on relationships. Individualist cultures see the self as somehow autonomous and independent. In collectivist cultures, a conception of the 'self' develops as an individual learns connectedness to others and acquires deeper discernment about others' expectations of correct and incorrect behaviors (Kitayama et al., 1997). Individuals then are seen as part of an interconnected social web whose focus is to correct shortcomings (Heine and Lehman, 1997; Kitayama et al., 1997). Bailey, Chen, and Dou (1997) suggest that the cultural forces of individualism and collectivism pull in opposite ways on the development of self-concept. They report two findings: First, that individualist culture (US) prefers 'success' feedback and a collectivist culture (Japan) prefers 'failure' feedback; and, second, that Chinese respondents were highly concerned with both (but these were students in U.S. institutions). We suggest that, other things being equal, the greater the gap in individualist/collectivist scores, the more difficult the sending of messages and receiving accurate feedback and, hence, achieving cooperation among business collaborators. Fewer cues in partial channel media may serve to exacerbate chances for inaccurate communications.

Croft (1995), who focused on achieving human resources goals --recruitment, financial planning, compensation, cultural adaptation, repatriation--

relating to expatriate employees, cites the growing importance of electronic communications with a diverse workforce. Heine and Lehman's (1997) findings on cognitive dissonance (inconsistency between personal attitude and behavior), and correspondence bias (thinking that others' attitudes are similar to his or her own) between individualist and collectivist cultures necessitate great sensitivity and skill on the part of international managers. When faced with evidence of their own shortcomings, those from an individualist culture (Anglo-American) felt threatened and attempted to imitate those felt to be more competent. Those from a collectivist culture, however, felt no need to qualify their attitudes. Further, the individualist tends to fall into a 'correspondence bias'; while the collectivist tends to assume other people's attitudes may differ. Both of these tendencies--cognitive dissonance and correspondence bias--create perceptual bias in the communication process. For example, an individualist manager may simply assume that co-workers' attitudes toward rewards are similar. Other things being equal, the greater the gap in individualist/collectivist scores between managers and co-workers, the greater the need for accurate cultural perceptions in communications, the greater the need for continuous relation building, and the more difficult the achievement of the intended effects of reward structures.

Firms appear to be entering into more international strategic alliances, partnerships, and subcontracting relationships (many of which arrangements that are non-arm's length in nature). While Japanese business seems currently to be undergoing some strain, still it provides a powerful example of a successful relationship-based system. Indeed, the strategic importance of corporate groupings in Japan (Gerlach, 1992) and in China (Business Week, 1997) invites their continued examination.

This examination may be a challenge for Westerners because it involves deepest norms, values, and cultural assumptions. Parkhe (1991) notes that international joint venture longevity decreases with the cultural distance between partners, where cultural distance is defined as the degree to which cultural norms in one country are different from those in another country (Kogut and Singh, 1988). Indeed, Park and Ungson (1997) stress the importance of relationships in overcoming cultural distance in joint ventures. Critical then are skills in relationship building. For example, in China 'guanxi' (connections) are critical, thus foreign investors are having a difficult time (Hu, Chen and Shieh, 1992).

The importance of relationship manifests itself not only in the clustering of organizations but also in the priorities individuals give to their work (Bjorkman and Lu, 1997). The orientation of individualist cultures

is toward achieving tasks, meeting goals if necessary at the expense of family, friends, and partners; on the other hand, collectivist cultures emphasize harmony, 'face', and connectedness, if necessary at the expense of getting a job done (Redding, 1993).

With respect to long-term orientation (LTO), China is 'high' at 118, while the US is 'low' at 29. In the cvs, long-term orientation was associated with persistence, thrift, and a concern with the future. These differences can lead to a situation of 'same bed, different dreams', that is, expectations which are not shared. Other things being equal, the greater the difference in long-term/short-term orientation scores, the greater the difficulty in achieving agreement on shared inter-organizational goals, in building long-term relationships, and in waiting for returns.

E-COMMUNICATIONS GUIDELINES

Yes, culture does matter but how much depends upon the degree of differences. Both international and domestic managers face major tasks in developing the necessary communications skills for both real and virtual business. From the above discussion of cultural dimensions, a few general guidelines may be drawn in order to improve chances for success in inter-cultural electronic collaborations. More specifically: What can be said about when to use which channel?

Develop a Communications 'Model' that includes Many Variables (not simply technology)

Technology-mediated communications pose unique challenges for business collaborations and international business dealings in general (Jacobs, 1998; Jain and Ross, 1998; Kanter and Yatsuko, 1994; Warkentin, Sayeed and Hightower, 1997). The individual sender within an organization encodes and sends a message to an individual in a receiving organization. Seemingly simple inter-organizational collaboration often involves multiple networks of people and each person is embedded in a culture. From the above discussion example of the PRC and the US, perhaps the cultural dimension of primary importance is the individualist/collectivist. Individualist-culture executives are likely to have real challenges converting from contractually-based to relationally-based business practices. Further, individualist-culture executives are often "low context", that is, more comfortable with arm's length formalism and with few non-verbal cues. Conversely, Chinese executives are comfortable with relationally-based business practices. For example, Table 2 shows that the US is a high "individualist" culture while China is very low.

These cultural insights may assist in improving electronic communications. If the limited-scope information richness theory is applied, then there would appear to be little hope for any but the most

mundane cross-cultural communications between individualist and collectivist cultures. If, however, media richness theory is given credibility, then perhaps better and deeper understandings can occur. This can be interpreted to mean that as relational trust grows, both the effectiveness of communications and the effective range of communications media may also grow. An implication: There may be a tendency to fall into 'correspondence bias' and to feel less of a need for behavioral cues. In many cultures, however, such cues are critical indicators of real individual sentiment. As in marriage, international business collaborators should spell out mutual expectations (Li, 1997). A conclusion: To achieve media richness, electronic channel communications may require developing explicit 'behavioral' cues. For example, 'flaming' protocols which emerge in most online chat rooms.

Create a Comfort Level for the Use of Electronic Communications.

Research relating to partial channel communications—specifically, electronic conferencing and group decision support systems (groupware)—suggests: (i) both the complexity of an issue and the preparedness of the participants contribute to the perceived success or failure of use (Jain and Ross, 1998); (ii) an organization needs to explicitly create procedures for improving understanding of, and ease in dealing with, multiple cultures (Jacobs, 1998; Martinson and Westwood, 1997); (iii) a facilitator plays a pivotal role in focusing and mobilizing participants (Quereshi, 1995); (iv) facilitation skills form an important component of successful exchanges (Spinks and Clements, 1993). Critical new facilitation skills include knowledge of key cultural variables (for example, language, religious strictures and relationships with time and nature); electronic media applications; as well as a considerable level of detailed knowledge—such as knowing whether messages are private or public, personal or administrative, knowledge of differing climates, environments, time zones-- and understanding differing work patterns.

Nurture Relation Building Skills.

Partial channel communications may support, not substitute for, full channel communications in relation building. Fewer cues in partial channel media may serve to exacerbate chances for inaccurate communications. Indeed, where cultural norms in one country are different from those in another country, Park and Ungson (1997) stress the importance of relationships.

Behavior, and in a sense culture, in the 'virtual' arena are evolving. Considerable relationship building and maintenance is required for effective communications to occur, both in real and in virtual environments. Thus, electronic communications may serve to support relationships by enabling continuous contact.

Executives and co-workers from 'low' context cultures (US) may experience a greater comfort with the use of electronic communications media because fewer nonverbal cues are required than those from higher context cultures (China, Japan). Further, this comfort may lead to greater blindness in cross-cultural communications relying on electronic media. High context cultures, already requiring many non-verbal cues for communications, will likely need even greater trust or mutual understanding on the part of participants in electronic exchanges because of the lack of other behavioral 'cues'—visual, non-verbal, contextual, and physical. The possibility of misunderstanding on intent is higher requiring great

attention to all parties' cultural norms. Other things being equal, the greater the 'gaps' between scores on cultural dimensions for would-be collaborators, the less the likelihood of collaborative success. Electronic (partial channel) communications may increase the gaps. Even this broad generalization signals a need for extra sensitivity in communications.

Electronic communications technology may bring people together or separate them. While the channel may change, still both sender and receiver remain embedded in their own cultures. As firms expand their global reach, a conscious attention to what conditions help create successful communications becomes imperative.

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