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# Cultural determinants of email communication styles

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## Abstract

Based on a sample of 234 IT consulting and services professionals from various cultural backgrounds, this study investigates whether Edward T. Hall's concept of culture can explain cultural differences in email communication. Although a vast array of intercultural research employs Hall's concept in various communication settings, few take into account the computer-mediated communication technologies that now play an integral role in the operations of international companies. Our results show that cultural differences in email are present and can be explained by Hall's dimensions of context, time, and space orientation. In particular, cultural background has a significant impact on the preference for formality, promptness, preciseness, task-relatedness, and relationship-relatedness in email communication. Implications for managers as well as future studies are derived.

## Keywords

Communication styles, cross-cultural communication, cultural differences, email, Edward T. Hall, low and high context

## Introduction

The internationalization of firms requires professionals from different nations and cultures, with varying sets of values, business rules, communication styles, and not least different languages, to find ways to work together effectively. While technology and communication media are rapidly evolving to keep up with these changes from a technical perspective, companies also must increase their cultural competence to support the changes from a managerial perspective (Harvey and Griffith, 2002). If 'the business of international business is culture' (Hofstede, 1994) and 'culture is communication and communication is culture' (Hall, 1956: 186), these considerations need to be examined in the modern workplace, accounting for the intricacies of computer-mediated communication (CMC) technology.

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Some researchers have suggested that CMC technologies mitigate cultural differences (Ess and Sudweeks, 2001; Shachaf, 2008). Moreover, there is evidence that the increasing use of English as international business language reduces differences in communication styles (Harzing et al., 2005). Other researchers reject this convergence hypothesis and negate the view that electronic communication can change or lessen differences in inherent beliefs and values. For example, Hofstede (2001: 453) claims that 'not only will cultural diversity among countries remain with us, but the new technologies may even increase differences between and within countries'. This view is supported by empirical studies stating that cultures do indeed view and use information technology (particularly CMC technology) differently (e.g. Lee and Lee, 2009; Massey et al., 2001; Tang et al., 2009; Vishwanath and Chen, 2008).

It is no secret that communication can be vital for organizational success. Internal communication can be costly due to the increased flow of information and confidentiality requirements as well as the actual process itself, and these costs increase with economic, social, and linguistic dissimilarities between the regions. Fang et al. (2004) investigated the failure of the Swedish–Norwegian merger Telia–Telenor and found that the underestimation of cultural differences between two seemingly similar cultures was a major factor. Effective and efficient cross-cultural communication can also be critical to a multinational corporation's (MNC) performance. Harvey and Griffith (2002: 456) cite an example from Ford where the company 'had significant difficulty with the introduction of the "Asian Ford," due to the US design team's inability to effectively communicate with the strategic alliance partners in China and with suppliers spread throughout Asia. This poor communication delayed the introduction of the car for nearly 18 months.' While various researchers have stressed the importance of intercultural communication for MNCs, the topic of electronic communication in the corporate world and in particular email communication in a cross-cultural context has received little attention in comparison to its growing importance as a communication medium (Leung et al., 2005). In fact, email has become the medium of choice for communication in organizations (Beamer and Varner, 2008: 84; Markus, 1994). One of the many challenges MNCs face in their globalized environment is coordinating activities across national borders and time zones. The increased implementation of global virtual teams (Alavi and Tiwana, 2002; Jarvenpaa and Leidner, 1999; Shachaf, 2008) has forced firms to rely on computer-mediated communication technologies – especially email – to conduct daily business. Many authors (e.g. Curşeu et al., 2008; Warkentin and Beranek, 1999) list the development of CMC systems as one possible reason for the rise of global virtual teams in multinational companies. Company downsizing and IT advancements coupled with increasing offshore activities have further spurred the growth of these virtual teams and increased CMC use (Duarte and Snyder, 2006; Gibson and Cohen, 2003). Further vindicating the timeliness of this topic is the fact that the recent economic recession has forced MNCs to cut travel budgets, relying more on CMC and less on face-to-face interactions (Holtbrügge and Schillo, 2011).

Email is generally recognized as the most-used method of communication, not only for virtual teams but also for MNCs (Guo et al., 2008; Lurey and Raisinghani, 2001; Shachaf, 2005). In fact, approximately 75 to 80 percent of virtual team communication is done by email (Francesco and Gold, 2005: 80). However, media richness theory largely attributed to Daft and Lengel (1986) proposes that different communication media offer varying degrees of 'richness', affecting the effectiveness or equivocality of messages. The 'richness degrees' are determined by the medium's ability to communicate multiple cues, the time needed to feed back the variations in language, and the ability to convey natural expression or personal focus (Dennis and Kinney, 1998: 257; Warkentin and Beranek, 1999: 274). While Daft et al. (1987) were unable to include email or CMC technologies in the original study (as the media were very new at that time), they suggest email 'has many

characteristics similar to telephone or written memos because it also has the capacity for rapid feedback and can reach a large, geographically dispersed audience' (Daft et al., 1987: 365). Email also limits social presence and the ability to pick up on nonverbal cues – a feature important for intercultural communication, according to Hall (1959). Email also lacks contextual cues (Shachaf, 2005: 50). Furthermore, Grundgreif et al. (2007) point to the difficulties of intercultural and computer-mediated communication largely due to the fact that the communication media used in such instances have only a low degree of media richness.

In order to attempt to explain cultural differences in email communication, Edward T. Hall's concept of culture is employed in an empirical study across a wide range of cultures. As Hall's concept is multifaceted, various studies (Cardon, 2008; Gudykunst and Nishida, 1986; Richardson and Smith, 2007) have suggested analyzing dimensions of the concept in order to explain cultural divergences. Therefore, this study aims to explain cultural differences in email communication dimensions based on Hall's dimensions of context, time, and space orientation and extends this to electronic communication media. In addition, a variety of cultures are to be taken into account, aiming to increase the etic dimensions of cultural variability.

## Conceptual framework

Hall defines three dominant influences on intercultural communication based on cultures' use of context, time, and space. Context orientation, the most widely used dimension from Hall in intercultural research, describes cultures as being high- or low-context, where high-context (HC) cultures communicate in a more indirect manner and implicit meaning is embedded in the context (Hall, 1976: 101). In contrast, low-context (LC) cultures rely more on explicit information for interpreting the meaning of a message. Time or chronemics refers to the notion that cultures can be classified as being more monochronic (M-time) or polychronic (P-time). Here, M-Time emphasizes schedules segmentation and promptness, and time is divided into tangible units (Hall and Hall, 1990: 13), whereas P-time individuals stress the 'involvement of people and completion of transactions, rather than adherence to present schedules' (Hall, 1976: 17) and excel at performing activities simultaneously. Space, as discussed here, relates to personal space in a figurative sense rather than physical space. Hall (1966) theorizes that cultures have different sizes of private spheres, based on how much information one shares with others. The smaller the private sphere, the more likely members of these cultures are to share intimate details and allow others to come closer in a relational sense. Most studies employing Hall's concept integrate the HC/LC concept, and relatively few deal directly with space or time. As Hall himself provides little to no empirical evidence to contextualize the time and space concepts, it is pertinent to review empirical studies making use of these approaches. The relative concepts are generally characterized through various dimensions describing different facets of the concepts.

Numerous researchers have used directness as a dimension to characterize context. Gudykunst and Nishida (1986: 529) report that HC cultures rely more on nonverbal communication and place 'emphasis on indirect forms of communication silence [and] telepathy'. LC cultures rely more on information than context in verbal or written messages. Adair (2003) employs Hall's contexting concept to study Israel, Germany, Sweden, and the USA as LC, and Hong Kong, Japan, Russia, and Thailand as HC. They provide support for context orientation as an indicator for directness, confirming that 'low-context cultures should favor direct communication, and negotiators in high-context cultures should favor indirect communication' (Adair, 2003: 288). However, the study was conducted in the USA in English, thereby possibly hindering the results as negotiators from the East

were expected to adapt the communication styles of the West. Kim et al. (1998) also empirically confirm Hall's assumptions in studying China, Korea, and the USA. They find LC cultural communication is characterized as economical, with the mass of information being in explicit code. The researchers appear to have developed a measure for contexting, but stopped short of developing it into a scale to measure the concept more accurately and comprehensively. Koeszegi et al. (2004) investigate HC/LC differences in the use of an internet-based negotiation support system. HC users sent more messages with the CMC tools than LC users, which is explained by the HC preference for indirect and circular communication. LC users evaluate the internet negotiation tool as more useful, which the authors attribute to the LC preference for systematic problem-solving and task orientation. Further studies reveal dimensions of contexting as they apply to implicitness and nonverbal cues, two factors closely related to directness. Nguyen et al. (2007) conclude that HC culture consumers are less prone to be fooled by illusive pricing strategies due to their ability to interpret implicit messages. Mintu-Wimsatt and Gassenheimer (2000) note the use of nonverbal communication for HC cultures, a factor closely related to implicitness. Arunthanes et al. (1994) describe HC cultures as having a more implicit nonverbal communication style that relies on personal relationships and hidden cues in relation to cross-cultural business gift-giving. LC cultures emphasize promptness and only form short-term personal relationships.

Cultures also communicate differently in terms of formality, and this appears to be a dimension of contexting. Avoiding confrontation and indirectness have also been shown as a degree of formality by some. Bello et al. (2006) investigate Hall's dimensions as predictors for message equivocality and directness and conclude that HC cultures (China, Taiwan, and Colombia) are more inclined to use equivocal or indirect communication styles than LC cultures (Australia). Colombians, for example, exaggerate the use of formal language in communication, with clear distinctions in formality based on the context of relationship. Shachaf also provides evidence for Japan (a HC culture) using a more formal communication style than communicators from the UK, 'reflecting social and organizational differences between people' (2008: 134). She also suggests that the very nature of the English language makes it less formal. Murphy and Levy (2006) refer to formality more in terms of politeness, suggesting that, in intercultural email, communication cultures are more polite in general when communicating with one another. Their empirical study, consisting of observing email communication between Korean and Australian academics, also reveals that Korean participants more frequently used titles when addressing recipients and were uncomfortable addressing counterparts by their first name, suggesting that HC cultures prefer formal communication in email.

Relatively few studies investigate time orientation within the realm of culture. Most deal with polychronicity as it applies to multitasking, referring to the fact the P-time cultures often overlap tasks and schedules. Manrai and Manrai (1995: 118) characterize monochronic cultures as being low-context and polychronic cultures as being high-context and stress that monochronic cultures 'treat time as a tangible asset' and focus on one activity at a time. Polychronic cultures do multiple activities at a time, and the 'social context of interactions is much more important than keeping schedules' (ibid.). An empirical study by Benabou (1999), although not necessarily in a cultural context, concludes that 'polychronic individuals are comfortable with several activities conducted simultaneously, attach less importance to procedures, prefer to organize work to suit themselves, and perceive the world in a less compartmentalized fashion' (Benabou, 1999: 264). The study does not classify its sample into polychronic and monochronic individuals based on theoretical concepts, and the majority of the sample are students from the same ethnic background – Québécois – limiting generalizability. Furthermore, Bluedorn et al. (1999) confirm a negative correlation between

polychronicity (which in contrast to Hall's notion of involvement of people and completion of transactions is measured by the tendency to perform more than one activity at once) and punctuality, as well as schedules and deadlines. Several studies also stress the importance of punctuality. Although not directly pertaining to polychronicity and monochronicity as they relate to culture, Waller et al. (1999) find empirical evidence for the presence of time-urgent group members and a higher level of monochronic (as opposed to polychronic) group behavior, confirming Hall's dimension of promptness or urgency in M-time cultures.

Turner and Reinsch (2007) investigate polychronicity in technology use in the workplace and termed 'multi-communicating' as the practice of multitasking in the communication context. The results reveal that under circumstances of higher equivocality, respondents were less likely to multi-communicate. They attribute multi-communicating more to equivocality and status influence than to time orientation based on culture. In terms of multitasking as it applies to time orientation and polychronicity, Turner et al. (2006: 225) suggest that 'email ... technologies provide new opportunities for multitasking managers'. Although polychronic individuals reported a preference for face-to-face communication, they did not object to electronic media as they aided the ability to multitask. Reinsch et al. (2008) extended the field by focusing on multi-communicating related to lean media and saturation processes. In a similar study, Gong (2009) investigates the effects of national culture on the adoption of B2C e-commerce tools. He concludes that polychronic cultures are more likely to participate in internet retailing, as the internet allows flexibility and multitasking. The author, although providing a list of countries that participated in the study, does not specifically explain how each country was classified (monochronic or polychronic) or include demographic data as to the breakdown of participants according to country. In addition, only secondary data was investigated, which poses the question of data quality and consistency (Atkinson and Brandolini, 2001).

Cultural views of space, in terms of Hall's concepts and especially with regard to CMC technology, represent an additional research gap. Vishwanath and Chen (2008) display cultural differences in the way various technologies are used to maintain symbolic proximity with interpersonal contacts in an empirical study in the USA, Germany, and Singapore. The results indicate that respondents in Germany use leaner media to maintain social proximity than do respondents in the USA. However, the sample items are rather questionable, as students make up the sample size and were asked about communication with business colleagues and office communication technologies, something irrelevant to most students. Shachaf (2008) provides one of the few studies to take all of the cultural dimensions from Hall as well as information and communication technology into account. Results reveal polychronic/monochronic differences were more noticeable in face-to-face meetings rather than in virtual channels, suggesting that CMC technology mitigates the effects of this cultural dimension. Email was also shown to mitigate the effects of verbal and nonverbal style, reducing misinterpretations of these more implicit cues in face-to-face intercultural communication. As Hall (1956) notes, para-verbal cues are used in communication, especially in high-context cultures. Curşeu et al. (2008: 642) point to the fact that 'the transfer of para-verbal cues in computer-mediated communication is limited, which makes it difficult to use implicit knowledge in decision-making or problem solving'.

Although much research has focused on virtual teams and CMC technology, culture is not a central point of the majority of these studies. Some point to culture as having a significant influence on the use of electronic communication media (Olaniran and Edgell, 2008; Tang et al., 2009; Ulijn and Campbell, 1999). However, these either lack empirical support or are not based solely on fundamental concepts of culture. One of the few studies dealing directly with Hall and email (Zakaria and Cogburn, 2010) does find contextual differences among cultures in email

communication. However, it is based on qualitative analysis of behavioral patterns, which can be relatively subjective. A number of studies use cultural dimensions from Hofstede (1980) and test the various effects on CMC technologies (e.g. Barnett and Sung, 2005; Hermeking, 2005; Richardson and Smith, 2007), implying that other cultural concepts may be relevant as well. It is also apparent that, although an array of literature dealing with culture exists, few studies have applied Hall's concepts to email communication (Leung et al., 2005). Moreover, most studies on electronic communication have been conducted with students in a university setting (Benabou, 1999; Guo et al., 2008; Holtbrügge and Kittler, 2007; Jarvenpaa and Leidner, 1999; Kapoor et al., 2003; Kim et al., 1998; Manrai and Manrai, 1995; Richardson and Smith, 2007; Thomas, 1998; ). This limits the generalizability of the results for the business world. Therefore, research gaps remain regarding electronic communication or CMC in a cultural context. The few examples that take culture into account either employ different dimensions or find little support for the concepts. This together with the wide scope of areas for which Hall's concepts can be used suggests that research employing these concepts and their effects on email communication is warranted.

## **Hypotheses**

### *Context in email communication*

Low-context communication is largely direct, whereas high-context communication is indirect. This view has strong support in the literature (Adair, 2003; Bello et al., 2006; Gudykunst et al., 1996; Kim et al., 1998). Koeszegi et al. (2004) even show indirectness as a characteristic of high-context communication in an electronic-based communication setting. This dimension of direct or indirectness pertains to the 'extent speakers reveal their intentions through explicit communication' (Gudykunst and Ting-Toomey, 1996: 100). In this regard, LC communicators prefer direct communication that doesn't have to be encoded or taken in context. Implicit cues and coding are also an important part of this concept recognized by Hall (1976). Other researchers have expressed the importance of nonverbal cues for HC communicators as a further use of indirectness (e.g. Adair, 2003), even in communicating using CMC technologies (Kayan et al., 2006), through the use of specific characters or emoticons. In the electronic setting, direct/indirect characteristics are also expected to be manifested in the style of communication, and the use of direct communication can be used as a measure for context (Oguri and Gudykunst, 2002). Based on these considerations it is proposed that:

Hypothesis 1a: Low-context cultures will show a higher preference for directness in email communication than high-context cultures.

A higher level of formalness in terms of the communication channel, as well as communication style, can be expected to be observed in HC cultures. The inclination to avoid confrontation and save face – characteristics of HC cultures (Kim et al., 1998) – could be interpreted as very formal by western observers, as the use of dramatic communication is avoided (Gudykunst et al., 1996). As Hall and Hall (1990: 7) note, Japan, an HC culture, uses 'honorifics, formal forms of address attached to each name'. This includes being addressed with one's last name and respective title. HC cultures differentiate their levels of formality as the interpersonal relationship progresses while LC cultures,<sup>1</sup> particularly English-speaking cultures, begin and remain informal (Bello et al., 2006). Formal speech and communication patterns, though largely based on the social context of the relationship, characterize HC communication style especially in the business setting. HC cultures

can also be expected to communicate more formally in email, using titles and last names more frequently (Murphy and Levy, 2006). Avoiding confrontation, a sign of respect in HC cultures and perhaps a sign of politeness in LC cultures (Salleh, 2005), is often embodied in the degree of formality in written communication. In this setting, it is expected that HC cultures will also employ a more formal communication style. This leads to the following hypothesis.

Hypothesis 1b: High-context cultures will show a higher preference for formality in email communication than low-context cultures.

### *Time in email communication*

Monochronic and polychronic cultures view time and promptness differently (Grundgreif et al., 2007; Hall, 1983). The fluidity of time and simultaneous performance of tasks characteristic of polychronicity (Bluedorn et al., 1999) can impede on the monochronic priority of promptness or urgency (Waller et al., 1999). For 'traditional' communication, M-time cultures value promptness and adherence to schedules whereas P-time cultures view promptness more fluidly. However, email and the electronic setting provide completely different environments for the evaluation of time (Lee et al., 2005) and hence promptness. Email is seen as an enabler for multitasking or multi-communicating, an important dimension of polychronic time (Turner and Reinsch, 2007; Turner et al., 2006). Based on traditional assumptions, one would assume that M-time cultures would also emphasize promptness in email communication. CMC technologies provide P-time cultures with a tool that enables a greater degree of multitasking. Interrupting tasks to answer emails or tending to emails while performing other activities such as talking on the phone could result in a greater degree of promptness for email in the polychronic workday. M-time cultures are expected to communicate less promptly as incoming emails may be seen as a distraction in the linear-segmented workday. With this in mind it is proposed:

Hypothesis 2a: Polychronic cultures will show a higher preference for promptness in email communication than monochronic cultures.

With this tendency toward multitasking and multi-communicating, it could be assumed that polychronic individuals tend to formulate emails less precisely than monochronic individuals as a result of time and performing many tasks at once. Monochronic cultures are more direct and implicit and hence more precise (Gudykunst et al., 1996; Kapoor et al., 2003). Whereas most researchers attribute this to one's context orientation, it could be argued that this preciseness or lack thereof in the case of P-time cultures is more a result of the 'multi-communicating' workday. Monochronic cultures performing one activity a time in their linear workday can be expected to be more precise in email communication as compared to their polychronic counterparts. This leads to the following hypothesis:

Hypothesis 2b: Monochronic cultures will show a higher preference for preciseness in email communication than polychronic cultures.

### *Space in email communication*

At first glance, the idea of space in the virtual world may look inappropriate as the internet and electronic communication media have enabled space boundaries to shrink (Lee et al., 2005). In the



context of Hall, however, space does not only refer to physical distance but also to what is perceived as private and therefore not disclosed to others. Therefore, this determinant of communication may also be relevant in the electronic setting. Previous studies reveal that high-space cultures are more task-oriented, maintaining social distance in email communication (Vishwanath and Chen, 2008). As they have been shown to distinguish clearly between work life and private life and to limit office communication to work-related aspects (Koeszegi et al., 2004), it can be expected that high-space individuals will communicate with a greater degree of task orientation in email so as to maintain the symbolic space in communication. Therefore it is proposed that:

Hypothesis 3a: High-space cultures will show a higher preference for task-relatedness in email communication than low-space cultures.

In contrast, low-space cultures are expected to put more emphasis on social interaction and relationships in email communication, even in a work context (Kim et al., 1999). A number of studies (e.g. Arunthanes et al., 1994; Gudykunst et al., 1996) suggest that low-space cultures stress the importance of interpersonal exchange and tend to build longer term relationships, which is more a characteristic of space. Therefore, in email, low-space cultures, with a tendency to have smaller private spheres, are proposed to be more concerned with cultivating their interpersonal relationships than high-space cultures. These considerations lead to the following hypothesis:

Hypothesis 3b: Low-space cultures will show a higher preference for relationship-relatedness in email communication than high-space cultures.

## **Methodology**

### *Sample*

To test the research hypotheses, we conducted an empirical study among professionals in the IT and services industry at large MNCs. Large MNCs in this industry tend to have offices spread across national and hence cultural borders and use virtual teams to a large extent, especially in the delivery and implementation phases of projects and for outsourcing opportunities (Massey et al., 2001; Thun, 2008). Due to the industry, one could also assume that these respondents have a greater affinity with intercultural issues as well as computer-mediated communication technology simply as a result of their daily working conditions (Turner et al., 2006). This was considered advantageous because, if survey items are of particular interest to respondents, response rates also tend to be higher (Michaelidou and Dibb, 2006).

Professional social networking sites were used in order to identify study participants. The Germany-based XING claims to be the European market leader in business networking, with over eight million users worldwide and service in 16 languages (XING, 2010). The US-based LinkedIn has over 50 million members worldwide and is available in four languages, with professional members from 170 industries (LinkedIn, 2010). Potential survey participants were identified using the search function with the entries according to large MNCs in the IT industry such as Accenture Capgemini or Deloitte or according to industry such as IT consulting or IT and services. In this way, 2,360 professionals received the hyperlink questionnaire. In terms of the cultures selected for analysis, the aim was to have a fairly even amount of high-context/polychronic/low-space and low-context/monochronic/high-space cultures represented. The greater objective was to include a variety of cultures (more than 10), as this increases the ability to develop etic dimensions of cultural variability and increases reliability (Hofstede, 2001: 463).

The questionnaire was developed in a multistep process, adapting questions from previous studies including theoretical deduction and a pretest, which served as a measure for how suitable the chosen methodology is for examining the hypotheses, as well as the reliability, clarity, and validity of the questionnaire items (Saunders et al., 2007: 387). The pretest was conducted with 100 university students and aided in ensuring the clarity of the questions, especially in terms of languages, as 99 out of the 100 were nonnative English speakers. The questionnaire was generated and administered electronically using an internet-mediated survey software program and consisted of 23 closed-answer questions on a seven-point Likert scale and seven demographic open-response items. The seven-point scale was chosen over the five-point in an attempt to acquire a lower proportion of middle responses and extreme responses among the different cultures (Harzing et al., 2009). Furthermore, multi-item scales were developed to measure the dimensions listed in the hypotheses, and multiple questions based on each dimension were included. To avoid common-method bias, these items were separated throughout. Items aimed at measuring the same construct were not all placed together, and the scale was periodically reversed. Thus, respondents were not always answering at the same end of the scale (Podsakoff et al., 2003).

By the deadline date, the number of utilizable surveys was 234 (9.92% response rate). Where Saunders et al. (2007) suggest a likely response rate of 11% for internet-mediated questionnaires and further authors (e.g. Michaelidou and Dibb, 2006) suggest response rates for surveys sent through email are relatively low as compared to traditional mail surveys, other researchers report higher response rates associated with web-based surveys (e.g. Baruch and Holton, 2008; Cook et al., 2000). Various measures were taken to increase the return rates. The URL was sent as a hyperlink, allowing respondents to go directly to the survey. Length was taken into consideration, with a status bar of time remaining, as well as the announced time university association and design elements (Deutskens et al., 2004; Galesic and Bosnjak, 2009; Michaelidou and Dibb, 2006). As we could not track exactly who actually filled out the questionnaire, no follow-up emails were sent. Although response rates have steadied over the past several years, response rates in organizations could be low due to 'survey saturation' for 'business and managerial interest in making data-driven decisions' (Baruch and Holton, 2008: 1143). We can assume the two main reasons for non-responses were failure to receive the questionnaire and the intention not to respond (Baruch and Holton, 2008). We cannot be sure as to how many messages on the social networking sites were sent to users who either no longer use their profiles or don't check their personal messages. Similarly, the mailing list could have also included employees who are no longer with the company or were on vacation at the time of the survey. Because significant differences in independent variable responses were not apparent in comparing early and late responses and no reminders or follow-ups were sent as stimuli (Armstrong and Overton, 1977), non-response bias was not considered to be an issue.

The non-probability sample totals 234 and consists of 28 different nationalities, with the largest groups of respondents from India (40), Finland (38), Germany (35), USA (19), Russia (17), Brazil (12), and China (8). This resulted in a fairly even split of HC/P-time/low-space and LC/M-time/high-space cultures. In total, 120 (or 51.3%) HC/P-time/low-space cultures and 114 (or 48.7%) LC/M-time/high-space cultures were included in the sample. The sample consisted of members of all organizational hierarchical levels, with most (58.7%) from entry-, mid-, or senior-level, 13.5% from lower-level management, 20.3% mid-level, 6.3% upper-level, and 1.3% high-ranking executives (C-level). Additional independent demographic variables measured were age and gender. Of the sample, 76.5% were men, with the majority (64.1%) being between the ages of 20 and 30. The last control variable measured the percentage of communication that takes place via email in the respondents' daily work. The vast majority reported conducting 50% or more of their

daily work via email communication, attesting to the sample population's aptitude to report about email communication style.

In regard to sample representativeness, it can be assumed the sample is representative of the population due to random selection of respondents comprising a wide variety of cultures and hierarchical levels in an attempt to mirror the actual population (Sumser, 2001: 57). The fairly balanced amount of HC/P-time/low-space and LC/M-time/high-space cultures also indicates a representative sample. Aiming to increase generalizability, various cultures were included as well as individuals from various companies within the IT services and consulting industry (Goodall, 2002; Saunders et al., 2007). In addition, professionals (not students) were targeted in an attempt to increase the ability to generalize results and derive managerial implications (Hughes and Gibson, 1991; Richardson and Smith, 2007).

### Measures

Measures are based on earlier empirical studies with implications interpreted for the electronic setting, as little empirical evidence for Hall's concept for CMC is available.

### Dependent variables

To tap into respondents' self-reported preference for *directness* in email communication, three items were included; e.g. 'I prefer direct, straightforward emails' and 'I always put the most important point first' (Adair, 2003; Gudykunst et al., 1996; Kapoor et al., 2003). Similarly, a detailed subject line that reveals the contents of the email before it is opened by the receiver is regarded as an indicator of directness (Biesenbach-Lucas, 2006). Three items were included to measure *formalness*. Many authors have interpreted this as saving face and politeness (Thomas, 1998), and in email communication it may manifest itself in the use of titles, first and last names, or honorifics (Bello et al., 2006; Hall and Hall, 1990).

As for *promptness*, four items were included such as 'when I receive an email, I respond right away or soon thereafter' or 'after receiving an email, I like to have time to think about and formulate my response' (coded reversely). The self-reported perception of time urgency and punctuality will therefore be used to operationalize this variable (Waller et al., 1999). Moreover, automatic out-of-office replies and the relevance attributed to mobile smartphones are regarded as indicators of promptness (Hayes and Kuchinskas, 2003). *Preciseness* was operationalized with five items by respondents' self-reported tendency for clarity conciseness and efficiency (de Vries et al., 2009). Another indicator is avoidance of jokes, sarcasm, or abbreviations, which can lead to misinterpretation and misunderstanding (Byron, 2008).

Three items were used to measure task-relatedness in email communication; for instance, refraining from small talk (Morkes et al., 1999) and sticking to the task or the main purpose of communication (Keeling et al., 2010). For relationship-relatedness, five items are used; e.g. 'I frequently discuss personal matters in email communication even with colleagues' and 'I am always sure to start off with an opening such as asking how the person is before I get to the point' (Pee et al., 2008). Table 1 shows a list of all items used to measure the dependent variables. Moreover, Cronbach's alphas as indicators of internal reliability are presented. Five out of six variables show an acceptable reliability, as Cronbach's alphas are above the 0.5-level proposed by Nunnally (1967). Although the coefficient for directness is below this level, this variable was nevertheless considered for further analysis given the lack of established theories and measures regarding email

**Table I.** Items dependent variables and construct reliabilities.*Directness (Cronbach's alpha = 0.416)*

When writing an email I always put the most important point first.

I prefer direct straightforward emails.

When writing an email I am sure to include a detailed subject line.

*Formalness (Cronbach's alpha = 0.578)*

I expect a formal greeting in email communications (e.g. Dear... Hello...).

If receiving an email from a person I don't know personally, I expect to be addressed with my last name (e.g. Mr Smith, Ms Mueller).

People should be addressed with their respective titles in emails (e.g. Prof., Dr, etc.).

*Promptness (Cronbach's alpha = 0.627)*

When I receive an email, I respond right away or soon thereafter.

I consider emails sent from a smartphone (e.g. BlackBerry or iPhone) to be just as important as 'regular' emails even if they are short.

When not in the office, I always have an out-of-office reply so people know when to expect my response.

After receiving an email, I like to have time to think about and formulate my response. (r)

*Preciseness (Cronbach's alpha = 0.591)*

When I write emails, I am sure to make them as precise as possible regardless of the length.

When communicating via email or other electronic mediums, I avoid jokes or sarcasm. They can lead to misinterpretation.

It is more important for me to send a well-formulated and personal email than to worry about deadlines or answering someone right away.

I prefer electronic communication as opposed to other communications because it gives me more time to formulate what I want to say. (r)

I dislike abbreviations or slang in email communications. It leaves room for interpretation.

*Task-relatedness (Cronbach's alpha = 0.504)*

I dislike small talk in emails.

I generally include a signature at the end of my emails so people know what position I have.

When writing an email, I am sure to have an organized form and I do not go to another task until I am finished with the email.

*Relationship-relatedness (Cronbach's alpha = 0.621)*

I frequently discuss personal matters in email communication even with colleagues.

I use the 'cc' function quite regularly; it is important to share as much information as possible.

I tend to ignore mass emails (i.e. standardized emails sent to more than one sender).

When writing an email, I am always sure to start off with an opening such as asking how the person is before I get to the point.

Even if I don't know a person very well, it is okay if he/she addresses me with my first name in an email.

All items rated on 7-point Likert scale (1=completely disagree; 7= completely agree). Items that are reversely scaled are marked as r.

communication styles, as recommended by Schmitt (1996) and Liu et al. (2010). This may be regarded as a limitation of our study and is further discussed in the limitations section.

### Independent variables

The independent variables in this study are context, time, and space orientation. Although conceptualized as separate dimensions, Hall (1976, 1990) argues frequently that they are closely inter-related; that is, high-context cultures are often polychronic and characterized by low-space orientation.

**Table 2.** Classification of cultures in previous studies.

High-context/polychronic/low-space	Low-context/monochronic/high-space
Argentina **13141620-	Austria **1620-
Brazil **13141619-20-	Canada **11141619-
China *291314161819-20-	Denmark **151820-
Czech 20-	Finland **1819-20-
Egypt 61420-	Germany *31114161819-20-
France *419-	Netherlands **20-
Greece **19-20-	New Zealand 1416 20-
Hungary 20-	Norway **131820-
India 78111314 20-	South Africa 20-
Indonesia 14	Sweden **31819-20-
Italy **141619-20-	Switzerland *620-
Japan *123101314161718	UK **141620-
Latvia 20-	USA *12345678910111213141516171819-20-
Malaysia 14	
Mexico **141516	
Pakistan **20-	
Peru **20-	
Philippines 512	
Romania 19-20-	
Russia 31719-20-	
Spain **14151620-	
Taiwan 21114	
Turkey *16	
Ukraine 19-20-	
Uruguay **20-	

\*Denotes countries specifically listed by Hall (1976; 1983; Hall and Hall, 1990) as either HC or LC/P-time or M-time/low-space or high-space. \*\*Denote countries belonging to regions or cultural groups denoted by Hall (1976) as being either HC or LC, i.e., Mediterranean, Latin America, Northern Europe, Arab, North America, or Scandinavia.

The following denote empirical support for country classification: <sup>1</sup>Gudykunst et al., 1996. <sup>2</sup>Oguri and Gudykunst, 2002. <sup>3</sup>Adair, 2003. <sup>4</sup>Biswas et al., 1992. <sup>5</sup>Callow and Schiffman, 2002. <sup>6</sup>Kalliny et al., 2007. <sup>7</sup>Kapoor et al., 2003. <sup>8</sup>Kayan et al., 2006. <sup>9</sup>Kim et al., 1998. <sup>10</sup>Kitayama and Ishii, 2002. <sup>11</sup>Koeszegi et al., 2004: important to mention here that Russia was found to be more LC and Finland more HC. <sup>12</sup>Mintu-Wimsatt and Gassenheimer, 2000. <sup>13</sup>Nguyen et al., 2007. <sup>14</sup>Mehta et al., 2006: note here France, Czech Republic, and Hungary were classified as LC. <sup>15</sup>Dozier et al., 1998. <sup>16</sup>Rosenbloom and Larsen, 2003: note France is classified as LC. <sup>17</sup>Adair et al., 1994. <sup>18</sup>Würtz, 2005.

The following denote classification based of theoretical foundation: <sup>19</sup>Kittler, 2008. <sup>20</sup>Van Everdingen and Waarts, 2003. No empirical evidence was found for many Eastern European cultures, but evidence for Russia as being HC has been noted. As Russia is considered to be in the same societal cluster as most of Eastern Europe according to the GLOBE study (House et al., 2004), it was inferred that these countries were HC as well.

Low-context cultures on the other hand have in most cases a monochronic time concept and a high-space orientation. This assumption is confirmed by several empirical studies (e.g. Bouncken, 2004; Manrai and Manrai, 1995; Shachaf, 2008). As a consequence, subsequent studies based on Hall's concept of culture do not often differentiate between context time and space orientation but apply these three dimensions synonymously. A classification of cultures into these two categories in previous research is presented in Table 2. This classification is also used by us, with low-context monochronic and high-space cultures coded as '1' and high-context polychronic and low-space cultures coded as '2'.

**Table 3.** Means standard deviations and correlation coefficients.

	Mean	SD	1	2	3	4	5	6
1: Directness	5.95	.910						
2: Formalness	5.10	1.347	-.170**					
3: Promptness	5.22	1.236	.112	-.339**				
4: Preciseness	5.42	.806	-.516**	-.173**	.262**			
5: Task-relatedness	4.95	.905	.841**	-.278**	-.228**	.601**		
6: Relationship-relatedness	4.37	.972	.104	.344**	-.591**	-.082	-.063	
7: Context/time/space orientation	1.49	.499	-.100	.263**	-.340**	-.289**	-.293**	.268**

### Control variables

In order to account for demographic or other biases, a number of control variables were used including age and gender with males (coded as '1') and females (as '2'). Respondents also indicated their hierarchical level, as usage patterns can vary according to one's organizational status (Markus, 1994). This variable ranges from '1' for entry level to '7' for C-level. Finally, participants were asked to estimate the approximate amount of their work communication (as a percentage) that occurs via email, as it was expected that email communication styles would differ according to the frequency of use (Fuller et al., 2006).

### Results and discussion

Table 3 presents the means standard deviations and bivariate correlations of all dependent and independent variables in our study. As expected, all dependent variables – except directness – show significant correlations with the independent variable, albeit the sign is not always as predicted. Directness and formalness as well as task-relatedness and relationship-relatedness are negatively correlated; that is, these dimensions of email communication are perceived as oppositional. Contrary to our expectations, the correlation between promptness and preciseness is significantly positive. Thus, the answers of the respondents suggest that email communication can be prompt and precise at the same time.

In order to test our research hypotheses, multiple regression analyses were conducted. In a first step, only the independent variables were included. Step 2 contains also the control variables (Table 4).

All models – except for directness – are significant on a medium to high level. The model for directness is not significant in both steps. The independent variables account for a modest share of the variance in email communication styles ( $.050 < \text{adj. } R^2 < .109$  in step 2). This result is of little concern here as the main objective of this study is to analyze whether the cultural background of an individual affects his or her email communication style and not to explore all possible determinants. The modest values of  $R^2$  indicate that there are other factors affecting email communication styles (such as corporate culture, email contents, relationship between sender and receiver, etc.), as could have been expected. Although the inclusion of the control variables enhances the explanatory power of all six models, they have only a low impact on email communication style. Only 5 out of 24 regression coefficients are significant on a low to medium level. The highest influence is revealed for the impact of age on task-relatedness and relationship-relatedness; i.e. older individuals are more relationship-related and less task-related in their email communication than their younger

**Table 4.** Regression analysis.

( $\beta$ )	Direct- ness	Formal- ness	Prompt- ness	Precise- ness	Task- relatedness	Relationship- relatedness
<b>Step 1</b>						
Context/time/space orientation	.037	.208*	-.258**	-.293**	-.278**	.245**
R <sup>2</sup>	.000	.043	.067	.093	.088	.078
Adjusted R <sup>2</sup>	.000	.040	.063	.089	.080	.069
F	0.037	12.251**	19.543**	22.124	21.737	17.709
	n=228	n=234	n=234	n=226	n=228	n=233
<b>Step 2</b>						
Context/time/space orientation	-.048	.211*	-.210*	-.299**	-.326**	.177†
<i>Control variables</i>						
Hierarchical level	-.101	-.131	.120	.070	-.066	-.093
Gender	.055	.052	-.071	.079	-.043	.061
Age	.106	.110	-.191†	-.012	-.215*	.194†
% email used in daily communication	.102	.046	.101†	.156†	-.054	.037
R <sup>2</sup>	.027	.068	.103	.119	.123	.080
Adjusted R <sup>2</sup>	.003	.050	.085	.101	.109	.061
F	1.125	3.615*	5.693**	5.446**	5.799**	3.443*
	n=214	n=207	n=210	n=205	n=201	n=210

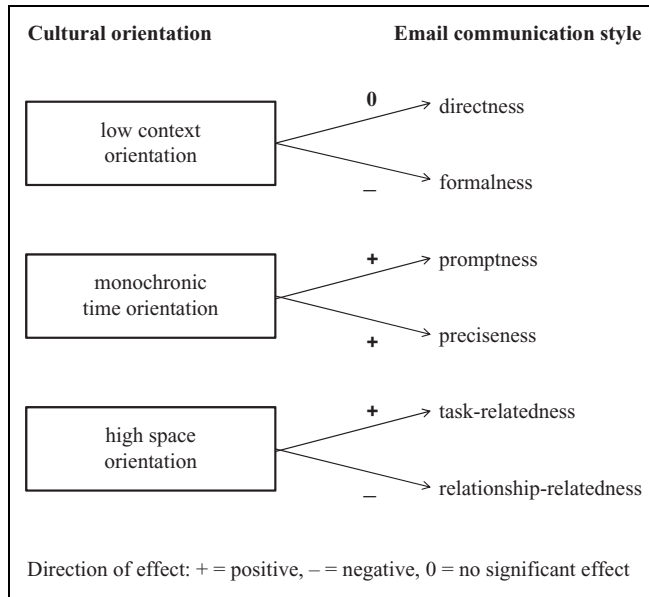
Levels of significance: †  $p \leq .10$ ; \*  $p \leq .01$ ; \*\*  $p \leq .001$ ; standardized coefficients shown.

colleagues. Moreover, younger respondents are more concerned about promptness than older people. The amount of work communication with emails has a significantly positive effect on promptness and preciseness. The other two control variables, hierarchical level and gender, show no significant coefficients.

In hypothesis 1a we proposed that low-context cultures would communicate more directly than high-context cultures. This is not supported by our data. Neither the F-value for the entire model nor the particular regression coefficient for directness is significant. This result is somewhat surprising because directness as an indicator for context orientation has been empirically proven in a variety of settings (e.g. Adair, 2003; Gudykunst et al., 1996; Kayan et al., 2006; Kim et al., 1998). However, these studies do not explicitly analyze email communication, which obviously mediates the effects of culture on the preference for a direct communication style. It also has to be noted that the internal reliability of the scale constructed to measure directness is very low.

In hypothesis 1b we proposed that high-context cultures would communicate more formally than low-context cultures. The positive and significant coefficient indicates that this hypothesis is confirmed by our data.

Hypothesis 2a proposed that polychronic cultures would communicate more promptly than monochronic cultures. The coefficients for promptness are both highly significant, albeit the sign is negative. Contrary to our expectations, monochronic cultures have a stronger tendency for promptness and adherence to schedules in email communication, while polychronic cultures view promptness more fluidly. This is in line with earlier studies (Waller et al., 1999) and supports original assumptions by Hall (1976). Contrary to the argumentation of Turner et al. (2006), the ability of CMC technologies for multitasking obviously does not affect the perception and evaluation of time.



**Figure 1.** Illustration of main results.

In hypothesis 2b we proposed that monochronic cultures would communicate more precisely than polychronic cultures in email communication. The entire model provides a high level of statistical significance at  $p \leq .00$ . Thus, hypothesis 2b is supported. Considering the negative regression coefficient for promptness, this also supports the results of the correlation analysis that email communication can be prompt and precise at the same time and that members of monochronic cultures find both dimensions similarly relevant.

Hypothesis 3a proposed that high-space cultures would communicate with a higher degree of task-relatedness than low-space cultures. The regression analysis reveals a negative and highly significant coefficient, giving support for this hypothesis.

Finally, hypothesis 3b is confirmed, with the highly significant positive coefficient meaning that low-space cultures show a higher preference for relationship-relatedness.

Figure 1 summarizes the results of the empirical study with regard to the hypotheses. Four out of six hypotheses could be confirmed, and the result for one hypothesis was contrary to our expectations. For one hypothesis, no significant result is revealed.

## Contributions, limitations, and implications

The aim of this study was to analyze whether email communication styles vary across cultures and, more specifically, whether differences in email communication styles can be explained by Hall's concept of culture. Regression analyses on specific dimensions of communication style (directness, formalness, promptness, preciseness, task-relatedness, and relationship-relatedness), derived from previous research and empirical studies, revealed that substantial variance in the variables can be explained by Hall's cultural concept. More specifically, high-context cultures were found to prefer more formal email communication. Monochronic cultures were seen to communicate more



precisely and more promptly at the same time, which is in contrast to the recent argumentation that CMC technologies enable multitasking and thus allow members of polychronic cultures to increase the promptness of communication. Furthermore, task-relatedness is more relevant for high-space cultures while relationship-relatedness is more relevant for low-space cultures. Our findings provide a great contribution to the field in that the cultural concept from Hall was applied to email communication – a setting that has received little attention in comparison to its importance as a communication medium. This study provides further confirmation that this concept of culture can be applied to a number of communication settings, in this case, a setting that has increasing importance for MNCs as a result of globalized and cross-border activities. Where some studies suggest Hall's 60-year-old concept is losing relevance in today's global marketplace with advances in telecommunication technology (Craig and Douglas, 2006; Fang, 2005) or suggest that CMC technology mitigates cultural differences (Ess and Sudweeks, 2001; Shachaf, 2008), this study reveals that culture can indeed explain differences in electronic communication. This is in line with Hofstede's (2001) notion that CMC technologies could even increase cultural differences.

A further contribution this study brings to research is the inclusion of a variety of different cultures spanning the conceptual lines to examine dimensions of cultural variability. This etic approach allows for 'broad similarities and differences in behaviors to be predicted across cultures' (Gudykunst and Ting-Toomey, 1996: 10), made further possible by the examination of many cultures, something the majority of previous studies on Hall's cultural concept lack.

An important practical contribution of this study is the finding that email communication styles are culture-bound. This may help managers to better interpret emails that they receive from individuals with other cultural backgrounds. For example, individuals from high-context cultures may find emails from people with a low-context orientation less offensive if they are aware of the fact that their communication style is less formal. Similarly, differences in promptness and preciseness as well as work- vs task-relatedness may be attributed to cultural differences rather than to individual characteristics of those involved. Moreover, individuals may also adapt their email communication style to the cultural background of the receiver. As one respondent mentioned, 'I am aware of cultural differences, so I formulate an email to people from different countries differently. For example, in the USA I use the first name, but in Austria or Germany I tend not to. Indians prefer a less direct mail, while that is no problem in Switzerland, etc.'

Although this study provides evidence for cultural differences in email communication, several limitations need to be taken into account. One limitation is the fact the questionnaire was conducted in English. For a great majority of the respondents, this was not the native language. In cross-cultural research this can lead to bias in responses and in some cases a homogenization of response patterns across cultures (Harzing et al., 2005, 2009). The English language in its very nature is also considered to be low-context (Kitayama and Ishii, 2002; Salleh, 2005), with Hall (1976: 17) even noting 'English is strongly digital ... it provides speakers with many words to name particular affective and cognitive states.' Therefore, this could be a further reason for bias as a result of the questionnaire language. However, it is quite plausible to assume that respondents, being members of large MNCs, use a great deal of English in their everyday email communication. Thus, the use of English in the questionnaire reflects the working conditions in most MNCs.

A further limitation proved to be the items used to measure the six dependent variables. As no standard measures exist, the items were derived from various empirical and theoretical studies. This resulted in mostly acceptable but not very high scale reliabilities. For directness, Cronbach's alpha was even below the recommended minimum of 0.5. Therefore, further research should focus on the development of more reliable measures of email communication styles.

When interpreting the results of this study, one should also consider that all respondents work in the same industry (e.g. the IT industry), which may cause an industry bias. While the target population was chosen due to its perceived high affinity for CMC technologies, as well as perceived cross-cultural work environment, future studies should include samples from different populations as email communication styles may vary between industries (Pang et al., 2007). Moreover, it can be expected that communication styles will be influenced by organizational culture (Keyton, 2005; Mueller, 1994). Thus, future studies should control for both industry and organizational culture.

Another possible limitation would be the coding of the individual cultures into their conceptual orientation. High-context polychronic and low-space cultures were all classified together, as were low-context monochronic and high-space cultures. This eased in the coding process, as little evidence as to the time and space orientation was found. Hence, most cultures were coded based on their contextual orientation. Although Hall and Hall (1990) propose that the contextual time and space orientation correspond in terms of classification and empirical studies also confirm this (Bouncken, 2004; Manrai and Manrai, 1995), deviations could exist, for example, with Japan, which is a high-context culture but has been classified as monochronic in the business world (Hall, 2000). The country classification has also come into question (Cardon, 2008; Hermeking, 2005), and several countries were included in the study for which little or mixed empirical evidence was found regarding their conceptual classification; for example, Russia or Eastern European cultures. As a consequence, many researchers call for the development of standard measures of Hall's cultural dimensions (e.g. Adair, 2003; Cardon, 2008; Kittler et al., 2011).

More generally, Ting-Toomey (1988) criticizes the use of nationality as a generalization for culture, pointing to the cultural heterogeneity of nations. This is particularly relevant, for example, in the cases of India and the United States, which have a multitude of subcultures that vary greatly from one another. Furthermore, increasing numbers of individuals are bicultural or have mixed cultural profiles as a result of increasing migration of employees and managers (Brannen and Thomas, 2010; Chen et al., 2008). This bicultural orientation may also affect their communication styles. It can also be assumed that not all members of a particular culture share the same language and communications skills. For example, Holtbrügge and Kittler (2007) suggest that language competency has a stronger impact on communication effectiveness than cultural differences. Thus, future studies should apply more complex measures of culture that allow for controlling these potential influences.

## Note

1. An obvious exception is to be made of non-native English speakers such as native German speakers who make the distinction e.g. between 'Du' and 'Sie', a distinction that can change with the progression of the relationship.

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