UNDERSTANDING CULTURAL INFLUENCE ON CMC ADOPTION AND USE: A CROSS-COUNTRY INVESTIGATION IN THREE SUBSIDIARIES OF A MNC

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ABSTRACT

The objective of this study is to compare e-mail perceptions and use across three subsidiaries of the same multinational enterprise in order to investigate the effect of national culture differences on e-mail communication patterns. The empirical investigation was conducted in three European countries, the UK, the Netherlands and Italy which previous studies have found to vary in terms of several cultural dimensions, including power distance and uncertainty avoidance.

Findings indicated that there are significant country differences in both perceptions of media features and e-mail use for vertical and horizontal communication. Specifically, differences between the British and Italian subsidiaries showed interesting patterns which suggest some plausible interpretations of the effect of differences in power distance and uncertainty avoidance on organizational members’ perceptions and use of e-mail.

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INTRODUCTION

As business has become increasingly global, the transferability of management theories, systems and practices across national borders and different cultures has become an increasingly debated topic (Adler & Jelinek 1986; Black & Porter 1991; Cox & Cooper 1985; Hofstede 1993; Laurent 1983).

Research in international business has found evidence that home country culture has influences on the management practices and organizational culture of overseas subsidiaries (Hofstede et al., 1990; Rosenzweig & Nohria, 1994; O’Connor, 1995). The influence of cultural differences has been investigated with respect to a wide range of topics such as human resource management practices, total quality management implementation, management control and accounting systems (Tsui, 2001) and technology transfer (Kedia & Bhagat 1988).

Culture as a factor in technology adoption has been investigated extensively in the field of operation management (Stock & McDermott, 2001; Bates et al., 1996). In this paper we focus on the impact of national culture on the use of CMC technologies. In this regard, we build on previous studies which have investigated the role of cultural differences in ICT adoption and diffusion (Straub, 1994; Straub, et al. 1997). The rationale for this research draws on the assumption that technology use emerges from a complex interplay between the objective characteristics of technology and the characteristics of the specific social and organizational context in which the technology is actually used (Markus and Robey, 1988).

In order to better understand the influence of culture, this study focuses on e-mail, a widely-diffused, simple and “old communication technology”. Indeed, if it is true that the human use of technology transcends its technical characteristics and depends also on the interplay with social, organizational and psychological factors, such effect becomes visible only over time, as individuals use the technology. Specifically, the objective of this study is to examine whether and to what extent cultural differences across countries have an influence on (i) perceptions of e-mail features as opposed to verbal communication and (ii) e-mail use for vertical and horizontal communications.

We review the relevant literature and develop propositions that analyze the influence of uncertainty avoidance and power distance on the perceptions and use of e-mail communication in the workplace across countries. Propositions are then tested in an
empirical study conducted in three European subsidiaries of a multinational corporation.

THEORETICAL BACKGROUND AND HYPOTHESES

Culture as a factor influencing the use of information technology has been investigated by Straub and colleagues (Straub, 1994; Straub et al., 1997). The authors examined cultural effects on the adoption of e-mail in an attempt to test the applicability of the Technology Acceptance Model (Davis, 1989) in different countries. As originally formulated, the Technology Acceptance Model posits that perceived usefulness and perceived ease-of-use affect the acceptance and use of IT. Using different methodologies, numerous studies carried out in the U.S. have found that the Technology Acceptance Model is a relatively robust model for explaining IT use. However, based on cross country studies, Straub (1994) and Straub et al. (1997) found that the Technology Acceptance Model was not equally effective in explaining IT use in different cultures. For instance, Straub (1994) found that response to traditional media –FTF and telephone– was remarkably similar between cultures, while response to new media was different (Straub, 1994). Further, Straub et al. (1997) found that perceived usefulness was significant and explained the variance in e-mail usage behavior observed in the US and Swiss samples, while it was not significant for the Japanese sample. According to the authors, cultural differences in power distance, uncertainty avoidance and collectivism (Hofstede, 1980) as well as in terms of an index composed of these values may limit e-mail use in some countries dissociating usefulness from use.

Drawing on these studies, the purpose of this research is to investigate the effect of cultural differences on e-mail perceptions and use. However, the paper departs from Straub and colleagues’ work in two ways. Firstly, unlike their work, which examined perceived usefulness and ease-of-use, this study unfolds perceptions of e-mail with respect to verbal communication in terms of several dimensions which go beyond simple usefulness and ease-of-use. Secondly, this study does not focus on perceived frequency of e-mail use as a whole, but distinguishes frequency of e-mail use for downward, upward and horizontal communication.
The rest of this section provides a review of the relevant literature on e-mail perceptions and its use in vertical and horizontal communication, which leads to the hypotheses tested in this study.

Perceptions of media features
The Information Richness Theory (Daft & Lengel, 1984, 1986) argues that the capacity for transmitting a variety of social cues is what determines the social potential of various communication media. The richness of a medium is defined as the potential information-carrying capacity of data (Daft & Lengel, 1984, p. 196). Communication media can be ordered into a continuum ranging from highest to lowest in richness. The richest medium is face-to-face communication that can provide many cues, such as body language and facial expression. In this view, richest media are considered the most effective in mitigating ambiguity and thus the most appropriate to deal with complex communication tasks characterized by high “equivocality” or uncertainty whereas less rich channels such e-mail are more effective to deal with simple tasks. Although some studies support the media richness ranking for traditional media, large variances relative to very small mean differences have been reported for electronic mail and other mid-ranking media, suggesting considerable variation in media usage unaccounted for by the richness continuum (Fulk & Boyd, 1991). Scholars have argued that many other factors beyond media richness affect media perceptions and usage claiming the need to take into consideration additional aspects such as the nature of the group, the task, and the culture (Lebie et al., 1996).

From a cross-cultural approach, perceptions of communication media do not depend exclusively on objective technical characteristics but are embedded within social cultures. A cultural dimension which may have particular relevance in this context is uncertainty avoidance, which is defined as the degree to which people in a country prefer structured over unstructured situations. Structured situations are those in which there are clear rules as to how one should behave. In contrast with Information Richness Theory predictions, individuals in countries which score high on uncertainty avoidance may tend to perceive formal and written communication media, such as e-mail, as less ambiguous compared to verbal communication despite its lower information richness. This reasoning suggests the following hypothesis:
Hypothesis 1: The pattern of perceptions of e-mail features with respect to verbal communication will differ with national differences in uncertainty avoidance.

Use of e-mail in vertical and horizontal communication

E-mail and other ICTs are generally viewed as an opportunity for organizational members to reach access to new information and informants, even across hierarchical levels and unit boundaries. One of the most influential theory in this context is the Reduced Social Cues model (Kiesler, 1986; Kiesler, Siegel & McGuire, 1984; Kiesler & Sproull, 1992; Kiesler, Zubrow, Moses, & Geller, 1985; McGuire, Kiesler & Siegel, 1987; Siegel, Dubrovsky, Kiesler & McGuire, 1986; Sproull & Kiesler, 1986, 1991). According to this theoretical approach, e-mail should increase the amount and openness of vertical communication due to the reduction of social cues and the consequent equalization of communicators. In this view, the filtering-out of social cues increases vertical communication because it weakens social and organizational boundaries deriving from status differences. Further, since e-mail systems allow easy, cost-less and fast multi-addressability, it favors sharing and coordination, thus increasing horizontal communication.

However, this perspective is controversial. E-mail, as other communication technologies, may be used as a direct means of control, with which employees are monitored and assessed (Spears & Lea, 1994). Indeed, the extent to which organizational members use e-mail to participate in vertical and horizontal communication does not depend exclusively by the medium features but it is likely to be affected by several organizational and social factors.

From a cross-cultural perspective, an important contextual dimension which may affect e-mail use for vertical and horizontal communication is power distance (Hofstede, 1980). Power distance is defined as the degree of inequality among people. This can range from relatively equal (small-power distance) to extremely unequal (large-power distance). In the large power-distance countries, authority and seniority are important and socially accepted and individuals are comfortable with superior-subordinate relationships. The effect of differences in power distance on e-mail use for vertical and horizontal communication is not straightforward. On the one hand, it might be argued that in low-power distance countries we should expect high use of e-mail communication for both horizontal and vertical communication as a consequence of employee participation in the decision making process. On the other hand, another
possible outcome would be that –ceteris paribus– in low-power distance countries we should observe higher frequency of horizontal e-mail communication but lower frequency of vertical e-mail communication compared to large-power distance countries. The rationales for this reasoning are twofold. Firstly, in low-power distance countries, workers should be more autonomous from supervisors in the accomplishment of their job and, therefore, having to deal with a lower amount of e-mail to/from their superiors. Secondly, in large power-distance countries, workers could be more sensitive to hierarchical barriers and, thus, more willing to use e-mail for vertical communication because CMC reduces the social cues regarding the status differences. Sproull & Kiesler (1986), for example, found that employees, when asked to choose among media to accomplish different communication tasks, preferred CMC for upward communication. We argue that this effect could vary across national cultures. In their experimental study, Tan et al. (1998) found that CMC reduces significantly status effects (calculated as status influence, perceived influence and sustained influence) especially in the national culture which Hofstede (1980) classifies as large power distance. These arguments suggest the following hypothesis:

Hypothesis 2: The pattern of e-mail use for vertical and horizontal communication will differ with national differences in power distance.

METHODS

Research was undertaken in a multinational enterprise that will be referred to as ALPHA. ALPHA is one of the world's largest independent software company. The corporation’s headquarters are located in California (US) while several foreign subsidiaries are settled in more than 140 countries around the world.

A survey was employed to collect comparable data in three European subsidiaries of ALPHA located in the UK, the Netherlands and Italy. The survey was originally developed in English and then translated in the other two languages. Pilot tests of the three versions were conducted prior to distribution to ensure that instruments and the translations were valid and reliable. Questionnaires were then delivered through an online survey. A total of 590 employees from the three subsidiaries returned completed questionnaires. They were distributed as follows: 271 of them were from the Netherlands, 206 from Italy, and 113 from the UK. Table1 provides demographic
statistics for the sample in the subsidiaries and scores that each country reported on power distance and uncertainty avoidance based on Hofstede (1991).

Table 1: Samples’ Demographic and cultural characteristics

<table>
<thead>
<tr>
<th>Demographic statistics</th>
<th>UK (N=113)</th>
<th>NL (N=271)</th>
<th>IT (N=206)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age (S.D.)</td>
<td>36.1 (8.3)</td>
<td>36.4 (6.6)</td>
<td>37.5 (5.7)</td>
</tr>
<tr>
<td>Male</td>
<td>59.8%</td>
<td>78.1%</td>
<td>71.6%</td>
</tr>
<tr>
<td>Female</td>
<td>40.2%</td>
<td>21.9%</td>
<td>28.4%</td>
</tr>
<tr>
<td>Cultural differences*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainty avoidance score</td>
<td>35</td>
<td>18</td>
<td>75</td>
</tr>
<tr>
<td>Power distance score</td>
<td>35</td>
<td>38</td>
<td>50</td>
</tr>
</tbody>
</table>

* Source: Hofstede (1991)

The analysis was conducted in two steps. At first stage, Exploratory Factor Analysis was used to identify the sample under investigation broad patterns of (i) media features perceptions and of (ii) e-mail use in vertical and horizontal communication. Then, in order to test the hypotheses, ANOVA were conducted to explore differences in patterns of e-mail perceptions and use across the three countries.

RESULTS

Exploratory Factor Analysis
Perceptions of media characteristics were reduced by the means of exploratory factor analysis from its original list of 14 items. Media evaluation with respect to different dimensions represented a number of overlapping perspectives and the result of the factor analysis produced 5 underlying components. These factors make good conceptual sense and explain a total of 61.9% of the observed variation. Table 2 shows the result of the exploratory factor analysis and a short interpretation of the factors.

In order to explore patterns of use of e-mail in horizontal and vertical communication we applied exploratory factor analysis. This set of analysis encompasses three items of self-report measures of frequency of e-mail use in communication with colleagues (peer-to-peer communication), superior (bottom-up communication) and subordinates (top-down communication) and two items measuring the perception of e-mail as a means of control and monitoring. The principal component analysis and the varimax
rotation method were employed for factor extraction. Eigenvalue tests showed a two-factor structure that explained 47.1% of the total variance. Table 3 shows the result of the exploratory factor analysis for this second set of items and a short interpretation of the factors.

**ANOVA and testing propositions**

Differences between the three subsidiaries on the perceptions of e-mail features as opposed to verbal communication were examined via a 5x3 Analysis of Variance (ANOVA). As shown in table 4, ANOVA revealed significant differences between countries on four out of the five factors of perception of media features. The largest difference was found on Factor 5 “Verbal comm. allows power exploitation” ($F=56.49$, $p<0.001$), followed – in order – by Factor 3 “E-mail is not reliable” ($F=21.80$, $p<0.001$), Factor 4 “Verbal comm. is not reliable” ($F=21.67$, $p<0.001$) and Factor 2 “Verb. Comm. is clear” ($F=20.84$, $p<0.001$). No significant differences across countries were found on Factor 1 “E-mail is clear” ($F=0.76$, $p>0.05$). Post-hoc analyses applying Tukey’s tests revealed that respondent from the Italian subsidiary, which has the highest score on uncertainty avoidance (UA=75), had significantly lower mean scores on Factor 2 “Verb. Comm. is clear” than respondents from both the UK (UA=35) and the Netherlands (UA=18). British participants reported significantly higher mean scores for Factor 3 “E-mail is not reliable” than Dutch and Italian ones. Dutch respondents had significant higher mean scores for Factor 4 “Verbal communication is not reliable” compared to both Italians and British. Interestingly, respondents from the Italian subsidiary, which has the highest score on power distance (PD=50), showed higher mean scores for Factor 5 “Verbal comm. allows power exploitation” than respondents from the others the UK (PD=35) and the Netherlands (PD=38).

Differences between the three subsidiaries on the use of e-mail for horizontal and vertical communication were examined via a 2x3 Analysis of Variance (ANOVA). As shown in table 5, ANOVA revealed significant differences between countries on both factors. The largest difference was found on Factor 1 “High e-mail use for both horizontal & vertical comm.” ($F=46.09$, $p<0.001$), followed by Factor 2 “Low e-mail use for downward comm. to avoid increasing control” ($F=23.85$, $p<0.001$). Post-hoc analyses applying Tukey’s tests revealed that respondents from the Dutch subsidiary (PD=38) had significantly lower mean scores for Factor 1 “High e-mail use for both
horizontal & vertical comm.” than respondents from both the UK and the Italy. Further, participants from the UK subsidiary, which has the lowest score in power distance (PD=35) reported significantly higher mean scores for Factor 1 than the Italian ones, that have the highest score on this cultural dimension (PD=50). Interestingly, British respondents showed significantly higher mean scores compared to the Italian ones also for Factor 2 “Low e-mail use for downward comm. to avoid increasing control”.

DISCUSSION AND CONCLUSIONS

The objective of this study was to compare e-mail perceptions and use across three subsidiaries of the same multinational enterprise in order to investigate the effect of national culture differences on communication patterns. Specifically we focused on three countries, the UK, the Netherlands and Italy which previous studies have found to vary in terms of several cultural dimensions, including power distance and uncertainty avoidance (Hofstede, 1991).

Findings indicated that there are significant country differences in both perceptions of media features and e-mail use for vertical and horizontal communication, supporting our hypotheses. Specifically, differences between UK and Italy showed interesting patterns which suggest some sounding interpretations on the effect of differences in power distance and uncertainty avoidance on organizational members’ perceptions and use of e-mail. According to Hofstede’s (1991) cultural theory, the UK culture is characterized by lower score on power distance and uncertainty avoidance compared to the Italian one. We found that British perceptions of media features differed significantly from the Italian ones on several factors. Generally, respondents from the UK subsidiary reported a more positive evaluation of verbal communication in terms of clarity and reliability compared to Italians. Consistently, British reported also a more negative perception of e-mails in terms of reliability than their Italian colleagues. These differences suggest that media richness is not objectively determined by technical characteristics as stated by the IRT but depends on subjective perceptions which can be influenced by cultural dimensions. Although less rich in terms of social cues compared to verbal communication, e-mail is a written medium and thus could be perceived as reliable and less ambiguous by members of societies
which score high on uncertainty avoidance and are thus expected to prefer more structured and formalized situations and behaviors. Further, we found that in Italy, which is the country with the highest score in power distance, participants reported significant higher mean value in the factor associated to the perception of verbal communication as a medium which allows power exploitation and criticism expression compared to both the UK and the Netherlands. From a cultural perceptive this finding may indicate that rich media in social cues are more likely to be perceived as means which allows power exploitation in large-power distant cultures.

Results showed significant country differences also with respect to e-mail use for horizontal and vertical communications. The most interesting comparison concerns the British and the Italian subsidiary. Indeed, compared to Italian participants, respondents from the UK reported a significantly higher score on Factor 2 “low use of e-mail for downward communication to avoid increasing control”. This result may indicate that in low power distance countries, organizational members are more likely to perceive the use of e-mail in downward communication as a means to increase control and, thus, may tend to use less frequently e-mail to communicate with subordinates in order to avoid increasing monitoring. The Netherlands also reported a lower mean score on factor 2 compared to Italy, but the difference was not statistically significant. These findings seem to suggest that the effect of e-mail adoption on organizational participation and democratization is a complex one. On the one hand, ICT is often introduced as empowering, to promote workers' independence and autonomy in collaborations such as virtual groups, quality circles and self-managing teams (Fulk & DeSanctis, 1995). On the other side, technology may be perceived as a direct means of control, with which employees are monitored and assessed. Results from this study showed that this perceptions may be influenced by cultural differences, suggesting that in low power distance countries organizational members may be more sensitive to this issue and thus more willing to use less frequently e-mail for downward communication.

In conducting this study, the authors sought to overcome some of the methodological limitations of earlier studies. Specifically, the present investigation involved employees from three countries – UK, the Netherlands and Italy – but the populations sampled were highly comparable since they included members of the same corporation, thus controlling the effect of several contextual factors such as
technology, organizational culture, structure and industry. Furthermore, in order to better understand the cultural effects on technology use, our study has focused on a widely-diffused, simple and “old communication technology”. Indeed, brand new and innovative communication technologies which have not yet become “familiar” and “taken for granted” in the workplace may not yet show the influence of social and cultural factors as “old technologies” do.

This investigation has some limitations to be considered in evaluating results. Firstly, and consistently with other cross-cultural studies, this paper did not directly measure cultural dimensions. Therefore it is not possible to say that a link between cultural factors and technology adoption has been empirically established. Secondly, single method variance could have affected the findings since the data were collected through a self-report questionnaire. To lessen any potential problem of method bias, some of the items had reverse-polarity, to make it difficult for the respondents to give uniform answers. Thirdly, another potential limitation is different response-style bias between the compared national groups. Unfortunately, there is no generally accepted method to correct response-style bias between groups of respondents.

Overall, the results from this study indicate that e-mail and, in general, ICT perceptions and use may differ across cultures. If these results prove to be reproducible in other studies, these findings hold implications for both researchers who wish to study the adoption and diffusion of communication technologies and practitioners who want to successfully implement ICTs across borders. Findings from this study offer insights on three issues which have been rarely integrated in empirical research: (i) organizational adoption and use of CMC technologies, (ii) cross-cultural studies on the effects of national differences on work related attitudes, values and behaviors, and (iii) implementation of organizational practices and communication systems across MNC subsidiaries. We believe that these three topics will gain importance both as distinct and intertwined issues as globalization is becoming more and more pervasive through the continuous and fast-paced diffusion of CMC technologies and the increasing role that MNCs play for global economy and world social transformation.
Table 2 Factors of perceptions of media characteristics*  

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor Loads</th>
<th>Eigenvalue</th>
<th>% Variance explained</th>
<th>Cumulative %</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail is clear</td>
<td>0.81</td>
<td>2.49</td>
<td>17.75</td>
<td>17.75</td>
<td>Factor 1: E-mail is clear</td>
</tr>
<tr>
<td>E-mail allows clear accountability</td>
<td>0.77</td>
<td>2.18</td>
<td>15.56</td>
<td>33.32</td>
<td>Factor 2: Verb. Comm. is clear</td>
</tr>
<tr>
<td>E-mail allows problem resolution</td>
<td>0.74</td>
<td>1.85</td>
<td>13.18</td>
<td>46.50</td>
<td>Factor 3: E-mail is not reliable</td>
</tr>
<tr>
<td>Verbal comm. allows problem resolution</td>
<td>0.83</td>
<td>1.12</td>
<td>8.00</td>
<td>54.50</td>
<td>Factor 4: Verbal comm. is not reliable</td>
</tr>
<tr>
<td>Verbal comm. is clear</td>
<td>0.77</td>
<td>1.04</td>
<td>7.44</td>
<td>61.93</td>
<td>Factor 5: Verbal comm. allows power exploitation</td>
</tr>
</tbody>
</table>

* Extraction method: Principal Component Analysis with normalized varimax rotation method. Kaiser-Meyer-Olkin measure of sampling adequacy=0.684, Bartlett's test of sphericity: 1312.869; P < 0.000

Table 3 Factors of e-mail use/perception in vertical and horizontal communication*  

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor loads</th>
<th>Eigenvalue</th>
<th>% Variance explained</th>
<th>Cumulative per cent</th>
<th>Factors’ interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>% e-mail with superior</td>
<td>0.69</td>
<td>1.23</td>
<td>24.60</td>
<td>24.60</td>
<td>Factor 1: High e-mail use for both horizontal and vertical</td>
</tr>
<tr>
<td>% e-mail with colleague</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Extraction method: Principal Component Analysis with normalized varimax rotation method. Kaiser-Meyer-Olkin measure of sampling adequacy=0.684, Bartlett's test of sphericity: 1312.869; P < 0.000
% e-mail with subordinate | 0.48 | E-mail increases control | 0.65 | I avoid e-mail to avoid monitoring | 0.62 | 1.13 | 22.55 | 47.15 | communication | Factor 2: Low e-mail use for upward communication to avoid increasing monitoring | % e-mail with subordinate | -0.55


Table 4 ANOVA of factors of perceptions of media characteristics by countries (N=503)

<table>
<thead>
<tr>
<th>Factors of perceptions of media features</th>
<th>UK (n=95)</th>
<th>NL (n=220)</th>
<th>IT (n=188)</th>
<th>F-ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Factor 1: “E-mail is clear”</td>
<td>-0.07</td>
<td>1.11</td>
<td>0.03</td>
<td>0.90</td>
</tr>
<tr>
<td>Factor 2: “Verbal comm. is clear”</td>
<td>0.30</td>
<td>0.95</td>
<td>0.16</td>
<td>0.89</td>
</tr>
<tr>
<td>Factor 3: “E-mail is not reliable”</td>
<td>0.56*</td>
<td>1.15</td>
<td>-0.05</td>
<td>0.93</td>
</tr>
<tr>
<td>Factor 4: “Verbal comm. is not reliable”</td>
<td>-0.10</td>
<td>1.02</td>
<td>0.32*</td>
<td>0.88</td>
</tr>
<tr>
<td>Factor 5: “Verbal comm. allows power exploitation”</td>
<td>-0.16</td>
<td>0.96</td>
<td>-0.41</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Means with subscripts differ significantly at *p<0.05 (Tukey tests)

Table 5 ANOVA of factors of e-mail use in vertical and horizontal communication by countries (N=508)

<table>
<thead>
<tr>
<th>Factors of perceptions of media features</th>
<th>UK (n=96)</th>
<th>NL (n=232)</th>
<th>IT (n=180)</th>
<th>F-ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Factor 1: “High e-mail use for both horizontal &amp; vertical comm.”</td>
<td>0.11*</td>
<td>0.84</td>
<td>-0.41*</td>
<td>0.85</td>
</tr>
<tr>
<td>Factor 2: “Low e-mail use for downward comm. to avoid increasing control”</td>
<td>0.59*</td>
<td>0.90</td>
<td>-0.08</td>
<td>1.02</td>
</tr>
</tbody>
</table>

Means with subscripts differ significantly at *p<0.05 (Tukey tests)
REFERENCES


