The Message is More than the Medium: A Study of Media Theories and Impacts

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Abstract

The use of virtual teams is prevalent in organizations. Managers and CIOs face questions and issues regarding the organization and effectiveness of virtual teams. It is important for information systems researchers to study and understand virtual team and communication media issues. The objective of this research is to provide clarity to media impacts theories and better understand media impacts and team issues. An experiment involving a novel team task that required large amounts of information sharing and exchange was conducted. Using a combination of ANOVA and HLM, results from a sample of 152 individuals organized into 50 teams showed that the media itself did not significantly affect task performance. Teams communicated poorly or effectively in spite of the media. However, the media did have a significant impact on the time required to complete the task, on individuals’ satisfaction with the communication process, and individuals’ perceptions of their level of participation.

Keywords

Media synchronicity, media richness, virtual teams, communication performance.

Introduction

Innovations and advancements in communication technology have created opportunities for faster, easier, and less costly coordination of expertise and efforts across time zones and continents. Organizations are increasingly utilizing virtual teams that span across time and space, with nearly 46% of organizations from a recent survey indicating the use of virtual teams (Minton-Eversole 2012). Additionally, the number of workers that telecommute increased 6.5% in 2014 (Latest Telecommuting Statistics 2015). These workers also rely on communication and interaction through electronic media. However, many individuals and teams struggle with effective communication and productivity in virtual team arrangements. In a recent survey of CIOs, 30% indicated that communication issues were their biggest challenge overall and 22% indicated that technology and performance issues were their biggest challenge with virtual teams and virtual work (Brost 2014).

In the information systems literature, communication media has received a great deal of attention. Yet, even with a mature stream of theory about communication media and the impacts that media may have on team communication and performance, we still do not have sufficient clarity about and understanding of media impacts and media issues. With the use of virtual teams and telecommuting and the accompanying issues for managers, it is important for researchers to develop a sound understanding. The purpose of this research is to provide additional clarity and insights into media impacts and issues. We seek to accomplish this purpose through the use of a more robust and valid virtual team communication task that requires large amounts of information sharing and exchange.

We consider three seminal media theories used in the Information Systems literature. In addition to two well-established theories, Media Richness Theory (MRT) (Daft and Lengel 1986) and Social Presence Theory (SPT) (J. A. Short et al. 1976), we also consider Media Synchronicity Theory (MST) (Dennis et al. 2008). These theories have all been used to explain media impacts and performance, and we chose these theories based on their substantial use in prior research (e.g., Dennis and Kinney 1998; Lee 1994; Markus 1994) and the use of these theories as foundations for other theorizing (e.g., Carlson and Zmud 1999). The
The expected outcome of this research is increased guidance and direction to both managers and researchers about the impacts and factors of communication media.

In the next section, we discuss the main tenets and premises of the seminal media theories. The sections that then follow describe the methodology and study, the analysis of the data and the results, and a discussion of the findings.

**Media Theories**

**Media Richness Theory**

Much of the research on media influence and communication performance has been based on Media Richness Theory (MRT) (Daft et al. 1987; Daft and Lengel 1984, 1986). This theory proposes that media differ in their level of richness, or ability to convey various sets of information, and that, based on the characteristics of messages, the level of richness of the medium influences communication performance. For example, video conferencing is considered richer than phone conferencing because it conveys facial expressions and non-verbal cues, whereas phone conferencing only conveys audible cues. Daft and Lengel (1986) describe two conditions, equivocality and uncertainty, in which messages vary and media richness plays an important role. Equivocality is the presence of complex or ambiguous information. It entails, not the lack of information, but the presence of ambiguous information (Daft and Lengel 1986). Uncertainty is a lack of information. In this paper, we focus only on equivocality because that is the generally the most salient aspect of MRT (Dennis and Kinney 1998).

The main crux of MRT is that richer media lead to better communication of equivocal messages and leaner media lead to better communication of unequivocal messages (Daft et al. 1987). The logic is that richer media allow more cues and symbols, like the tone and inflection of voice or facial and eye expressions, to be communicated. These additional cues and symbols provide more clues about the intent and meaning of the message, thus leading to greater understanding of ambiguous information. Conversely, richer media used for unequivocal messages can lead to too much information or distracting information; thus making understanding more difficult (Daft and Lengel 1986).

The use of MRT has brought great progress to media research. Yet, it has limitations. One of the potential issues of MRT is that it postulates the use of a single medium for the entire communication task (Dennis et al. 2008). In reality, individuals and teams frequently rely on a combination of media for their communication needs. Furthermore, a single medium may help some aspects of communication and hinder other aspects in the same task.

Additionally, there has been mixed and inconsistent empirical support for MRT, especially when dealing with electronic media (e.g., Dennis and Kinney 1998; Lee 1994; Markus 1994; Webster and Trevino 1995). These inconsistencies have led to additional research and theoretical extensions of MRT. Much of this additional research has focused on individuals' familiarity and experience with both the communication medium and the communication partners.

**Social Presence Theory**

Developed in somewhat parallel fashion to MRT, is a similar theory called Social Presence Theory (SPT) (J. A. Short et al. 1976). Social Presence Theory focuses on the capabilities of media to convey a variety of cues and symbols to meet the social needs of the task. The essence of this theory is that individuals understand and interpret ambiguous information better when the medium provides more auditory and visual cues and symbols. In other words, media that provide more of the natural humanistic aspects of the sender lead to better communication performance. Some of these aspects include the communication partner's face and facial expressions, natural voice, physical body, hand gestures, etc. Therefore, media such as video conferencing are considered to be higher on social presence than media such as email.

Like MRT, SPT also has some similar limitations. First, it also only considers the use of a single medium for the entire communication task. Therefore, it may be that some aspects or components of the communication are benefited by the medium while others are limited by that same medium in the task.
Second, it can be difficult to define and determine the social needs of a communication task, and that makes it difficult to determine how much social presence a medium must convey for optimal performance.

**Media Synchronicity Theory**

The Media Synchronicity Theory (MST) was proposed in an attempt to address the perceived limitations and gaps in prior media research and theory (Dennis et al. 2008). This theory argues that communication tasks should be considered at a finer level, and that each communication task has two fundamental processes: conveyance of new information and convergence on the shared interpretation of the information. Media differ on certain characteristics, and some of these characteristics are better or worse suited for the different communication processes. A medium with higher richness or social presence may be better for a part of the communication task but may be worse for the other part of the communication task. Consequently, individuals should communicate best when they use multiple media: one medium that is better for the conveyance of messages and another medium that is better for convergence on the meaning of those messages (Dennis et al. 2008). Although the idea of multiple media for a single communication task has received some attention and validation (e.g., Robert et al. 2008; Stephens et al. 2008), MST theoretically describes how the characteristics of media make them especially suited for different communication processes. According to MST, the type of medium used for the communication plays a role in the effectiveness of these communication processes. Some media are inherently better at transmitting large amounts of information—conveyance—and others are better for rapid exchanges of small amounts of information—convergence.

An additional component of MST is synchronicity. When multiple people work together at the same pace, at the same time and with a shared focus, they are working synchronously. Media influence the ability for individuals to achieve synchronicity (Dennis et al. 2008). Synchronicity detracts from the conveyance process but enhances the convergence process. This is because when working synchronously, individuals involved can quickly exchange short messages and gauge the level of agreement and respond to questions and misunderstandings immediately (Ballard and Seibold 2004). With conveyance, synchronicity does not allow for the individuals to take time to think about and craft the proper message, nor does it allow the receiver time to reprocess or integrate the information. In general, media that provide for faster transmission velocity and greater sets of symbols lead to greater synchronicity, while more parallelism, reheasability, and reprocessability lead to less synchronicity (Dennis et al. 2008). In sum, it is proposed by MST that communication performance is greatest when a low-synchronous medium is used for conveyance and a high-synchronous medium is used for convergence.

In this research, we seek to explore the explanatory power and efficacy of the prevailing media impacts theories. In addition, we study several constructs and variables in order to gain a more complete understanding of how media impacts communication.

**Method**

In order to better understand media impacts and communication performance, we conducted a lab experiment where individuals worked in teams to solve a task that required large amounts of information exchange. In this task, we varied the communication media that teams used, based on the premises of the media theories. Teams used one of three media setups: email, video conference, or email and video conference. Email was used as the low media richness and low social presence medium. Video conference was used as the high media richness and high social presence medium. Video conference was used as the high media richness and high social presence medium. Email and video conference together were used in concert for the multiple-media condition.

**Participants**

For our study, we recruited college students and others associated with a large university in the southern United States. Most of the participants were undergraduate business students. The participants received a small amount of money and/or a small amount of extra course credit for participating.

There were 152 participants in the study. The average age of the participants was 22.16 years old. There were more males than females (41% were females). A majority of the participants were undergraduate
business students. However, there were several graduate students and several non-students as well. In total, there were 50 teams that completed the study.

**Task**

The task used in this study is a heavy adaptation of the International Institute Task (Zigurs et al. 1988). The task is a hidden-profile task where all the members of a team possess small amounts of common information and large amounts of private information related to the task. In order for teams to make an optimal choice, the individuals on the teams must effectively process and share the private information they each possess (Stasser and Titus 1985). The private information alone is not enough to solve the task. Teams that communicate effectively will be better able to evaluate the information and alternatives and determine the optimal solution. Therefore, we used task performance as a proxy for communication performance.

In the current task, individuals had relatively small amounts of common information and large amounts of private information. This required the teams to share and discuss large amounts of information in order to understand the alternatives and make the best decisions. All team members were allowed to keep possession of the common and private information for the duration of the task. This allowed individuals to reference and review pertinent information, and it reduced errors based on poor information recall and information inaccuracy. In studying hidden-profile tasks, Lightle et al. (2009), found that outcomes were susceptible to information bias and recall issues. By allowing individuals to maintain possession of all task materials, we minimized these potential issues.

In this task, each team member was given introductory information about an international studies program sponsored by the university. The team members assumed the role of an admissions committee that determined which applicant, from a set of highly-qualified candidates, to admit to the program. All of the applicants have strong academic ability, so the teams had to look for several factors beyond academic performance. In the task instructions, individuals were given four personality traits to look for. They were told that these four personality traits predicted success in the program, so they should choose the individual that best possessed these traits.

Each member of the team was only given complete information about one of the applicants. The complete information about each applicant included three essays and two letters of recommendation. Individuals had to share what they learned from these essays and recommendations so that the teams could evaluate the strengths of all the candidates. The common information about all the applicants that all individuals possessed slightly favored an inferior applicant.

This task is heavy on conveyance, yet it still requires quality convergence. The conveyance process is operationalized through the initial information sharing portion of the task. The convergence process is operationalized through the team’s discussions about the shared information. Teams were required to reach consensus on the one best applicant.

**Procedure**

Three or four participants signed up for a study session time slot. When participants arrived, they were placed in teams with the other individuals who signed up for that time. Teams were then assigned to one of three media conditions. A requirement of this experiment is to use media that sufficiently vary in levels of richness, social presence, and synchronicity. For this study, the media do not necessarily need to be lowest versus highest in richness and synchronicity, only lower versus higher.

The lower-richness medium should convey fewer cues, have less immediate feedback, and have less language variety than the higher richness medium (Daft and Lengel 1986). For the variance in richness we chose email versus video conference. Email is lower in richness than video conference because email conveys fewer cues, has less immediate feedback, and less language variety. Simply put, email generally conveys only text, whereas video conferencing conveys video and audio. Because of the fewer cues and lower capabilities of email compared to those of video conference, we also expect that email will sufficiently contribute to lower levels of social presence as compared to video conference. In addition, we also measured perceptions of media synchronicity and social presence as a validation of the manipulation.

To test MST, we used a condition where teams used email for the conveyance process and video conference for the convergence process. Email has higher rehearsability, reprocessability, and parallelism capabilities.
than does video conference (Dennis et al. 2008). These capabilities reduce synchronicity, causing email to be considered lower in synchronicity than video conference. This sufficiently provides a test condition where a lower synchronous medium is used for conveyance and a higher synchronous medium is used for convergence.

The teams were assigned to one of the three media conditions for the task: email, video conference, or email-video conference. There were 14 email-only teams, 22 video conference-only teams, and 14 email-video conference teams. All participants were randomly assigned an applicant to the international institute.

The individual members of each team were placed in separate and private rooms for the duration of the task. Each team member was given sufficient time to read about his or her applicant. After all members of a team confirmed that they were ready, the team members began sharing and discussing their information through email or video conference. Individuals on teams that used email and video conference together were instructed to prepare and send a single email to his or her team members that included all relevant information about his or her applicant. Individuals were instructed not to ask questions or discuss the applicants by email. After all emails were sent and read, a lab assistant then initiated a video conference for the team members to further and discuss the information and each of their applicants.

All meetings and discussions were captured or recorded. After the teams arrived at consensus, they were directed to the online survey where they answered questions about their perceptions and experiences.

**Measures**

For the purpose of evaluating communication performance, we assessed the teams’ task performance. One of the International Institute applicants was the strongest in personality and social attributes. These attributes corresponded with those given in the task instructions for the admission criteria. The other applicants possessed weaker levels of the desired attributes, and they were inferior to the optimal applicant. These attributes were manifested in the applicant’s essays and recommendations. Teams that selected the optimal applicant received a 4 for their performance score; teams that chose one of the other applicants received a 3, 2, or 1 for their performance scores, depending upon which applicant they selected. The second-best applicant was worth three points, the third-best applicant was worth two points, etc. We used ANOVA to analyze the decision quality.

We measured the time each team took to complete the task, starting with when teams received the task instructions, and ending when the team reached consensus on whom to admit. We used ANOVA to compare times across media treatments.

We also used existing scales to measure individuals’ perceptions of media richness and social presence and other constructs related to media impacts. We used a combination of ANOVA and hierarchical linear modeling to analyze the individual-level variables. We measured process satisfaction and perceived participation using five-item scales developed by Green and Taber (1980). Both of the scales possessed acceptable reliability (Cronbach’s Alpha for process satisfaction = 0.955; Cronbach’s Alpha for perceived participation = 0.802). We measured media richness perceptions using an existing eight-item scale (Dennis and Kinney 1998) and social presence perceptions using an existing four-item scale (J. Short et al. 1976). Both of these scales also achieved acceptable reliability (Cronbach’s Alpha for media richness = 0.848; Cronbach’s Alpha for social presence = 0.866).

**Analysis and Results**

**Team Variables**

We used ANOVA to analyze the team variables of decision quality and time. The descriptive statistics and correlation are shown in Table 1 below. We looked at and report the correlation between decision quality and time in case time was a significant factor of decision quality. The correlation was negative, but not significant.
The results of the ANOVA for decision quality are shown in Table 2 below. Teams that used exclusively used email had a mean decision quality score of 2.93 (SD=0.917). Teams that exclusively used video conference had a mean decision quality score of 2.82 (SD=0.795). The teams that used email and video conference together had a slightly higher decision quality score, mean = 3.00 (SD=0.679), but as shown in the ANOVA table, the difference was not significant.

### Table 2. Analysis of Variance Table for Decision Quality

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.299</td>
<td>2</td>
<td>.149</td>
<td>.232</td>
<td>.794</td>
</tr>
<tr>
<td>Within Groups</td>
<td>30.201</td>
<td>47</td>
<td>.643</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30.500</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Next, we analyzed the time that it took for the teams to complete the task. Teams the exclusively used email took 48.93 (SD=12.08) minutes, on average, to reach consensus. The teams that exclusively used video conference took an average of 38.64 (SD=9.53) minutes to complete the task, and it took an average of 47.86 (SD=8.51) minutes for the teams that used email and video conference together to complete the task. As shown in the ANOVA results in Table 3, there was a significant difference in time among the three media groups. A post-hoc, Tukey test showed that the time for the teams that exclusively used video conference was significantly less than the time of the teams in the other two groups (p-value = 0.012). In addition, there was not a significant difference between the teams that exclusively used email and the teams that used email and video conference together (p-value = .957).

### Table 3. Analysis of Variance Table for Time

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1180.766</td>
<td>2</td>
<td>590.383</td>
<td>5.844</td>
<td>.005</td>
</tr>
<tr>
<td>Within Groups</td>
<td>4747.734</td>
<td>47</td>
<td>101.016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5928.500</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Individual-Level Variables

We looked at individual-level variables to confirm other studies of media impacts and to look for additional insights about media impacts. We analyzed the individual-level variables using a combination of ANOVA and hierarchical linear modeling, using HLM 7.1 software. We first used ANOVA to analyze the individual differences based on the type of media that the individuals used in their teams. However, because individuals are nested in teams and it is reasonable to conclude that there are team-level effects, we
conducted additional analyses using hierarchical linear modeling. The table below, Table 4, shows the means, standard deviations, and correlations for the individual-level variables.

<table>
<thead>
<tr>
<th><strong>n = 152</strong></th>
<th><strong>Means (SDs)</strong></th>
<th><strong>Process Satisfaction</strong></th>
<th><strong>Participation</strong></th>
<th><strong>Media Richness</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Satisfaction</td>
<td>6.068 (1.233)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>6.112 (0.809)</td>
<td>.286**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Media Richness</td>
<td>4.703 (1.321)</td>
<td>.628**</td>
<td>.201*</td>
<td>1</td>
</tr>
<tr>
<td>Social Presence</td>
<td>4.158 (1.406)</td>
<td>.487**</td>
<td>.256**</td>
<td>.628**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the .01 level. *Correlation is significant at the .05 level.**

| **Table 4. Means and Correlations of Individual-Level Variables**

Using media as the factor, we conducted ANOVA tests on each of the dependent variables. The results showed that there were individual differences in process satisfaction (F=18.610, p<0.001), perceptions of media richness (F=31.726, p<0.001), and perceptions of social presence (F=20.207, p<0.001). Yet, there was not a significant difference in participation in the media groups (F=0.886, p=0.415). Post-hoc, Tukey tests revealed that individuals that exclusively used email experienced lower process satisfaction, media richness, and social presence as compared to individuals that exclusively used video conference (all comparison p-values < 0.001) or individuals that used email and video conference together (all comparison p-values < 0.001). However, there were no significant differences in any of these variables between the individuals that used video conference for the entire task or individuals that only used video conference for the convergence process of the task (all comparison p-values > 0.558).

Next, we used hierarchical linear modeling to further analyze the individual-level variables, with individuals as level 1, teams as level 2, and media, through the use of dummy variables, as a proxy level 3. We used the Restricted Maximum Likelihood estimation technique because of the smaller level 2 (teams) sample size (Garson 2013). Because individuals participated exclusively in teams, the use of hierarchical linear modeling allowed us to account for the team-level influences and variances on individuals’ experiences within each team. The teams were also nested within media groups as well. Because the number of media groupings was very small (three groups), we used dummy variables for the media used as a way to study the particular influences and variances of the medium (Nezlek 2011). The time that each team spent on the task was also included as a control variable, as the time is likely to influence satisfaction, participation, etc. The media indicators were entered uncentered because they are categorical variables (Nezlek 2011), and time was added grand-mean centered. Video conference represented the intercept in the analysis.

The results showed that there was a significant media effect on process satisfaction. Individuals in teams that exclusively used email experienced significantly lower process satisfaction (unstandardized coefficient = 5.247, p-value = 0.005) as compared to the other two media groupings. But, there was not a significant difference between the individuals in teams that exclusively used video conference (unstandardized coefficient = 6.256) or that used email and video conference together (unstandardized coefficient = 6.476, p-value = 0.208).

Conversely, there was not a significant media effect on perceived participation. Individuals in teams that exclusively used video conference experienced slightly higher perceived participation (unstandardized coefficient = 6.265) than did individuals in teams that used email (unstandardized coefficient = 5.985) or that used email and video conference together (unstandardized coefficient = 6.001), but the differences were not significant (p-value = 0.070 and 0.238 respectively).

For perceptions of media richness, the results showed that there was also a significant media effect with email. Individuals in teams that exclusively used email experienced significantly lower perceptions of media richness (unstandardized coefficient = 3.498, p-value < 0.001) as compared to the other two media groupings. But, there was not a significant difference between the individuals in teams that exclusively used
video conference (unstandardized coefficient = 5.060) or that used email and video conference together (unstandardized coefficient = 5.205, p-value = 0.425).

The story was the same for social presence, as the results showed a significant media effect with email. Individuals in teams that exclusively used email experienced significantly lower perceptions of social presence (unstandardized coefficient = 3.117, p-value < 0.001) as compared to the other two media groupings. But, there was not a significant difference between the individuals in teams that exclusively used video conference (unstandardized coefficient = 4.562) or that used email and video conference together (unstandardized coefficient = 4.411, p-value = 0.587).

**Media Richness and Social Presence**

As a manipulation check, we used ANOVA to test for differences in perceptions of media richness and social presence across the media groups. The results of the ANOVAs indicated that perceptions of media richness (F = 31.726, p-value < .001) and social presence (F = 20.207, p-value < 0.001) were different depending upon the medium that was used. Individuals did perceive email to be lower in media richness (mean = 3.481) and video conference to be higher in media richness (mean = 5.081) Yet, perceptions of the media richness of video conference alone or email and video conference together were similar (email-video conference mean = 5.192). A post-hoc Tukey test confirmed the significance of the difference in media richness perceptions of individuals in the email group from individuals in the other media groups (both p-values < .001) and also the similarity between individuals in the video conference group and in the email-video conference group (p-value = 0.863). The results were similar for the analyses of social presence. Individuals in the email group had the lowest mean perceptions of social presence (email = 3.071, video conference = 4.383). A Tukey test again showed that the difference between email and the other groups was significant (both p-values < 0.001) but that the difference between video conference and email-video conference was not significant (p-value = 0.558).

As a final test, we looked at the correlation between perceived media richness and decision quality and between perceived social presence and decision quality. For perceived media richness, the correlation was -0.037 and was not significant (p-value = 0.450). For perceived social presence, the correlation was -0.039, and was also not significant (p-value = 0.394).

**Discussion**

The purpose of this research was to evaluate the explanatory power of existing media theories and contribute additional insights into media impacts. Although there were theoretical and perceived differences in the type of media teams used for the task, in this study, the media did not appear to have a significant impact on teams’ task performance, and by extension, their communication performance. Teams that used rich media or media that are considered high in social presence did not perform significantly better than teams that used lean media or media that are considered low in social presence. Furthermore, the teams that used a combination of media, lower synchronicity for conveyance and higher synchronicity for convergence, did not perform significantly better on the task than teams that used a single medium. These findings are not wholly unusual, as there have been several other studies that have found no significant performance effects of the media (e.g., Dennis 1996; Dennis and Kinney 1998; Simon 2006; Suh 1999, and likely several others that are unpublished).

However, there were significant differences in other aspects of communication performance and other insights learned that are important and applicable. It was interesting to see that even though some of the individuals used email for part of the task and video conference for part of the task, their perceptions and experiences were equivalent with those who exclusively used video conference for the entire task, and they were not equivalent to those that exclusively used email for the entire task. This indicates that they anchored their experiences and perceptions on the video conference medium rather than on the email medium or on a collective of the two media.

Teams that used email took significantly more time to communicate. On average, it took email teams about 10 additional minutes to complete the task than it took teams that used video conference for all or a portion of the task. Additionally, the extra time did not correlate with higher decision quality. Individuals that used email also indicated less satisfaction with the process as compared to teams that used video conference for...
all or a portion of the task. Time was also considered as a factor, and we found that the reduced process satisfaction was not a result of the additional time required of email communication. Based on these results, we conclude that for a high-information volume task, leaner media require more time (and likely effort) and people enjoy using them less than they do rich media.

We expected that there would be differences in the type or amounts of information shared when teams used different media or a portfolio of media. To study this, we observed and reviewed teams’ communications. In our observations, the type or amount of information shared was very similar across media groups. Some teams that exclusively used email were quick to share lots of information initially, while some initially only shared very little information. Teams that shared more information initially, typically started by exchanging task-related information. Whereas, those who shared only little information initially, usually started by exchanging coordination information. This pattern and the amounts of information shared were equivalent and similar to that of teams that exclusively used video conference or that used email and video conference together. Based on these observations, we further conclude that the medium did not appear to affect the type of information that was shared or the quality of the information that was shared. Teams that achieved the optimal solution, it seemed, were better at sharing and discussing task-related information in spite of the medium that they used.

There are, of course, limitations to this study and to the application of this study in other contexts. The size of the teams was relatively small (but typical of published research on teams). It is possible that there was not enough power to detect the effects of the media. Additionally, this task requires individuals in teams to process the information they receive about their applicants. If they failed to process the information adequately, the other members of the team will not have adequate information available to them.

This research has both theoretical and practical contributions. After comparing and evaluating several dominant media theories, this research extends a call for additional research looking into media impacts and additional factors of team performance. For managers, this research shows that the choice of media for team meetings and communication may not significantly affect performance on the task. However, it may affect the time required for the task and how much people enjoy participating in it (Kock 2007).

Conclusion

We set out to provide clarity and consolidation to some of the dominant media theories. Ultimately, we sought for greater understanding of media impacts and performance. What we found was that the medium did not significantly affect teams’ performance in this study. Effective teams were able communicate effectively in spite of the medium. However, lean media does require more time for effective communication and it results in less satisfaction as compared to richer media. Most of all, there are most likely other important factors of communication and task performance that are worth considering and studying in order to better understand media impacts.

REFERENCES


