Communication Channels and Employee Characteristics: An Investigation

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Abstract

This study investigates the perceptions of 509 employees of nine Kuwaiti companies about the effectiveness of communication channels they have used while sharing information or knowledge with their coworkers. It was hypothesized that selected employee characteristics—nature of work, length of employment, age, educational qualifications, and gender—are significantly associated with their choice and use of ten communication channels. Data were collected using an instrument that listed communication channels, used in earlier studies. One-way ANOVA tests, together with LSD post-hoc, were administered to test five sub-hypotheses. The findings supported the hypotheses partially. Nature of work was significantly associated with six of the ten channels, gender with five, length of employment with three, and each of the age and educational qualifications with two of the media. It was further found that Kuwaiti employees perceived formal documents and formal one-to-one and group meetings to be most effective media of communication. Telephone communications were perceived to be less effective than face-to-face, text, and email communications.

Keywords: Media richness; Employee characteristics; Knowledge sharing; Information transfer; Information sharing

Introduction

Communication media are central to the process of knowledge sharing. Researchers have focused on the dynamics of choice and use of communication media. In order to investigate effectiveness of communication channels in relation to employee characteristics, there is a need to lay down a conceptual framework that covers the relevance of communication media for knowledge sharing. We also need to understand how different media have been examined and the relevance of a number of employee characteristics in their use of communication channels.

Communication Media and Knowledge Sharing

Knowledge management (KM) literature discusses those communication tools that are used in collaborative activities of information and knowledge sharing. Social capital and social networking provide the context in which relationships are nurtured and strengthened (Cohen & Prusak, 2001; Coleman, 1988; Cross, Parker & Sasson, 2003). Collaboration in organizations is achieved through employing different enablers, and communication channels/media are perceived to be an essential enabler in the process.

Balasubramanian (2005) maintained that in addition to the traditional forms of information distribution such as telephone, facsimile, face-to-face meetings and memoranda, computer-mediated communication systems such as electronic mail, bulletin boards, computerized conferencing systems, electronic meeting systems, and workflow management systems can facilitate the sharing of information. Rumizen (2002) identified certain media attributes that might determine appropriateness of a particular channel in a given context. These include considerations of time and space that render the media synchronous or asynchronous. The attribute of *social presence* always enhances effectiveness of the media. Media, using Internet technologies, has received particular emphasis in the KM environment. Rumizen (2002) stated that the characteristics of email are such that it is categorized as a lean medium; however, he noted that its many advantages made it a popular medium. In KM projects, an extensive use of videoconferencing, electronic whiteboard, and shared repositories has been emphasized.

Borbely & Perrin (2004) observed that the success of KM projects was attributed to working online collaboratively. It involved the ability of effectively eliciting and communicating tacit knowledge. They maintained that experience-based opinions and insights can be shared in work sessions by using online meetings and Web-based electronic outlets. Chua (2001) investigated the relationship between explicitness of knowledge and richness of media. They found a significantly strong association and, based on regression results, predicted that about 67% of media richness was explained by the explicitness of knowledge. The task they investigated was curriculum development by the academics of a university.

Srikantiah (2004) prepared lists of sources in relation to type of knowledge that had to be shared. He listed face-to-face conversations, telephone conversations, videoconferences and presentations, mentoring, study tours, emails, best practices, storytelling, training, etc. among the media suitable for sharing tacit knowledge. Those sources that he considered more appropriate for explicit knowledge included printed documents, internal records, emails, intranet and internet. He also noted the pertinence of mentoring programs, coaching activities, and debriefing sessions, as face-to-face media for transferring rich tacit knowledge.

Communication Channels

Studies about communication channels have focused on the choice of different media. Daft, Lengel and Trevino (1987) had proposed a hierarchy of media richness with four levels. Studies, based on the information richness theory (IRT), used these channels for testing their fitness with tasks of varying equivocality and uncer-

tainty. A sizable body of literature emerged out of this stream of empirical research. Rice and Shook (1992) inventoried a large number of studies that had used these variables of textual and oral media—oral further subdivided into FTF (face-toface) and phone, and textual further subdivided into read and write aspects. Another study, conducted by Rice (1992), listed 12 media channels, including video, voice conferencing, voice messaging, e-mail, and facsimile in addition to the media Daft, Lengel and Trevino (1987) had listed. Rice (1992) also used a continuum of richness and leanness that had similarity with what Daft and Lengel (1986) had used, meaning face-to-face is the richest, followed by telephone, email, and text. Suh (1999) used the categories of computer text systems, audio systems, video systems, and face-to-face communications for finding their degree of fitness for the tasks of generating ideas, choosing correct answers, choosing preferred answers, and negotiating conflicts of interest. The matrix displayed the task and media fitness on information richness continuum, again showing the same features of richness for a variety of media.

Computer-mediated communications have gained a new focus in organizational life. E-mail has been the focus of many studies. The information richness theory held it a lean medium as it was weak on feedback, multiplicity of cues, language variety, and involvement of feelings and emotions. However, a number of studies about the use of email have contradicted the theory's predictions. They explained that despite its leanness, email can produce rich information. Marcus (1994) found that senior managers used email heavily and even for equivocal tasks. Zmud and Carlson (1999) argued that it was the knowledge and experience of users with a medium that made it richer for them. Email has several features of social and institutional significance that include speed, multiple addressability, processing, and routing. A number of studies have established e-mail's effectiveness as a communication channel (Waldvogel, 2001; Ngwenyama & Lee, 1997; Bishop & Levine, 1999). Boudourides (1995, 2005) reviewed the significance of richness and social presence of video-mediated communications and collaborative virtual environments these were creating. Use of video has been treated as a rich medium of communication in a number of studies and it was normally placed after face-to-face meetings and before telephonic conversations.

Employee Characteristics and Use of Communication Channels

A number of social process theories had indicated the significance of social and environmental context for the choice and use of communication channels (Markus, 1994; Fulk, Schmitz & Steinfield, 1990). Whitfield, Lamont and Sambamurthy (1996) had empirically established the role of organization design and centralization on the use of media. Rice (1992) had reached the conclusion that media usage is contextual. Johnson, et al. (2000) also found that differences in the use of channels were related to functional roles of users. Chua (2001) had found that task has a great deal of bearing on the choice of medium. Other factors that influence media choice and use include social influences on media evaluations, formality in particular organizations, user's level in an

organization's hierarchy, accessibility, nature of organization, stages of decision-making process, etc. (Daft & Lengel, 1986; Dobos & Jeffres, 1988; Fulk, et al., 1987; Rice & Shook, 1988). Use of communication channels has a great deal to do with the organizational context and employee attributes. Sveiby and Simon (2002) have investigated how the employee characteristics of age, gender, sector, occupational level, educational level and work experience are associated with the collaborative climate in which employees function. This is a plausible proposition that selected employee characteristics of nature of work, length of employment, age, and educational qualifications might have significant association with employees' use of communication channels in knowledge sharing.

Problem

It is widely recognized that socio-cultural norms and behaviors have a marked influence on the sharing climate and practices (Augier, Shariq & Vandelo, 2001; Connelly & Kelloway, 2003; Janz & Prasarnophanich, 2003; Sveiby & Simons, 2002). It has also been established that a number of factors related to social, organizational, and technological contexts have a great deal of bearing on the use and effectiveness of communication channels (Fulk, 1993; Markus, 1994; Ngwenyama & Lee, 1997; Rice, 1993; Suh, 1999; Whitfiled, Lamont, & Sambamurthy, 1996). There is abundant evidence that task orientation plays an important role in the choice and use of appropriate media. Equivocal and complex decisions require rich media whereas routine decisions and problem solving may require the use of lean media (Trevino, et al., 1990; Trevino, Lengel, & Daft, 1997; Zamud, Lind & Young, 1990). It is also established that communication channels are diverse and can be characterized by their richness, social presence, and effectiveness (Daft, Lengel & Trevino 1987; Rice, 1992). Differences in organizational structure and decision making practices might be influencing the choice and use of different communication media (Whitfiled, Lamont & Sambamurthy, 1996).

With these assumptions in the hindsight, there is a need to investigate if personal variables of employees related to their nature of work, length of employment, education qualifications, age, and gender have any significant association with their perceptions about the effectiveness of certain communication media. Results of such an investigation are expected to provide fresh insight about the pertinence of these personal, organizational, and task-related factors in the choice and use of different communication media. Little research has been noted about the use of communication media in the organizations of a developing nation and there exists a strong need to investigate whether the earlier findings about media richness, social influence, and task orientation are equally relevant in the context of a developing nation.

Context

This investigation was conducted in Kuwait which is a small state in the Arabian Peninsula, with a population of 1.04 million natives and 1.29 million expatriates. Despite its modest population, by virtue of owning the second largest petroleum re-

serves in the world, it commands global prominence. It has an expatriate population of 1.7 million. Its economy is primarily petroleum-based, but the corporate sector has been quite active during the last many decades (Library of Congress, 2005). There has been an emphasis on petrochemical industries in this region. During the last few decades, industries catering for consumer needs have also been developed in the areas of food technology, construction and development, and communication. Kuwait has one of the highest figures for per capita automobiles. (Kuwait Chamber of Commerce and Industry, 2005). It has a strong service sector catering for banking, insurance and investments. Many small and medium-sized enterprises have been in a rigorous competition for the consumer market. This corporate sector is typical of other countries in the Arabian Peninsula, all sharing certain points. These countries have a small industrial base; the industrial sector is concentrated in areas related to petroleum and minerals; there is little research and development activity; and, the focus is on the consumer-oriented products and services.

Research Hypotheses

The primary hypothesis of this study is that characteristics of employees in any organization have a significant association with their choice and use of different communication channels. Below listed are five sub-hypotheses, derived from the main proposition:

H_1 Nature of work of employees has a significant association with their choice and use of different communication channels.

H_2 Academic qualifications of employees have a significant association with their choice and use of different communication channels.

H_3 Age of employees has a significant association with their choice and use of different communication channels.

H_4 Length of employment of employees in a company has a significant association with their choice and use of different communication channels.

H_5 Gender of employees has a significant association with their choice and use of different communication channels.

Nature of work was defined in the three categories of managerial, supervisory, and professional/technical work. For *academic qualifications,* the respondents marked one of the categories of post-secondary or vocational education, bachelor's degree, master's degree, and others. For *age,* employees were grouped into three categories of 30 years or younger, 31-40 years, and 41 years or older. For *length of employment,* three categories were used for 2 years or less, 2-6 years, and 7 years or longer.

It was also worth investigating if an interaction among the afore-listed five variables might be associated with the choice and use of communication channels.

Procedures

Employees of nine Kuwaiti companies participated in this survey. The following procedures were used for the conduct of survey:

Identification of Companies

To be included in the present study, participating companies had to fulfill certain criteria. Namely, each company included in the study had to be (1) middle-sized (operationally defined as 250-1000 employees); (2) their capital worth or volume of business had a minimum value of one million Kuwaiti dinar (equivalent to US$ 3.3 million), and (3) they were willing to participate. Twenty companies were approached through personal, telephonic, and written contacts. Those companies that consented within a specified timeframe were included in the study.

Initial data about organizational structure and use of communication channels was gathered through visits and telephonic contacts. In the process of seeking consent for participation, the approval of the chief executive had to be secured in all cases.

Identification of Participants

Some baseline criteria were used for identification of participants. The participants were supposed to have a minimum of 2 year post-secondary school education, should be proficient in English language, and may not be engaged in blue-collar jobs such as messengers, drivers, etc. These criteria were applied as English was second language for most of the participants and the survey instrument was in English. Procedures for the identification of participants varied from company to company. Executives from three companies identified employees for participation. In three other companies, human resource/personnel departments distributed survey instruments, collected responses, and handed them back to the research staff. Research staff had direct access in three other companies and distributed instruments and collected them back. In 4 of the 9 companies, employees from certain departments were identified to participate in the study through mutual consultation. Since it is a multi-site study, convenience sampling is considered to be appropriate. A target was set that a minimum of 50 participants would be identified for each company.

Research Instrument

Since data for this study had to be collected from more than five hundred participants, located in nine companies, a survey instrument was considered to be appropriate. Given that numerous past studies have used lists of communication channels (Daft, Lendel & Trevino, 1987; Rice, 1992; Suh, 1999), we identified ten communication channels for this study. Listed below are the ten items that were included in the final analyses:

> Informal one-to-one communication
> Formal one-to-one communication
> Informal meetings with groups of employees
> Formal meetings with groups of employees
> Telephone conversation
> E-mail
> Chatting with other employees over internet
> Communicating through discussion groups over internet
> Official correspondence such as letters, office orders
> Personal notes to employees on scrap paper

These media cover face-to-face interactions, telephone, e-mail, chatting, discussion groups, and text communications.

None of the nine companies that consented to participate in the study used videoconferencing, electronic meetings, and other Internet-based conferencing. Consequently, the medium of video was excluded from the list of communication channels.

The participants were asked to indicate their perception of the effectiveness of each medium for sharing information/ideas/knowledge with other employees in the company on a scale of 1 to 5 where 1 meant least effective and 5 meant extremely effective. The participants were informed that the perception of effectiveness was based on their actual choice and use of these channels. It is assumed that these perceptions of effectiveness reflected their judgment about choice and use of these channels. In this study, we are using the terms channel and medium interchangeably. The participants were advised not to mark those channels to which they had no exposure or they did not use them. Last part of the instrument sought information about nature of their work, educational qualifications, length of employment in the company, age, and gender. The instrument was pre-tested on employees of a Kuwaiti company whose data were not included in the study but whose credentials matched the actual participants. Also, the instrument was distributed among four faculty members and four graduate students of a local university, Kuwait University. The feedback was helpful in removing jargon, making adjustments in the list of ten channels, and an improvement in style and format of the instrument.

Data Collection

Each questionnaire included a cover letter that outlined the purpose of the study, the steps that would be taken to ensure participant confidentiality, and an approximate amount of time for answering the questionnaire. Initially, we gave all participants one week to complete the questionnaire. No reminder was required in thee companies; one reminder was used in four companies, and a member of the researcher team visited and gave reminders in two companies. Table 1 provides a breakdown of surveys administered, responses received, and their respective percentages. Altogether, 940 instruments were distributed and the final count of responses was 526, a response rate of 55.9%. Two companies had a response rate of 100%, and one company had a response rate of 30.4 percent. Perfect percentage indicated that the instrument was given to only those who had consented to participate in the study.

Table 1 Response Rate

Companies	Administered	Responses	Percent
Company 1	80	68	85
Company 2	75	61	81.3
Company 3	100	53	53
Company 4	140	68	48.6
Company 5	130	51	39.2
Company 6	61	61	100
Company 7	50	50	100
Company 8	250	76	30.4
Company 9	54	38	70.3
Total	940	526	55.9

It was found that seventeen instruments were not useable for analysis due to incomplete data. Thus, the final analyses included data from 509 completed questionnaires.

Results

Profiles of the participants indicates that about half of them served their companies in managerial positions, more than one third (34.6%) had supervisory assignments, while the remaining 13.8% served in positions related to professional, administrative, and technical work. More than one-third of the participants (35.8%) had served their companies for two years or less while another 27.9% had been there for seven years or longer. More than one-third of them (36.5%) were aged 30 or younger while about a quarter of them were older than 40 years. 84.4% of the respondents had completed a Masters or Ph.D. Lastly, approximately two-thirds of the respondents were male.

Perceived Effectiveness of Communication Channels

The participants rated the effectiveness of ten channels of communication. Mean scores were computed for the 10 communication channels and the channels were ranked in a descending order, placing the channel with the highest mean score at the top. Ten channels, ranked from one to ten, are shown in Table 2 with the respective mean scores and standard deviations.

It was found that face-to-face communication was perceived to be the most effective medium. However, this channel was divided into four measures; formal group meetings, informal group meetings, formal one-to-one communications, and informal one-to-one interactions. The richest of these four, as reported in literature, is the one-to-one interaction. It was found that this channel ranked number four in this study. Informal group meetings ranked number six. We found that official correspondence such as letters, office orders—

Table 2: Ranking of Perceived Effectiveness of Communication Channels
N = 509

Communication Channel	Mean	Std. Deviation
Formal meetings with group of employees	3.36	1.041
Formal one-to-one communication conducted officially	3.26	1.012
Official correspondence such as letters, office orders	3.25	1.115
Informal one-to-one communication	3.14	1.174
E-mail	3.12	1.011
Informal meetings with groups of employees	3.07	1.040
Telephone conversation	2.90	1.048
Personal notes to employees on scrap paper	2.68	1.126
Communicating through discussion groups over internet	2.45	1.000
Chatting with individuals over internet	2.33	1.068

textual mode of communication—received a higher score for perceived effectiveness than both one-to-one informal meetings and informal group meetings. Formal group meetings were perceived to be the most effective mode, followed by formal one-to-one communications. These results indicate that three formal and official channels have been given higher mean scores for their perceived effectiveness in this study as compared to one-to-one informal communications.

Telephonic conversation ranked seventh, placed after textual mode and emails, another significant departure from the norms about rich media. The mean score of 2.9 also indicated its relatively low value for this medium.

Informal textual notes ranked number eight, followed by discussion groups over Internet and chatting, receiving the mean scores of 2.45 and 2.33, respectively. These results indicate that these employees do not favor email, discussion groups, and chatting as channels of communication.

These results have indicated that one-to-one informal communications are not perceived to carry as much value in this setting. Other means of formal one-to-one and group meetings or textual communications such as memos, letters, etc. take precedence over informal one-to-one communications. Also, low ranking of telephonic communication, as compared to the channels of textual communication and emailing, is also not consistent with the norms about the richness of communication channels. Textual messages, formal in nature, are normally rated to be the leanest medium, but the participants perceived it to be more effective than informal one-to-one communication, telephonic communications, and emails.

Hypothesis Testing

In order to test the primary hypothesis of the study—employee characteristics are significantly associated with choice and use of communication media—we tested five sub-hypotheses. We conducted one-way

Table 3: Nature of Work and Effectiveness of Communication Channels

Communication Channel	df	F	Sig.
Informal one-to-one communication	2, 505	7.814	.000*
Formal one-to-one communication conducted officially	2, 505	4.056	.018*
Informal meetings with group of employees	2, 505	.920	.399
Formal meetings with groups of employees	2, 505	1.058	.348
Telephone conversation	2, 505	.404	.668
Emailing	2, 505	4.089	.017*
Chatting with individuals over internet	2, 505	7.693	.001*
Communicating through discussion groups over internet	2, 505	5.302	.005*
Official correspondence such as letters, office orders	2, 505	.343	.710
Personal notes to employees on scrap paper	2, 505	3.334	.036*

ANOVA to test these hypotheses. The level of Type I error was set at the conventional 0.05. We also investigated post-hoc test of LSD to ascertain the patterns of difference.

1. Nature of work and Communication Channels: The first sub-hypothesis was that nature of work of employees has a significant association with their choice and use of different communication channels. Six channels showed significant differences for different categories of nature of work (Table 3). Two of them—informal one-to-one communication and chatting with individuals over Internet—were significant at $p<0.001$. Formal one-to-one communication, email, Internet chatting, discussion groups of Internet, and personal notes such as scrap paper were significant at $p<0.05$. The post-hoc results showed that the managers perceived formal and informal one-to-one communication and email to be more effective than the other two groups. Supervisors perceived the channel of chatting to be more effective than the other two groups of employees. They also had a significantly higher rating for discussion groups and use of personal notes than managers. The results partially support this sub-hypothesis.

2. Employee Age and Communication Channels: The second sub-hypothesis was that age of employees has a significant association with their choice and use of different communication channels. Table 4 shows that only two channels of chatting and use of Internet-based discussion groups had a significant association with age at $p<0.000$. The post-hoc test showed that employees in the age group of 30 years old or younger had a significantly higher rating of both chatting and use of discussion groups as compared to the other two groups of age who were older. Also, those who were in the age group of 31-40 had a significantly higher perception about both the channels as compared to employees who were older. Use of personal notes and informal one-to-one communication, though insignificant, indicated a pattern of association with significance levels of .074 and .098. Results have partially supported the sub-hypothesis.

Table 4: Age of Employees & Effectiveness of Communication Channels

Communication Channel	df	F	Sig.
Informal one-to-one communication	2, 504	2.334	.098
Formal one-to-one communication conducted officially	2, 504	.293	.746
Informal meetings with group of employees	2, 504	2.697	.068
Formal meetings with groups of employees	2, 504	1.856	.157
Telephone conversation	2, 504	.802	.449
Emailing	2, 504	1.268	.282
Chatting with individuals over internet	2, 504	9.105	.000
Communicating through discussion groups over internet	2, 504	11.664	.000
Official correspondence such as letters, office orders	2, 504	1.598	.203
Personal notes to employees on scrap paper	2, 504	2.622	.074

3. Length of Employment and Communication Channels: The next sub-hypothesis was that length of employment had a significant association with employees' choice and use of different communication channels. ANOVA results showed significant associations for chatting, use of discussion groups, and use of personal notes at $p<0.05$ (Table 5). Post-hoc results showed that those employees who had a work experience of two years or less had a significantly higher perception for the channels of email, chatting, and use of personal notes as compared to those who had been working for more than 7 years. Employees with an experience of 3-6 years showed a more significant choice for chatting and discussion groups as compared to those who had been serving for more than seven years. One channel of informal group meetings, though insignificant, had the significance value of .068, showing a pattern. Again, this sub-hypothesis was partially supported.

4. Academic Qualifications and Communication Channels: The next sub-hypothesis was that academic qualifications had a significant association choice and use of different communication channels. ANOVA results in Table 6 show significant associations for only two channels of informal one-to-one and formal group meetings at $p<0.05$. Mean scores for both the two groups showed that those employees who did not have an undergraduate degree had a significantly lower perception about both informal one-to-one and formal group meetings. This sub-hypothesis was also partially supported.

5. Gender and Communication Channels: The last sub-hypothesis was that gender of employees had a significant association with employees' choice and use of different communication channels. ANOVA results (Table 7) show significant associations for five channels of formal one-to-one meetings, formal group meetings, email, use of official correspondence, and use of personal notes at $p<0.05$. Mean

Table 5: Length of Employment & Effectiveness of Communication Channels

Communication Channel	df	F	Sig.
Informal one-to-one communication	2, 505	1.455	.234
Formal one-to-one communication conducted officially	2, 505	1.288	.277
Informal meetings with group of employees	2, 505	2.702	.068
Formal meetings with groups of employees	2, 505	1.041	.354
Telephone conversation	2, 505	.745	.475
Emailing	2, 505	.065	.937
Chatting with individuals over internet	2, 505	7.870	.000
Communicating through discussion groups over internet	2, 505	7.669	.001
Official correspondence such as letters, office orders	2, 505	.907	.405
Personal notes to employees on scrap paper	2, 505	3.309	.037

Table 6: Academic Qualifications & Effectiveness of Communication Channels

Communication Channel	df	F	Sig.
Informal one-to-one communication	2, 504	18.354	.000
Formal one-to-one communication conducted officially	2, 504	1.644	.200
Informal meetings with group of employees	2, 504	2.148	.143
Formal meetings with groups of employees	2, 504	4.410	.036
Telephone conversation	2, 504	.516	.473
Emailing	2, 504	.176	.675
Chatting with individuals over internet	2, 504	.584	.445
Communicating through discussion groups over internet	2, 504	2.903	.089
Official correspondence such as letters, office orders	2, 504	.835	.361
Personal notes to employees on scrap paper	2, 504	.122	.728

Table 7: Gender and Effectiveness of Communication Channels

Communication Channel	df	F	Sig.
Informal one-to-one communication	2, 504	2.783	.096
Formal one-to-one communication conducted officially	2, 504	10.916	.001
Informal meetings with group of employees	2, 504	.366	.545
Formal meetings with groups of employees	2, 504	4.855	.028
Telephone conversation	2, 504	.194	.660
Emailing	2, 504	3.628	.057
Chatting with individuals over internet	2, 504	.396	.530
Communicating through discussion groups over internet	2, 504	.258	.612
Official correspondence such as letters, office orders	2, 504	10.415	.001
Personal notes to employees on scrap paper	2, 504	3.810	.051

scores for both the two groups showed that males had a significantly higher perception about the effectiveness of formal one-to-one and group meeting, email, and use of official correspondence. Females were found to be having a significantly higher perception about the use of personal notes. These results have also partially supported sub-hypothesis.

Based on these findings, we find partial support for the primary hypothesis of the study that employee characteristics have a significant association with their perceptions about choice and use of ten communication channels.

Interaction of Employee Characteristics

ANOVA post-hoc test using Tukey's-b was administered to find out if interaction of employee characteristics showed significant patterns about the choice and use of ten communication channels. In Table 8, we have shown only those interactions that have a significant association at $p<0.05$. It was found that when academic qualifications, gender, length of employment, and nature of work interact, these have significant association with email, discussion groups, and use of personal notes. When age, Gender, length of employment, and nature of work interact, these have significant associations with the channels of formal one-to-one communication, informal group meeting, and use of official correspondence. Likewise, an interactive association of the characteristics of age, gender, and length of employment was found to be significant for informal group meeting and use of personal notes. When age and length of employment interacted with nature of work, these had a significant association with formal one-to-one meetings and informal group meeting. These results show that an interaction of employee characteristics results in significant association with the use of certain channels. These findings also confirm partial support for the primary hypothesis of the study.

Discussion

After data analysis, we conducted telephone interviews with the chief executives of two companies and a middle manager from a third company to gather their insights for interpreting the results of the study. Also, observations of researchers in different Kuwaiti companies have been used in interpretations.

Results of this study about the overall ranking of communication channels have indicated that Kuwaiti employees have significantly different perceptions about the value of communication channels as compared to their counterparts in the developed world. Earlier research had indicated that face-to-face communications are the richest medium whereas written word in the form of letters, directives, office orders, and similar documents is the leanest medium. We found that in Kuwaiti companies, written word was perceived to be more effective than informal one-to-one encounters, emails, telephone conversations, and other informal means such as personal notes, chats, or communication through electronic discussion groups.

These findings have indicated that sociocultural context plays a major role in the choice of media. Rice (1992) had reached of conclusion that media usage is contextual. Johnson, et al. (2000) also found that differences in the use of channels were related to functional roles of users. Chua

Table 8: Interaction of Employee Characteristics toward Communication Channels

N = 509

Employee Characteristics	df	F	Sig.
Gender and Length of Employment			
Official correspondence such as letters, office orders	2	3.567	.029
Age, Gender & Length of Employment			
Informal meetings with groups of employees	4	2.349	.054
Personal notes to employees on scrap paper	4	2.471	.044
Qualifications, Gender & Length of Employment			
Official correspondence such as letters, office orders	2	2.867	.058
Age, Qualifications, Gender & Length of Employment			
Official correspondence such as letters, office orders	1	6.912	.009
Age, Qualifications & Nature of Work			
Telephone conversation	4	3.260	.012
Age, Length of Employment & Nature of Work			
Formal one-to-one communication conducted officially	8	2.904	.004
Informal meetings with group of employees	8	2.568	.010
Age, Qualifications, Length of Employment & Nature of Work			
Formal one-to-one communication conducted officially	1	8.206	.004
Age, Gender, Length of Employment & Nature of Work			
Formal one-to-one communication conducted officially	2	3.087	.047
Informal meetings with group of employees	2	3.674	.026
Official correspondence such as letters, office orders	2	2.891	.057
Qualifications, Gender, Length of Employment & Nature of Work			
E-mailing	1	3.832	.051
Communicating through discussion groups over internet	1	4.732	.030
Personal notes to employees on scrap paper	1	5.876	.016

& Ann (2001) had found that task has a great deal of bearing on the choice of medium. The primary hypothesis of this study was that employee characteristics have a significant association with choice and use of communication media. We found that nature of work was significantly associated with the choice and use of six of the ten media. Managers valued formal and informal one-to-one interactions and emails while supervisors were keener for the channels of chatting, discussion groups, and informal notes. It means that task orientation has a great deal to do with these perceptions. Nature of interactions among managers, supervisors, and professionals and technical staff indicate different perceptions about media. Managers use richer medium of face to face and email. Email has been found to be more valuable despite being lean for richness (Markus, 1984).

Gender was also significantly associated with five characteristics. Males preferred the use of formal one-to-one interactions, group meeting, emails, and official correspondence, whereas females attached more importance to personal notes. That indicates that females were more inclined toward informality. Again, gender interacts with other variables of nature of work and length of employment.

It was interesting to note that those employees who were younger and who had been in the company for fewer years preferred media such as chatting and discussion groups. Older employees did not appear to be much enthusiastic toward the use of electronic media. That indicates that younger people might be more skilled and comfortable in the use of these channels. Those having higher academic qualifications preferred one-to-one informal meetings and group meetings. It seems that managers in the senior ranks with a long experience and who are in the older cadre of age have a natural preference for face-to-face interactions, both formal and informal. Front-end supervisors and technical staff prefer to use casual and spontaneous means of chatting and discussion groups, as these cut across space and time and have an informal tone.

This study confirmed that employee attributes have a bearing on the channels of communications they use. An empirical setting where personal characteristics and task orientation have a more rigorous control might provide richer insight into this dynamic. This study has looked at this phenomenon from a fresh perspective that needs to be further refined and tested in additional studies.

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Appendix 1: Sharing Climate

Please give your best judgment to what extent do you agree with the following statements. You are requested to circle one of the five options by using the following descriptions for each of the five:

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I have learnt a lot from sharing with other colleagues.	2	1	0	-1	-2
I combine my knowledge with the knowledge of others for new ideas.	2	1	0	-1	-2
I have developed expertise by working with other colleagues.	2	1	0	-1	-2
I influence decisions of my colleagues as much as they do mine.	2	1	0	-1	-2
I wish to share details of my job with colleagues.	2	1	0	-1	-2
My supervisor encourages me in finding solutions for work-related problems.	2	1	0	-1	-2
My supervisor meets me regularly for sharing new information and ideas	2	1	0	-1	-2
My supervisor often shares with me work-related developments.	2	1	0	-1	-2
My supervisor encourages his subordinates to have open and free communication.	2	1	0	-1	-2
My supervisor does not only say it, but he is really keen to share his knowledge with me.	2	1	0	-1	-2
My colleagues share their experience inside and outside the department.	2	1	0	-1	-2

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
My colleagues wish to keep each other informed about the latest developments in the company.	2	1	0	-1	-2
My colleagues love to take initiative for solving problems	2	1	0	-1	-2
My colleagues love to socialize with each other in picnics, parties, etc.	2	1	0	-1	-2
My colleagues are keen to help each other in developing skills.	2	1	0	-1	-2
My colleagues learn a great deal from each other.	2	1	0	-1	-2
My colleagues always know our work objectives and targets clearly.	2	1	0	-1	-2
My company wants its employees to share knowledge openly with each other.	2	1	0	-1	-2
My company is always keen that we bring new ideas to work.	2	1	0	-1	-2
My company encourages employees to say what is on their mind, even if they disagree with their supervisors.	2	1	0	-1	-2
In my company, we have the climate of sharing knowledge openly with each other.	2	1	0	-1	-2
In my company, the employees who share their knowledge with others are rewarded.	2	1	0	-1	-2
My company keeps everyone informed about the latest developments.	2	1	0	-1	-2
In my company, we can freely approach employees of other departments when we need their help in doing our job.	2	1	0	-1	-2

Appendix 2: Communication Channels

When you share information ideas/information/knowledge with any other employee of the company, a variety of communication channels are normally used. We wish to know how you feel about the effectiveness of these channels for sharing knowledge. A number of such channels are being listed below. Please mark your judgment about the effectiveness of each channel by circling one of the five options on a scale of 1-5 — **1 meaning least effective and 5 meaning most effective**. Your judgment might be based on your actual preference for the use of these channels. Please do not mark those channels about which you have no exposure or experience.

Channel	Least Effective	Little Effective	Effective	Quite Effective	Extremely Effective
Informal one-to-one communication	1	2	3	4	5
Formal one-to-one communication conducted officially for a certain purpose	1	2	3	4	5
Informal meetings with groups of employees inside or outside your department	1	2	3	4	5
Formal meetings with groups of employees convened officially for discussing official agenda	1	2	3	4	5
Telephone conversation	1	2	3	4	5
E-mailing (using email serves outside your company)	1	2	3	4	5
Internal emailing (using Outlook program on your company server)	1	2	3	4	5
Chatting with individuals over Internet	1	2	3	4	5
Communicating through discussion groups over Internet	1	2	3	4	5
Official correspondence such as letters, office orders, memos, reports,	1	2	3	4	5
Personal notes to employees on scrap paper, yellow sheets, stickers,	1	2	3	4	5

Appendix 3: Profile

Name of your department: _____

Nature of your work — (please check only one of the following):

- ☐ Managerial (group and divisional managers)
- ☐ Supervisory (project manager/executive)
- ☐ Professional (engineer, accountant, etc.)
- ☐ Technical (foreman/technician)
- ☐ Administrative (accounts/personnel/administrative support)
- ☐ Other, please specify: _____

Number of years working in this company
– (please check only one of the following):

- ☐ 2 years or less
- ☐ 3-6 years
- ☐ 7-10 years
- ☐ 11years or more

Your age group – (please check only one of the following):

- ☐ 30 years or less
- ☐ 31-40 years
- ☐ 41-50 years
- ☐ 51 years or more

Your highest academic-cum-professional qualification
– (please check only one of the following):

- ☐ 2-3 year post-secondary school certificate or diploma
- ☐ Bachelor degree or equivalent
- ☐ Master degree or equivalent
- ☐ Other, please specify: _____

Your gender:

- ☐ Male
- ☐ Female