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The Impact of Individual Employee Differences on Information Seeking in Today's Information Rich Work Environment

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***Abstract* — Recent advancements in information and communication technologies (ICT) such as video conferencing, email, instant messaging, and Intranets have dramatically changed the landscape of communication in most organizations. The objective of this study is to gain an understanding of how different types of organizational members seek information. This is necessary ifor the management to provide the right infrastructure and processes to support such information needs. This study adds to the body of literature on information seeking behavior by incorporating gender, and cultural variables as well as the organizational variables of organizational status (salary or wage) and newcomer status. The findings will help management in assessing what ICT should be installed in order to provide the appropriate support to facilitate information and knowledge dissemination and sharing in organizations.**

***Keywords* — Information seeking behaviors, newcomer behaviors, information and communication technologies, communication quality**

I. INTRODUCTION

Recent advancement in information and communication technologies (ICT) such as video conferencing, email, instant messaging, and Intranets has dramatically changed the landscape of communication in most organizations. Organizational members require and seek information about their specific job-related duties, expectations about their roles, values and norms concerning their behavior, and feedback about both job performance and social behavior. As responsibilities and roles within organizations change, and as organizations themselves undergo transformations, information seeking behavior is expected to be of more importance to both the individual, as he or she makes sense of the environment, and the organization, as it attempts to disseminate information to its employees. The quality of a decision depends on the information used to make the decision [1]. Therefore, a thorough understanding of how the organizational members communicate with each other and their information seeking behaviors is necessary in order for the management to provide the right infrastructure and processes to support such information needs.

A large amount of literature concerning information seeking behavior has developed. While an organizational member's need for information is a widely accepted phenomenon, it has been largely studied in two contexts: during organizational entry and for managerial decision-making. This focus on new employees and managers has virtually excluded a wide range of employees who must actively search for information to help them function in the rapidly changing, information-rich organizations of today.

II. INFORMATION SEEKING BEHAVIOR

Individuals can seek information from a variety of sources, and these sources convey information in a variety of ways [2]. Personal sources of information include peers, direct supervisors, experienced coworkers, other newcomers, superiors other than their direct supervisor, subordinates, support personnel, and individuals external to the organization [3]. Prior research indicates that experienced peers and direct supervisors are the most frequently accessed sources of information [4]. One source of information is the downward-flowing communication from management, generally in the form of official messages. Other non-personal sources include electronic, written, or task-generated information [5, 6]. Employees also often have a large variety of written sources available, including manuals, policies, job descriptions, performance evaluations, bulletin boards (electronic and traditional), etc. While traditionally these sources have been in hard copy, technology has made this material accessible through electronic media.

Information richness [7] posits that in some cases the medium itself provides additional information. If the medium is rich (as is the case in face-to-face or verbal communication) meaning beyond literal meaning can be conveyed through visual cues, body language, and tone of voice. Thus a whispered conversation between coworkers may include more information than the same textual information provided in a company memorandum. The interaction between the parties may engender a warmth or sociability which extends beyond the meaning of the words. This "social presence" [8] can be one of the benefits of personal interaction. On the other hand, non-personal

sources allow the individual to focus on the message and not the context in which the message is offered. Additionally, the message is not filtered through the biases of another [9].

As organizations increasingly adopt new technologies, the information provision options also increase. E-mail, voice mail, document imaging, teleconferencing, electronic bulletin boards, list serves, etc. can all serve as sources of information. As employees adapt to these new technologies, the importance of information richness and social presence may shift. Various studies have been done on variables that influence the effectiveness of information seeking on the Internet. Many of these studies have looked at contextual variables, such the use of the retrieved information [10]. Still others have looked at demographic variables such as education [11], gender [12, 13], status [14], culture [15], and age [16], and found significant differences in information seeking techniques and their effectiveness while used in searching the Internet. However, the question remains as to how these findings can reveal which factors may impact the effective acquisition of information in the information rich workplace. Ross [15] examined several characteristics of Internet search behavior: the variety of information-seeking goals, the cultural and situational context of search, and the iterative nature of the search task, to suggest ways that interfaces can be redesigned to make searching more effective for users.

III. Information Seeking Behavior Model

To develop an understanding of the association between the various individual and contextual factors and the information seeking behaviors, the authors interviewed 13 managers in the Information Systems Department of a large governmental agency. These managers identified three sources of employee information: getting information from passive published sources, such as memos from management and postings on-line message boards; active interactive sources, such as sending a memo to ask a source for the information; and observations, such as watching other employees. Based on the data collected, the authors identified four types of information seeking behaviors instead of the three originally hypothesized. The hypothesized factors of published materials and observation were included in the model. However, the social networking factor actually contains two factors: asking a supervisor, senior coworker, or friend; and asking senior management.

A. Information Seeking Tactics

Although there are a number of ways to examine the specific tactics used to uncover information, a common classification uses seven types of tactics [2, 3]. These tactics include: overt questions [17, 18], indirect questions, third party sources, testing limits in a confrontational manner gaining information directly from reaction to a behavior [19-21], disguising conversations that take the form of jokes or self-disclosure in order to elicit information without asking a question, observation, and surveillance which analyzes the observations retrospectively [19, 22]. Because our research explores information-seeking behavior of employees at all stages within the organization and at all levels of the organization, we have simplified these tactics into three categories.

B. Demographic Variables

Gender. The workplace of the late 1990's is a very different place for women and minorities than it was in the 1970's and even the 1980's. In the 1970's, female and ethnic minority managers were frequently seen as "tokens" and initial experiences were very different from those of white males [23].Today's workplace is much more diverse, with more women and minorities represented in the managerial ranks. As women and minorities assume new roles in organizations, their experiences must be reevaluated to determine what is really happening in the today [24].

Traditionally, research in organizational studies has focused on males. The communication literature, however, finds some differences between males and females. One study posits that two communication styles exist: the status (male) style which focuses on tasks and the connect (female) style which focuses on relationships [25]. Other communication differences based on gender have been uncovered. Men have been found to interrupt more and dominate the conversations [26, 27], while women seek confirmation or consensus. Other research, however, by Kacmar and Hochwarter [28], finds no support for gender differences in communication.

Studies on information seeking which have examined the effects of gender have had conflicting results. While Burke and Bolf [6] did find that women rated their immediate supervisor as a less important source of learning than men did, other studies [29, 30] found no significant effects for gender. Recent research has focused on how women specifically seek information on the web [13]. This study examines gender difference in the use of information seeking tactics within the organization.

Language, Ethnicity, and Race. Research investigating the information seeking behavior of individuals based on ethnic groups or race has not been done, although it is generally accepted in the information seeking literature that individuals do differ in their information seeking behavior. The basis for these differences remain uncovered. Studies investigating communication behaviors of minority groups generally have found some differences, although Kacmar and Hochwarter [28] did not find any race effects on communication patterns.

In organizational research, it remains unclear whether all minorities have the same organizational experiences. White women and black men have been the most studied, while the organizational experiences of Hispanics, both male and female, and female blacks have been largely ignored. Teboul [31] points out that very little is known about the different experiences of the various racio-ethnic groups in the United States during organizational encounter, which is itself one of the most widely studied contexts of information seeking behavior. Even less is known about their information seeking behavior as organizational employees, no longer newcomers. Research [32] indicates that women and minorities feel that their

access to information in organizations is less than that of white males.

Consumer behavior research suggests that individuals most often seek sources of information that are similar to them, not only in terms of demographics, but also in values and lifestyles. People tend to communicate with those most like themselves. Thus minority groups in the organization may have reduced access to information if they are unable to interact with those like themselves. They may seek other sources of information.

The role of ethnicity in information seeking is further complicated by the language barrier. Given the rapid increase in the number of Hispanics in the workforce in the United States, the organizational experiences of these individuals are of special interest. Although there does not yet exist an extensive body of research comparing Hispanic and non-Hispanic employees, some research in this area is beginning to appear [33]. It appears logical to propose that individuals tend to seek information from personal sources who share their language. Organizations that include more than one primary spoken language may also include individuals who are using different information seeking behaviors. Information that is filtered through an unfamiliar language may not be interpreted accurately [34].

This research attempts to uncover differences, if they exist, between minorities and others in the organization in terms of their information-seeking behavior. Specifically, the study examined race (black/white), ethnicity (Hispanic/non-Hispanic), and preferred language (English/Spanish).

C. Organizational Factors

Compensation Status. While most research has focused on managers, recent organizational trends have made it even more critical for employees at all levels to have access to information [35]. Total quality management prescribes access to information by employees at all levels of the organization so that they are empowered to make decisions and solve problems. Downsizing has, in many cases, reduced the number of levels of management within the organization; those remaining have a wider sphere of influence and authority. Additionally, the sheer quantity of information available to organizational members, through the implementation of internal and external databases, the increased interconnectedness of organizations, and widespread access to the Internet has resulted in an unprecedented amount of information available to employees at all levels of the organization.

Most of the information seeking behavior research has been conducted with managers, and results indicate that they often prefer information rich sources of information [36]. These sources may be preferred because the managers typically use the information to support decision making and the information needs may be complex and subject to interpretation. A personal source of information, by providing clues beyond the literal meaning of the message, may assist in its interpretation. On the other hand, very few studies focused on non-managerial employees and little is known about their information seeking behavior and how it compares to that of managerial employees. We included the compensation status variable which was defined as whether an individual was paid on the basis of salary (managerial and professional) or wages (non-managerial) in our model to gain more understanding.

Tenure. Much of the research in information seeking behavior has examined the role of this behavior in the socialization process of new employees [2]. One of the foundations of this study is the belief that information seeking behavior is important throughout an individual's tenure in an organization. A newcomer to the organization could be typified as a novice who becomes more expert as he or she becomes socialized into the organization and the position.

Salterio [37] offered an extensive review of literature on the behavior of experts in information search. He concluded that there are mixed results as to whether experts search for more or less information than novices; his research in a natural decision support environment, however, indicated that the processes employed by the two groups are different. His results indicated that experts take less time than novices to complete an information search, employ fewer steps in research, and examine a different amount of information. If the strategies that new hires use to cope with uncertainty are of interest, then so too should be the strategies that existing employees use, especially given the increasingly uncertain environment most organizations are facing.

Research in the area of information-seeking behavior has been narrowly focused on newcomers and managers. Thus it has largely ignored a wide range of employees who actively search for information to help them function as organizational members. Individuals require information about specific job duties, role expectations, acceptable and valued behavior, and appraisal of both job performance and social behavior. Our research examines employees at all levels of the organization and as both newcomers and non-newcomers at all points of organizational tenure.

D. Outcome Variables

If minorities and women do exhibit different forms of information search behavior, then the organization is interested in how these different behaviors impact some outcome variables. It is possible that the outcomes of their job experiences, such as commitment and satisfaction, may also be affected. Research documents some of the positive effects of gaining information on individuals within organizations [35]. These benefits include commitment, identification, lower rates of absenteeism, and reduced turnover; satisfaction, performance; and levels of effort ([38]. Additionally, Morrison [39] found that information adequacy was negatively correlated with intention to leave the organization. Clearly these are desirable outcomes for organizations.

The socialization literature links uncertainty and the socialization process to certain outcomes, including job satisfaction [40], performance, and turnover [41]. Given that information seeking behavior also reduces uncertainty, it is possible that the information seeking behavior itself may result in some of the same positive outcomes. For the purposes of our research, two outcome variables were

studied: commitment and satisfaction. It is expected that actively seeking information, as opposed to taking a more passive role, will alter the individual's connection to the organization, as measured by commitment and satisfaction with the organization. Based on the above discussion, the research model developed to structure the research focuses on four areas: individual differences, contextual factors, information seeking tactics, and outcomes. Figure 1 presents this research model and the research hypotheses are summarized in Table 1.

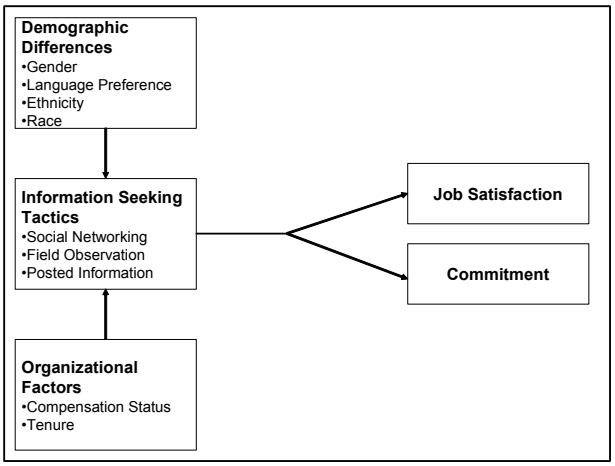

Figure 1 The model of information seeking behaviors.

IV. METHOD

A. Participants

The population of this study consisted of 216 employees in a corporation that is one of the major importers of cut flowers into the United States. The company has been in existence for 24 years, and the current president has been president of the corporation and its subsidiary for nine years. Participation in the study was strongly encouraged for all employees. Of the 216 employees in the organization, 183 participated in the study. Three surveys had to be discarded due to respondent literacy problems. The resulting response rate was 83%.

Respondents included 85 females and 95 men. Approximately 68% (n = 123) of the participants were Hispanics, but only 45% (n = 81) chose to answer the survey in Spanish. 167 respondents described themselves as Caucasians, while eight said that they were black. Employees were classified as salaried (53) and hourly wage (127). Employees were also classified as newcomers (20) who had been with the company for six months or less and tenured (157) who had been with company for longer than six months.

B. Measures

Employees were given survey consisting of three scales: A modification of Morrison's Information Seeking Scale [39] which were based on Ashford's [42] measure of information seeking behavior, a 20-item version of the Minnesota Satisfaction Questionnaire [43], and Meyer and Allen's [44] measure of commitment The instrument was number-coded, and the organization was given access only to anonymous data. Employees were assured that complete confidentiality would be maintained. All of the instruments were originally written in English, but they were back-translated into Spanish [45]. Subjects were given their choice of an English or Spanish version, although they were strongly encouraged to choose the version written in the language in which they believed themselves to be the most proficient.

Table 1
A Summary of the Research Hypotheses

H1:	Individuals in organizations will exhibit three types of information seeking behavior: social networking, field observation, published or broadcast materials.
H2:	There will be significant differences between males and females in information seeking behaviors.
H3:	There will be significant differences between blacks and non-blacks in information seeking behaviors.
H4:	There will be significant differences between Hispanics and non-Hispanics in information seeking behaviors.
H5:	There will be significant differences between English speakers and Spanish speakers in information seeking behaviors.
H6:	There will be no significant differences in the information seeking behavior of salary and wage employees.
H7:	Individuals will exhibit different types of information seeking behavior depending on their newcomer status.
H8:	Information seeking strategies will be related to satisfaction.
H9:	Information seeking strategies will be related to commitment.

V. RESULTS

The factor analysis identified three types of information seeking behavior: Observation, social networking, and posted information. The method of social networking contains two tactics: Asking a supervisor/senior coworker/friend, and asking senior management.

In terms of gender, no significant differences in information seeking behavior were uncovered. In studying information seeking differences between blacks and non-blacks, there was a statistically significant difference on the use of observation and written material. In both cases, blacks used these behaviors more often than non-blacks. This finding is consistent with research that states that individuals tend to communicate with those most like themselves [46]. Because of the small number of blacks in the sample, their use of non-personal sources of information is not surprising. The finding regarding blacks also supports, at least in part, Ibarra's [32] research that

indicates that women and minorities feel that they have less access to information than white males.

Both non-Hispanics and those who preferred English for the questionnaire administration used observation more frequently as an information seeking behavior. Additionally, non-Hispanics rated interaction with top management as a more frequently used behavior. It was expected that in an organization such as this, with a large number of Hispanics who speak Spanish, there would be many opportunities for personal interaction for those individuals that might not be available in organizations with a less diverse population. Additionally, it was not surprising that Hispanics and those who prefer Spanish would utilize a medium with a strong social presence [8], if given a choice. The use of watching others to obtain information by non-Hispanics and English speakers was somewhat surprising. Perhaps this difference is attributable, not so much to their preferences but to the strong preference for interpersonal contact among the Hispanics and Spanish speakers, which may inhibit their use of observation.

Waged employees rated interpersonal contact with supervisors, coworkers, and friends more highly than did salaried employees. While research has confirmed the strong preference of managers for information rich sources [36], this research indicates that the preference may be even stronger for waged employees. More research in this area remains to be done, as our data analysis failed to reveal a model to predict compensation status based on information seeking behavior.

Table 2
Individual Group Preference
in Selecting an Information Seeking Method

Information Seeking Tactics	Preferred by Groups
Social Networking: Seek advice from senior management	Non-Hispanic group
Consult with peers	Waged group Hispanic group,
Observation	Non-Hispanic group Black group English preferred group New comers
Posted information	Black group English preferred group

Newcomers are more likely to watch others than non-newcomers. This is consistent with Morrison's [39] finding that newcomers engage in monitoring more frequently than inquiry and Salterio's [37] conclusions that experts and novices differ in information seeking behavior. These results are not surprising, since newcomers have not yet developed the relationships with coworkers that would allow them to use these behaviors more. They may be hesitant to ask questions of a coworker. Also, perhaps much of the information that is instrumental for a newcomer can be obtained by monitoring. As the individual becomes socialized into the organization, however, he or she may require more information, such as performance feedback and social feedback that cannot be so easily obtained by observing. The individual group preference of the information seeking tactics is summarized in Table 2.

Both satisfaction and commitment were significantly correlated with seeking posted and written communication; additionally, satisfaction was correlated significantly with observing others. This was a somewhat unexpected result, since it was expected that personal contact would be more closely associated with these outcomes. Several explanations are possible. One is that the individuals who use written communication and satisfaction are more effectively socialized, and thus experience more positive outcomes [40]. Additionally, it may be that these sources tend to reduce uncertainty more than the personal sources, and thus lead to higher levels of satisfaction and commitment.

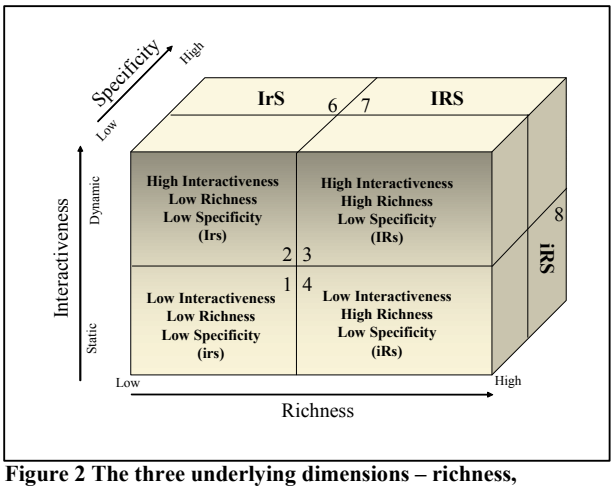

Figure 2 The three underlying dimensions – richness, interactiveness, and specificity - of communication quality.

Relating the findings for the individual differences in information seeking behavior to the results for the outcome variables, some interesting points can be made. Blacks had significantly higher scores on posted information and observation than non-Blacks. This should lead to higher scores on commitment and satisfaction. However, due to the very small sample size for Blacks, the experiment should be repeated.

VI. COMMUNICATION QUALITY

Wong and Dalmadge [47] suggest that communication medium needs to be studied as a multi-dimensional construct. Three dimensions underlying the construct of communication media quality are identified: (a) The richness of the communication medium (R), (b) degree of interactiveness supported by the communication medium (I), and (c) the ability to support high level of specificity in data representation (S). Wong and Dalmadge [47] define richness to be a function of the multiplicity of information stimuli, temporal criterion of processing such stimuli, and the depth/intensity of the stimuli. Face to face, video conferencing, streaming video, computer conferencing and online/steaming presentations are all examples of very rich communication channels. All of them support visual

information – allowing users to process gestures and body language along with voice and alpha numeric data.

Interactiveness is a measure of the timeliness and degree of association (i.e. one-way, two-way, multiple-way) that a given collaboration method allows for synchronizing data transmission in multi-way communication. The specificity dimension in a collaboration method refers to the capability of allowing the appropriate data representation forms to go through in the communication process. The use of a suitable data representational form is important for capturing the correct aspect and level of abstraction, so that the most critical attributes of the original object, including constraints associated with possible courses of action and time sequence of events [48], can be reserved or replicated. The three dimensions of communication quality are graphically represented in Figure 2.

Table 3
Characterization of Information Seeking Tactics in terms of the Communication Quality Dimensions

Information Seeking Tactics	Characterized by
Social Networking: Seek advice from senior management	High richness, high interactiveness, and high specificity (IRS)
Consult with peers	High richness, high interactiveness, and low specificity (IRs)
Observation	High richness, low interactiveness, and low specificity (iRs)
Posted information	Low richness, low interactiveness, high specificity (irS)

Based on Wong and Dalmadge's definition [47] for communication quality, the four information seeking tactics can be characterized in terms of the three dimensions that underlie the concept of communication quality. Both of the social networking methods allow a relatively high level of interaction between the inquirers and the parties being consulted. The face-to-face presence during the consultation also allows a high level of richness. However, social networking methods do not necessarily provide information in the right format that support the information needs of the information seekers. In the observation tactic, richness is usually good, while the information seeking is usually one-way, i.e. only the observer is acquiring information. Therefore, the level of interaction is low. Since the observer can acquire only information that is available to be observed, the information so acquired is not necessarily in the right format to fit in the information processing model of the observer. As such, the level of specificity is usually low. While the 'posted material' as an information tactic is relatively low in interativeness (being one-way information exchange) and richness (lack of face-to-face presence), the tactic has a higher level of specificity because of the available of artifacts (e.g. posted web pages, memos, and posted circulars) to provide a physical evidence for the existence of the information. The characterization is summarized in Table 3.

Based on the three dimensions of communication quality, Wong and Dalmadge [47] provided a typology that classifies the major enterprise collaboration technologies according to their technical properties. The implication is that organizations should look into the communication needs in their companies, and then develop a communication infrastructure that is capable of providing appropriate communication supports to such needs [49]. The ranking of the collaboration technologies is summarized in Table 4.

Table 4
The Relative Communication Quality of Major Enterprise Collaboration Technologies

	Communication Qty Dimensions		
Collaboration methods	**R**	**I**	**S**
Fax	L	L	H
Written Document (wrtDoc)	L	L	H
File Transfer (FileTran)	H	H	H
Web Pages (html)	H	H	H
Shared Database (SharedDB)	L	H	H
email	L	H	L
Instant Message (instMsg)	L	H	L
White Board (whiteboard)	L	H	L
Electronic Meeting Systems (EMS)	H	H	H
Document Conferencing (docConf)	H	H	H
Shared Document (shareDoc)	H	L	H
Video Conferencing (videoConf)	H	H	L
Tele-Conferencing (teleConf)	H	H	L
Telephone (teleCall)	H	H	L
Face-to-Face (face2face)	H	H	L
Computer Conference (CompuConf)	H	H	H
Information Sharing (infoSharing)	H	L	H
Video Streaming (streamVideo)	H	L	L
Audio Streaming (streamAudio)	H	L	L
Presentation Streaming (streamPresentation)	H	L	H
Smart-room (smartRoom)	H	H	H
Legend: H = 'High', L = 'Low'			

The current study has allowed us to determine which information seeking tactics would be preferred by the different classifications of employees. By determining the communication quality dimensions for each of these tactics, an employer could match the corresponding dimensions to the collaboration methods in Table 4. Thereby, determining which would be the best technologies to use to get the information disseminated to a given classification of employees. For example, *newcomers* tend to prefer to gather information through *observation* which is high in richness, but low in interactiveness and specificity. Based on the Wong and Dalmadge (47) typology, the organization could use video streaming or audio streaming to effectively reach these employees.

VII. MANAGERIAL IMPLICATIONS

The result of our analysis has important implications to the management. First, the positive correlation between the use of the non-social networking information seeking tactics and outcome variables suggests that the organization should not necessarily provide more published forms of information in communication, but instead ensure that employees are using the posted material already provided. An over proliferation of published material may in fact increase uncertainty rather than reducing it. In some cases, the published material may need to be revised and restructured to ensure suitability. Management should focus on providing a good structure for laying out the various information and documents on the intranets to facilitate their search and sharing among employees. Management also needs to study if the posted information and documents are published in a suitable form and language. The objective is to encourage more users from the different groups to increase the use of post material as an information seeking tactics.

Second, the study reveals that satisfaction may also be increased if individuals have the opportunity to observe others. However, observation may not always be an available training option for employees due to various constraints. Management should consider making training video available on the intranet for the important tasks. Employees who need to make observations as a knowledge acquisition method may have an alternative.

Third, as we have discussed in the previous paragraphs, management should provide to the different groups of employees the appropriate collaboration and communication technologies and tools to support their preferred mode of information seeking.

In addition, Ross [15] examined several characteristics of Internet search behavior: the variety of information-seeking goals, the cultural and situational context of search, and the iterative nature of the search task, to suggest ways that interfaces can be redesigned to make searching more effective for users. It is possible that by better understanding how different groups within the work environment are more comfortable with retrieving information, we can better design interfaces that will make the necessary information more accessible to these stakeholders, thus establishing a more efficient work process.

VIII. CONCLUSION

The limitations of this research include the confinement of the study to one organization. The results may not be generalizable to others and the study should be replicated. Additionally, the number of blacks included in the study was very small. While the organization provided an excellent opportunity to examine the information seeking behavior of Hispanics, a higher proportion of blacks would allow a more thorough examination of differences based on race. Another limitation to the study is that the information seeking behaviors were self-reported. Additionally, while results were obtained with satisfaction and commitment, other outcome variables which have been linked to information, such as performance and turnover rates should be examined.

To conclude, this study indicates that differences in information seeking behavior can be found among different races and ethnic groups. Employees other than managers and newcomers engage in information seeking behavior, although their behavior differs from that of managers and newcomers. How individuals within organizations seek information can result in increased satisfaction and commitment. If additional research extends and refines these findings, organizations should examine more closely the information preferences of their own employees and provide opportunities for them to obtain information in ways that will increase their organizational commitment to and job satisfaction.

Moreover, managers are responsible to plan and acquire information and communication technologies to support proper functioning of work groups and coordination of business processes. Since the technical properties of an information and communication technology determine the quality of communication it can support; therefore, it is managers' responsibility to make sure the collaboration technologies are properly matched with the needs of the various work groups and processes.

This study adds to the body of literature on information seeking behavior by incorporating gender, ethnic variables, and race as well as the organizational variables of compensaton status (i.e. salaried vs. waged) and newcomer status (i.e. the tenure variable). Additionally, it measures the effect of information seeking behaviors on the outcome variables of satisfaction and commitment. The results provide evidence that there are differences in information seeking behavior among the various groups studied and that some information seeking behaviors are correlated with satisfaction and commitment.

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