Investigation of the selection of informal information sources in the managerial pre-decision process

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AN INVESTIGATION OF THE SELECTION OF INFORMAL
INFORMATION SOURCES IN THE
MANAGERIAL PRE-DECISION PROCESS

by

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ABSTRACT

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An Investigation of the Selection of Informal Information Sources in the Managerial Pre-decision Process.

Director: Eldon E. Baker

This study arose from an interest in the similarities between the operation of rumor, an item of information received through informal channels without official verification, and the operation of informal communication networks in organizations. The literature on rumor served as a basis for the early investigation of the operation informal organization information networks. Yet at some point in this evolution, rumor became an illegitimate offspring with considerable concern about the control of rumor in organizations.

However, an objective examination of rumor seemed to point up similarities with the pre-decision process. Accordingly, four hypotheses were developed. The first hypothesis stated that the amount of perceived ambiguity in the decision making process would increase the amount of information search among informal information sources. The second hypothesis proposed that the sources sought would vary with the decision topic. This was designed to test earlier observations on the overlapping multiplicity of informal organizational networks. The third hypothesis was designed to elicit information on the characteristics of the ISIS (Informally Selected Information Source), an approach which combined the concepts of liaison personnel and key communicators that had been previously reported. The fourth hypothesis postulated that the most preferred method of communications with the ISIS would be face-to-face or telephone conversation.

Permission was received to conduct a questionnaire survey among the personnel of the Northern Region, U.S. Forest Service. The personnel surveyed were or had been managers, people with the authority to allocate organizational resources. Response to the questionnaire was excellent (84%).

All of the hypotheses were supported. These reinforce earlier research in this area with respect to the operation of informal communication networks in organizations. The data reveal characteristics useful for identifying informally selected information sources.

The primary characteristics were considerable organizational service, location at the vices of internal and external communication channels, and willingness to communicate. In addition, it was demonstrated that the preferred method of informal communication was face to face conversation on telephone.
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INTRODUCTION

This investigation derived from a fusion of interests in two areas of interpersonal communication, informal communication in organizations and rumor transmission. Personal experience had demonstrated that a great deal of the world's work, even in highly structured organizations, is accomplished by resorting to informal sources for decision-related information. At the same time the motivations and processes involved in the transmission of rumors appeared to have many similarities with the processes involved in pre-decision information searches, e.g. ambiguity and "need to know." The following discussion and report of investigation represents an effort to show the similarities between informal information search and rumor transmission. In addition an attempt will be made to fuse several isolated concepts gleaned from other, earlier investigations into the concepts of informal communication in organizations.
I. BACKGROUND: (Review of the Literature)

A. Rumor

The literature on the operation of informal communication systems in organizations is firmly rooted in the earlier writings on rumor, which arose from an interest generated by a concern for the possible negative impacts of rumor during World War II.

Knapp (1947) displayed a typical war-time concern for rumor spread and the necessary refutation or rebuttal of rumors in circulation. Building on earlier work by Allport, Knapp (37) attempted to systematize the field of rumor with special emphasis on rumor control. Caplow (1947) reported his experiences as a rumor monitoring intelligence officer in an Army regiment in the South Pacific and distilled some observations concerning rumor transmission from these experiences. (His notes were confiscated by a unit censor.) (298)

Allport and Postman (1947) combined the conclusions derived from observations of war-time rumor related phenomena with the results of laboratory experiments and produced an encompassing exposition of rumor theory in their book, The Psychology of Rumor. Festinger, Cartwright et al (1948) reported peace-time similarities with the initiation and spread of a rumor in a low-income housing project. More recently the findings of Knapp, Caplow, Postman and Allport were replicated by Nkpa (1975) as a result of his investigations of rumor during the Nigerian Civil War (1967-1970).

Given the war-time genesis of this interest in rumor initiation and transmission and the resulting possibility of harmful effects on military and civilian morale, it is easy to understand the negative connotations that are associated with the term, "rumor." In Knapp's
early classification of rumor, three of the four categories used had negative associations, i.e. the pipe dream (wish) rumor, the bogey rumor and the wedge-driving (aggression) rumor. (23-24)

This negative war-distilled association seems to have been fastened so firmly to rumor that the negative connotations still remain. Davis (1953), Guetzkow (1965), Wofford (1977) and others differentiate between communications moving along informal communication networks and rumor. Considerable advice has been proffered on the control of rumor as a means of counteracting the negative rumor related aspects of these informal communication networks (Davis: 1953b, 1964, 1969; Guetzkow; Hershey: 1966; Wofford, et al: 1977). Although rooted in the study of rumor, the literature on informal communication networks appears to regard rumor as an illegitimate stepchild of informal communication in organizations. However, before unconditionally accepting this traditional view, it would seem that a re-examination of rumor is in order. What are some other perspectives on rumor?

While the cited definitions of rumor vary from author to author, a review of these definitions will reflect a considerable amount of similarity and will provide a basis for deriving an operational definition of rumor for the purposes of this inquiry. Knapp (22) defined rumor as "a proposition for belief of topical reference disseminated without official verification." Allport and Postman (ix) expanded this definition to read

"a specific (or topical) proposition for belief, passed along from person to person, usually by word of mouth, without secure standards of evidence being present."

Caplow (298-299) used a somewhat more general concept when he defined rumor as
an item of information with indefinite interest connotations transmitted only by informal person-to-person communication within a group.

He also stressed that rumors are "by definition, 'unconfirmed'."

Festinger and his group reached some extremely insightful conclusions concerning the initiation and circulations of a specific rumor, but they failed to define the term.

Guetzkow (549) seems to come much closer to the organizational communication mark when he states,

When messages that have not been released through the authority net involve contents of importance to the individuals within the organization, they are often labeled rumors.

Rosnow and Kimmel (1979) reflect this more general orientation when they propose a working definition of rumor (90) as "a story in general circulation without certainty as to its truth." Hershey (1966) espouses an even more general view when he defines rumor as "information heard from an unofficial source"(62).

In reviewing these representative definitions, it becomes evident that the differences are more apparent than real. After eliminating some of the situational constraints imposed by the earlier authors, it would appear that the basis of rumor is an informal message passed from person to person.

With this basic definitional element in mind, it would seem appropriate to consider both the conditions under which these informal messages circulate and the characteristics of such circulations. Allport and Postman synthesized their findings on rumor transmission with their basic law of rumor (33-36p). They postulated that the intensity of rumor spread (retransmission) could be described by the formula, \( R = I \times a \).
In other words this formula means that the amount of rumor in circulation will vary with the importance of the subject to the individuals concerned times the ambiguity of the evidence pertaining to the topic at issue. (34)

The authors stress that the relationship between importance and ambiguity is multiplicative and not additive. Importance is operationally defined as something that is important to the group of interest.

"Ambiguity alone does not launch or sustain a rumor." (34) If either importance or ambiguity is absent, there will be no rumor.

"Where there is no ambiguity, there can be no rumor." (34)

They also anticipated some of the later results in informal organizational communication networks research by stating,

--since rumor moves only among like-minded individuals in a population that is exceedingly heterogeneous with little communication between component groups, rumor may avoid crossing social barriers and therefore have a restricted circulation. (35)

This description presages some of the subsequent delineations of specific informal communication networks (Guetzkow).

Knapp (22-23) with his understandable war-time orientation states that rumors thrive only in periods of social duress. He alludes to the rise of rumors because of a lack of information and a need to resolve uncertainties. These conditions would seem to parallel the conditions of importance and ambiguity posited by Allport and Postman.

Caplow, monitoring rumors in an Army regiment in the South Pacific (298-301), found similar requirements. He described a definite correlation between group interest and rumor, stating that "the suitability of the item for transmission is what creates a rumor in the first place." (298) He further stated (301) that "information not linked to major group interests simply failed to move along the rumor channels
although much of it was available at all points." Caplow also addressed the "total demand for information" (300) by a group and suggested the circulation of rumor as a compensation for the lack of "adequate official information."

Festinger et al describe their particular rumor as occurring under conditions of "cognitive unclarity" (473) or lack of information within the group of interested members in the housing project. Although not specifically addressed the rumor topic, communists starting a nursery school, and the rumor population, mostly rothers of small children, would tend to indicate a high degree of interest and thereby importance.

Knapp (31) in discussing the "psychodynamics of rumor" states that

As a general rule, rumor will concern events which not only have subjective importance to the individuals concerned, but also are ambiguous and unstructured.

There appears to be a general consensus that rumor operates during conditions of uncertainty (ambiguity) when these conditions involve matters of importance to the members of the potential rumor publics.

Although somewhat beyond the scope of this particular investigation, any discussion of the conditions under which rumors circulate would be incomplete without a consideration of the types of individual motivations that drive the circulation of rumor. Knapp (34) acknowledges that individual motivations may be complex. He suggests five typical motivation patterns which can be roughly divided into the general areas of maintenance and hostility.

The term, "maintenance" in this context refers to behavior that maintains or enhances an individual's self-esteem or the group rapport. Knapp lists "exhibitionism" as the most important of the maintenance behaviors and suggests that rumors are often mongered in an attempt to
heighten personal status. Closely related to exhibitionalism is Knapp's second pattern, bestowing a favor, which arises out of a "desire to inform others of impending menace or danger." (34) The third maintenance pattern, reassurance and emotional support, reflects the motivational complexity in rumor circulation by intermingling individual and group motives.

The second general category, hostility, includes patterns that Knapp terms aggression and the projection of subject conflicts. He includes slander and gossip within these aggression patterns. The subjective conflict projections include the externalization of fears, wishes, and hostilities that had been previously repressed. Both of the motivational categories would appear to serve as methods for the release of individual tensions. "The telling of a rumor can very truly be an act of cartharsis." (34)

In addition to these specific motivational patterns, Knapp (35) also suggests that there is a more general pattern, an unsatisfied need for information. He points out that rumor thrives in climates brought about by inefficiency of formal news dissemination, inaccessibility of fact, distrust of the news obtainable, imprudent censorship, or heightened expectation of happenings. (35)

Caplow also commented on group requirements for information (300) and observed a quid pro quo factor in rumor transmission that would seem to be related to the maintenance patterns previously discussed. He noted that rumor transmissions customarily involved either an exchange of a rumor for another rumor or an evaluation of the proffered rumor by the recipient. (299-300)
Festinger et al (473) addressed rumor function rather than motivation; however, their discussion mentions the "many areas of cognitive unclarity" among the project residents concerning the activities of his group and that the existing resident leadership group felt threatened by these activities. The motivations that may be inferred from these conditions would seem to fall within the maintenance/hostility paradigm mentioned previously.

More recent workers in the field have synthesized a more general concept and visualize relief from anxiety as the basic motivation for rumor circulation. Rosnow and Kimmel (1979) summarize this approach.

We believe, in brief, that a rumor persists either until the wants and expectations that give rise to the uncertainty underlying it are fulfilled or until the anxiety abates. (91)

From another aspect motivation for rumor transmission or spread may be viewed as the net result of the interaction of a variety of interrelated factors. While not dwelling on the specific factors involved, Festinger et al suggest a force field concept for rumor retransmission.

The larger the number of channels of communication and the smaller restraining forces against communication in those channels the greater the probability that an individual will hear that item. (478)

They also indicate that "The intimacy of friendship probably has the effect of reducing the restraining forces against communication between two people." (478) "In short, the extent of the spread of a rumor will be a function of the properties of a force field in a social space." (486)

Chorus (1953) reached a similar conclusion when he suggested that the importance and ambiguity factors necessary for rumor spread needed to be modified and considered in the light of a factor that he termed,
While not specifically defined, critical sense seems to consist of an individual's evaluation of the validity of the rumor and a resulting level of motivation with respect to retransmitting the rumor. Chorus presumes an average group level of critical sense with respect to a particular topic. If an individual's critical sense or "c" level is below that of the group, then he is likely to retransmit the rumor. However,

If 'c' is greater than normal, then the intensity of the rumor will be approaching zero and perhaps it will stop at that link in the rumor chain.

Both of these recognitions of varying individual motivations for the retransmission of rumors anticipate the more recent empirical findings of Davis (1953) and subsequent researchers (Guetzkow). Anthony (1973) attempts to introduce an anxiety factor in her explanation of rumor retransmission motivation. This concept does not appear to be helpful in that the anxiety factor seems to result from the interaction of the importance and ambiguity factors previously discussed.

This brief overview of the motivations involved in rumor transmission will serve as a basis for understanding the characteristics attributed to rumor spread. For the purposes of this discussion, these characteristics will be categorized by the terms "speed," "selectivity," and "accuracy."

There seems to be general agreement that rumors are transmitted rapidly. Caplow noted,

The rate of diffusion was invariably rapid. It is sometimes hard to account reasonably for the speed with which a rumor can leap a 300-mile gap in the course of an afternoon. In one case the rumor of an impending operation appeared in a detachment isolated on a tiny island without radio communications approximately one day after it was introduced to the main body of the regiment. (299)
More recently, Goldhaber (1974) reported the international spread of a rumor concerning a colleague.

---a message was generated in one country on Monday afternoon and spread to over twenty people (from different cities) while attending a meeting in another country (2,500 miles away) -- all within thirty-six hours. (123)

William Davis and Regis O'Connor (1977) inserted an item of information concerning a pregnant spouse in an academic organization and found that

Within twenty-four hours, almost half (47.0%) of the final group had heard the information. (66)

and that within thirty-two hours virtually everyone in the organization had heard the information.

While Guetzkow takes a minority position by stating that rumors flow at speeds varying from high to zero (563), Davis (1957) seems to summarize the consensus concerning the speed in his often quoted descriptive passage wherein he speaks of the "rapidity of a burning powder train." (244)

This observed speed of rumor transmission appears to be the result of the combined efforts of three factors: message format, timeliness, and transmission mode. In this context the term message format refers to the components of the rumor message and the salient qualities associated with these components. Knapp indicated in a rather condescending fashion that

The primitive grapevine mentality seems almost incapable of sustaining more than three or four basic ideas at a time. (30)

Caplow found that "the majority of rumors contain three associated statements," although many rumors may contain only one or two. (299)

Festinger et al give us an example of the tripartite format in the rumor they investigated in a housing project. (471) This rumor is
presented in truncated form below:

1. The nursery worker is an "avowed communist."

2. Several speakers at the general meeting (associates of the nursery worker) are also known to be communists.

3. Therefore, the members of the project should have nothing to do with these communist sponsored activities, i.e. the nursery.

Knapp determined that the typical rumor is "short, simple, and salient." (29) Allport and Postman assume a similar position by virtue of their definitional requirement for a rumor to be "a specific (or topical) proposition." (ix) They also state, "In the main, rumors shrink, becoming brief, crisp, often aphoristic." (153) The rumor format then is that of a short, fairly simple message. This type of format would facilitate the ease and therefore the speed of rumor transmission.

Another factor that contributes to the speed with which rumors are transmitted is "timeliness." As used here, timeliness may be operationally defined as the end product of the interaction of group and individual concerns that result in a high level of current interest in a particular topic. In other words, if a message had the quality of timeliness it would be a message that an individual would want to hear and possibly retransmit.

The interaction of the importance and ambiguity factors postulated by Allport and Postman (33) would result in the quality of timeliness. Walton (1961) uses the term 'hot' to describe the same quality. (48) Davis (1977) writing from a more organizational perspective discusses the employees' need to "know the full story as soon as possible." He further states that "People are most active on the grapevine when they
have news, as distinguished from stale information." (28) Given a high level of current interest it would seem that the eagerness to receive and transmit rumors would account in part for the rapidity associated with the spread of rumors.

The third quality that accounts for the speed of rumor transmission is the mode of transmission. Knapp describes the characteristic mode of transmission as "--mostly by word of mouth." (22) Caplow emphasizes this concept in his definition of rumor wherein he states that rumor is "transmitted only by informal person to person communication within a group." (299) Allport and Postman echo this concept when they include in their definition of rumor the passage, "--passed along from person to person usually by word of mouth." (ix) Telephone conversations are normally considered as a part of the person to person transmission mode. (Davis; Bodensteiner: 1970; Wofford et al: 1977). Inherent in this person to person, word of mouth orientation is the concept that rumors are informal communication. As informal communication they are not subject to the restrictions or barriers found in more formal systems and therefore may travel more rapidly. (Walton: 1959:79)

Closely related to the quality of timeliness discussed above is the second characteristic of rumor transmission, selectivity. Selectivity in this sense refers to the considerations involved in the selection of topic for transmission and the selection of a recipient for such a transmission.

The basic criterion in the topic selection process is that the rumors must provide information. "A rumor is always about some particular person, happening, or condition." (Knapp: 23) This information must have the condition of timeliness or a high level of current
interest derived from the importance and the ambiguity of the topic. Caplow recognized the importance of topic selectivity when he concluded that rumor was "a fairly successful device for circulating desired information." (302) (Emphasis supplied)

Equally, if not more important than the considerations involved in topic selection are the considerations involved in the selection of the individual(s) to whom the topic will be transmitted. Viewed from the broadest perspective it would appear that candidates for retransmission of rumors tend to be selected from among the members of one's own group. Caplow observing a military unit in wartime noted that

Only a few members of each group habitually communicated the rumors originating in their own group to members of the other--" and that "The same was true for other divisions in terms of congeniality groups, sub-groupings of rank, company and battalion units, geographically separated groups linked only by radio operators, or by truck drivers and boat crews. (299)

Allport and Postman reached similar conclusions when they found that rumor "moves only among like-minded individuals" and therefore "may avoid crossing social barriers." (35)

As used here the concept of "group" is rather amorphous; however, a few boundaries can be delineated. A group would seem to be a loosely defined set of like-minded individuals of similar perceived status. As was pointed out above by Caplow this like-mindedness or similarity of perceived status can result from membership in the same organization.

This tendency to restrict retransmission to the members of one's group does not mean that all the group members will be selected as recipients for transmission. As will be indicated in subsequent portions of this discussion recognizable numbers of individuals in any organization are not selected as rumor recipients. If this is so, then
how does an individual go about selecting the recipient(s) for a rumor retransmission?

Caplow suggests two considerations. The first is the "tendency to communicate new rumors where old ones have been received with appreciation." The second consideration is one which he terms quid pro quo or the transmission of a rumor in exchange for another rumor or at least an evaluation of the proffered message. This would indicate that the recipient selection is based in part on an anticipation of a favorable response to the proffered rumor. This anticipation may explain the findings of Festinger and his colleagues. During their investigation of a rumor in a housing project they found that friendships may be taken as indicative of active channels of communication, though the relationship is far from perfect.

This lack of perfection might be due in part to the perception others have of the relevance of the information being communicated to the interests and motivations of the potential hearer.

It would seem, then, that rumors are most likely to be transmitted to friends or acquaintances who are perceived as likely to be interested in the specific rumor topic.

Another dimension in this recipient selection process can be described from the perspective of a need to inform. These need-to-inform considerations would derive from the maintenance motivation functions previously described. The reality of this need-to-inform consideration translates into a reluctance to tell the other person something that they already know. Davis (1953) describes this reluctance when he notes that, "If he gets the information late, he does not want to advertise his late receipt of it by telling it to others." It would seem
that individuals selecting recipients for rumor transmissions tend to select individuals from within one of their own groupings who they perceive as likely to be interested in the topic matter and to be currently uninformed concerning the specific topic.

Investigation of the third characteristic of rumor transmissions, accuracy, develops an abyss of discrepancy between the traditional view of rumor as ill-founded, incorrect and untrue and the findings based on empirical investigations. Allport and Postman predict the findings of later researchers when they raise the question, "But it may not be that every rumor, however defined, has its kernel of truth . . .?" (148) They also state that "it is entirely possible that some of the reports that come to us may be accurate enough to be credible." (148) They also allude to a group verification process discussed in more detail by Caplow. Caplow found that "the veracity of rumors was very high," and that the selection process discussed above "tended to favor accurate items"; therefore, "the veracity of rumors did not decline noticeably during transmittal." (301)

Subsequent investigations concerning the accuracy of organizational rumors has developed some surprising levels of validity. Walton (1961: 46-47) surveyed the personnel in a naval facility and found that half of these personnel (50%) expected informal messages to be correct at least fifty percent of the time and an additional twenty-eight percent thought these informal messages to be right more often than wrong. Hershey (1966:64) obtained similar results through the use of thirteen participant observers in six different firms. Of the thirty reported rumors, nine were accurate and five were found to be partly accurate by the time the investigation was completed. He also found that the
average time between rumor circulation and its proving out was forty-four days which may account in part for the partially accurate assessment accorded the five rumors. It also appeared that there was no correlation between the persistence of a rumor and its accuracy.

Of the three rumors that were heard more than once, only one was true; the two heard three times were both false. (64)

Based upon his findings in this study, Hershey assesses the accuracy of his rumors in the following fashion:

If about half the time rumors can predict organizational events over a month in advance of their official announcement, it is little wonder that the grapevine is given some measure of credence by employees. (64)

Possible explanations for these variations between the contents of rumor messages and verifiable data can be found in the areas of initiation motivation and transmission effects. The more obvious explanation for the lack of veracity in rumors is found in the hostile motivations that result in the initiation of rumors known to be false at the time of initiation. Slander and gossip are examples of rumors initiated because of hostile motivations. The effects of these initial distortions would appear to be dampened somewhat by the operation of the retransmission selection process as the hostility rumors move through a group. (Caplow: 301)

Less obvious, but more widespread, are the distortions associated with word of mouth transmissions. (Knapp: 29-31, Caplow: 301) Allport and Postman organized previous field investigations and laboratory findings into a basic pattern of rumor distortion. (135-158) This pattern of distortion tends to move in three directions:

1. Leveling. Omitted from the rumor are many details which are essential for a true under-
standing of the incident. (135)

2. Sharpening. When some details are dropped, those that are preserved gain in emphasis and importance. Sharpening as we have seen is the reciprocal of leveling. (136)

3. Assimilation. Integration (assimilation) into "the pre-existing structure of feeling and thought characteristic of the members of the group among whom the rumor has spread. (138)

Allport and Postman summarize this pattern of distortion as follows:

Through its power to conventionalize (assimilate) culture becomes one of the two major determinants of the basic pattern of distortion, the other being those inherent tendencies in individual perception, retention, and report ... (Leveling and sharpening) (158) (Parentheses supplied)

Hostile rumor initiation and the transmission effects just discussed would appear to account in part for the lack of veracity traditionally associated with rumor.

These reflections on rumor would seem to permit the formulation of some surprising, if tentative, conclusions concerning this communication phenomenon. The first of these conclusions is that rumors, informal messages passed from person to person, are probably undeserving of their bad reputation. The unfounded lack of veracity traditionally associated with rumor may be explained in part by the initiation motivations and the distortions inherent in the word of mouth transmission process. Rumors have been found to have been rapid, selective and surprisingly accurate. Finally, the retransmission of rumors have been found to stay generally within the confines of specific social groups.

The application of rumor findings to informal communication networks is considered justified inasmuch as rumors are informal and unofficial. The characteristics ascribed to the operation of informal communication
networks will be seen as having been derived from the motivations involved in rumor transmission. The motivations involved in rumor spread will account for the reported functioning of informal communication networks.
B. Organizational Communication Networks

This portion of the discussion will be approached from a chronological perspective. This particular approach is deemed appropriate because it will demonstrate the paucity of investigation that has been conducted in this specific area of inquiry and will also reflect the various trends of investigation that have occurred over the period under discussion.

The previous section addressed the dynamics of the initiation and spread of rumors or informal messages through a social group (Knapp) or within a culture (Allport and Postman). Blau (1962) considers social groups and culture to be two dimensions of social organization. This "social organization that emerges whenever men are living together." (5) Within the larger social organization "there are found organizations that have been deliberately established for a certain purpose." (5)

Since the distinctive characteristic of these organizations is that they have been established for the explicit purpose of achieving certain goals, the term, 'formal organizations', is used to designate them. (5)

Dalton, Barnes and Zalaznick (1968) succinctly describe the formal organization from a functional perspective. They maintain that the formal organization:

1. Represents the distribution of authority among the occupants' positions.

2. Defines areas of accountability by establishing zones of performance.

3. Provides a range of relationships operative for a given position.

4. Creates the formal groups which help define membership and relate to individual identity.
5. Embodies the contract which brings the individual to work. (2)

Returning to Blau, we find that "in every formal organization there arise informal organizations." (6) These informal organizations are based on the social interactions of individuals and develop in response to the opportunities created and the problems posed by their environment, and the formal organization constitutes the immediate environment of the groups within it. (6)

He refines this concept by restricting informal organizations to those that "evolve within the framework of a formally established organization." (7) As previously indicated by Blau in any formal organization there are many informal organizations (6) and there seems to be general agreement with this conclusion. (Jacobson and Seashore: 1951; Davis: 1953; M. Dalton, Guetzkow, Sutton and Porter: 1968; and Wofford et al)

This multiplicity of informal organizations would seem to account for some of the complexity encountered in attempting to distinguish between formal and informal organizations. This complexity is heightened by the interaction between the two types of organizations and the possible effect of organizational evolution. Blau describes the interaction between the two types of organizations in a concise fashion.

heirarchical structures channel communication processes; communication processes give rise to structural differentiation, and the emergent social structures, in turn redirect the communication process. (139)

M. Dalton highlights the real possibility of the absorption of an informal organization into the formal organization when he points out

Even the long-faced formalist among highers now sees that he must modify the structure to embrace the unofficially incubated and nurtured new practices that have multiplied and shown their worth. (234)
In short "the term informal has become especially troublesome within the context of organizations." (M. Dalton: 222)

The most effective way of resolving these troublesome complexities would seem to be from a residual perspective. In other words, within a given organizational context any organization that cannot be classified as formal will be considered an informal organization at the time of examination. Stieglitz (1969) takes essentially this approach when he defines an informal organization as "everything not shown on the organizational chart." (180) This residual approach will resolve the problems of organizational complexity, interaction, and evolution and will be used when a working definition is required in the remainder of this discussion.

Although from a philosophical perspective the study of formal versus informal organizations may date back to the Peloponnesian War (M. Dalton: 221), Fayol in 1916 may have unknowingly introduced in germinal form the modern concepts of formal and informal organizations. His proposals for coordination with prior approval between individuals in separate scalar chains of authority seem to presage an awareness of the possibility of an informal organization. Reinforcement for this possible awareness can be found when he states,

It is an error to depart needlessly from the line of authority, but it is an even greater one to keep to it when detriment to the business may ensue.
(1949:36)

More modern, systematic concern for the formal and informal aspects of organization began with Bernard (1938). Within a year Bernard's theory was buttressed by the so-called Hawthorne studies of Roethlisberger and Dickson (1939). In their publication of the results of a twelve-year investigation, they verified not only the existence of in-
formal organizations, but the capability of such organizations to
modify or negate the directives of the formal organization (525-548).
This capability to modify or negate the objectives established by the
formal component of the organization probably accounts in large measure
for the negative attributes ascribed to informal organizations by many
higher ranking members of the formal organization. (M. Dalton: 222)

The early 1950's saw the beginning of a body of literature which
was concerned with the operational aspects of informal organizations.
Jacobson and Seashore (1951) investigated communication structure.
Davis (1953) investigated communication relationships. Burns (1954)
discussed communications directions. M. Dalton (1959) commented on
informal action. Sutton and Porter (1968) examined some of Davis's
early results in their investigation of grapevines or informal communica-
tion networks.

In their pioneering study, Jacobson and Seashore examined the
communication structure in a complex organization.

The communication structure is seen as existing
in the pattern of actual contacts which occur
among individuals in the organization, and in the
patterns of contact among subgroups that are es-
tablished by the inter-individual contacts. (29)

Although they were examining the communication structure of the
organization in toto, they acknowledged that these structures included
informal organizations.

Relationships implied in such patterns of contact
may be different from the relationships specified
by the formal organization, . . . (29)

As a result of their investigations, Jacobson and Seashore developed
several concepts that have proven useful in subsequent examinations of
informal organizations and their associated communication networks.
Probably their most striking concept was postulating the existence of
Some individuals appear to function as 'liaison' personnel between groups, and characteristically have many, frequent, reciprocated, and important contacts which cut across the contact group structure. (37)

Another is the concept of isolates, "individuals who appear to belong to no group" (37), was also to prove useful in more recent inquiries. Many of these inquiries were conducted by Keith Davis who developed a method of studying communication patterns in organizations called "ecco analysis", Episodic Communication Channels in Organizations (1953a) and then proceeded to employ this technique in examining the communication activity within the management group of an organization engaged in the manufacture of leather goods, the "Jason Company" (1953b). This study also occasioned the debut of the term "grapevine" which Davis uses to describe an informal communication system comprised of the various informal communication networks operating within the organization. As Davis (1973) puts it,

Indeed, the word grapevine has been part of our jargon since the Civil War, when telegraph lines were strung loosely from tree to tree in vine-like fashion and resulted in messages that were frequently garbled. (44)

For the remainder of this discussion, this term 'grapevine' will be used in a generic sense to refer to one or more informal communication networks operating within the context of the overall organizational structure.

As a result of this investigation, Davis developed a series of grapevine characteristics which parallel closely the characteristics associated with rumor transmission. These characteristics were:

1) Speed of transmission.
2) Degree of selectivity.
"The grapevine here showed that it could be highly selective and discriminatory." (44)

3) Local of operation.
"The grapevine of company news operates mostly at the place of work." (45)

4) Relation to formal communication.
"Formal and informal communication systems tend to be jointly active or jointly inactive." (45)

This last characteristic which attributes joint activity or inactivity to the formal and informal communication systems would become a matter of some subsequent dispute. (Guetzkow: Wofford, et al.)

As far as the operational aspects of this grapevine were concerned, Davis found this informal information was spread almost exclusively by means of a "cluster chain." As he describes it, "A tells three selected others; perhaps one of them tells two others; and then one of these two tells one another." (45) This finding modified considerably the earlier single strand, serial transmission chain visualized by Knapp, Caplow and Allport and Postman.

In this Jason Company study, Davis also substantiated and expanded the previous findings of Jacobson and Seashore. He, too, identified liaison individuals indicating that they comprised about ten percent of the management group. Further,

There was no evidence that any one group consistently acted as liaison persons; instead, different types of information passed through different liaison persons. (46)

More specifically,

In three successive surveys I made of one group of sixty executives, the liaison individuals were different in each instance. (1973:46)

Another type of individual identified by Davis was the passive receiver, an individual who received but did not retransmit information. The isolates discovered by Jacobson and Seashore were also located by Davis
although he describes them as individuals who "received and transmitted information poorly or not at all." (46)

Additional findings made by Davis that are useful for the purpose of this discussion are: the extent of executive knowledge, the amount of informal communication between organizational groups, and the effects of group/social isolation. Contrary to the popular concept of executives knowing only what their subordinates want them to know (1957:259-261, 1968, Dubin 1962:45-46), Davis found that the higher the executive level, the greater knowledge of company events. Additionally, at any given level the staff executives usually knew more about any company event than did the line executive. (47) He implies that these findings were due to the operation of grapevines and the mobility of the staff.

Another finding of Davis appeared to contradict earlier results by Caplow. At the Jason Company the bulk of informal communication activity was between, rather than within, organizational groups. This phenomenon may be explained in part by the fact that the group under study was a management group and would be more likely to communicate informally with their peers than with their subordinates. Davis also verified earlier findings by Allport and Postman wherein physical and social isolation served to act as barriers to informal communication.

Burns (1954) studied the communication activities of the management group in a British engineering factory using a self-recording technique. His primary areas of concern were the amounts of time spent in communication activity, the field of interaction, and the subject of the interaction. Although not specifically concerned with the formal vs. informal aspects of the organization, his findings add several perspectives with respect to the interactions of these two aspects of an organization.
This study concerned the activities during a five-week period of the four executives responsible for the operation of an organizational sub-group. One of the broad findings was that these executives spent an average of 80 percent of their time in conversation, both face to face and on the telephone. (78) These same individuals also spent nearly twice their estimated time on personnel or "human relationship" matters. (80) This finding is rather surprising inasmuch as none of the executives saw as many as a third of the personnel in their department during the reporting period. (85)

The reporters spent the bulk of their time within the physical and organizational confines of their department. Interactions within the department accounted for from approximately 50 to 90 percent of their time, depending upon the individual. This probably accounts for the fact that these individuals spent from 83 to 93 percent of their time within the department, most of this at their own desks. (87)

Burns chose to use the term, "lateral displacement" (87) to designate those communications that did not follow the vertical line of authority and indicates without qualification that this lateral displacement fails to sustain fully the vertical line of authority. (88) The informal organization had assumed at least a portion of the functions of the formal organization. With respect to extra-departmental interactions, each of the executives tended very strongly to interact with members of their own status group within the overall organization. (91) This emphasis on status circuits would seem to reinforce earlier findings with respect to the existence of social barriers to informal communication and the previously noted tendency to communicate within one's own group.
One additional finding by Burns develops an interesting perspective on the interaction of the formal and informal organizations. "Half the time, what the manager thought he was giving as instructions or decisions was being treated as information or advice." (95) Although Burns attributed this phenomenon to status protection on the part of the manager's subordinates, it points up the complexity of the interaction between the formal and informal aspects of an organization.

He further reinforced the importance of the informal communications or lateral displacement of communications. "The 'vertical' system would be virtually unworkable without the considerable flow of information laterally." (92) In addition, he demonstrated that his executives had many of the attributes associated with those of liaison persons, particularly the position related requirements to communicate and the opportunities to communicate both within and outside their departments.

Hershey (1956) combined the work of earlier writers (Knapp: Allport and Postman) with his experience as personnel director in one of the divisions of the Bulova Watch Company in a brief article dealing primarily with rumor control. Of primary interest to this discussion is Hershey's report of the different character of rumors found in the shop and those current among the management group. This character is the intensity of interest in the rumor. Interest intensity in the shop ran high because most of the rumors involved bread and butter issues. Interest in the management group tended to be considerably less. Hershey coined the term "rumor-like" to describe rumors that "lack the emotionally charged interest that typifies rumors of shop employees." (300) He also pointed out that management makes decisions based on these "rumor-like" messages. (300-301)
Walton conducted a series of grapevine studies at a naval facility and added several additional perspectives on the operation of the organizational grapevine while reporting operational characteristics that differed from those reported by Davis. Part of this variance can be explained by the fact that Walton surveyed all levels of his organization, while Davis focused on the activities of a management group. Walton found a complementary situation with respect to the operation of the formal and informal communication networks.

The grapevine busies itself with official matters and only when the formal channels of communication fail to deliver, are not understood or are not accepted by the people for whom the messages are intended. (46)

In his first study, Walton found that 38 percent of the employees expected to have information about organizational changes first through the grapevine. Twenty-eight percent of those surveyed indicated that more than half of their organizational information came over the grapevine and another 45 percent received about half of their information from the same source. (48) Similar groupings were found for grapevine accuracy expectations with 50 percent of the respondents indicating that the grapevine was accurate about 50 percent of the time and 28 percent perceiving the grapevine to be accurate more often than not.

In an attempt to compare these expectations with reality, Walton conducted a subsequent study to discover the actual information sources for an organizational change that had been officially announced two days prior to the initiation of the study. The results were considerably different with the grapevine being credited as the information source approximately 25 percent of the time. (47) Walton included that these findings demonstrated that the grapevine was not as important as was
perceived by the employees. However, he wisely caveated this finding by stating:

"It is possible that much of the grapevine information was carried by the grapevine immediately after it was released and that, after it had been officially confirmed, employees tended to give credit to the official (though later) medium rather than admit they had heard it through the grapevine. (48)"

In reviewing these findings it would appear that the grapevine is fast, relatively reliable and accurate, and capable of forecasting organizational events. The importance of the organizational grapevine can be inferred from these characteristics and the impact of the grapevine on the functioning of the organization is probably impossible to assess. (1978) Recognition of this importance is found in Goldhaber's review wherein he does not distinguish between the formal and informal communication systems, but rather addresses the organizational communication systems as a whole.

Dubin (1962) viewed organizations from a behavioral perspective. From this perspective, he developed the concept of the "non-formal behavior system",

"The non-formal behavior system is the area in which the organization is made to work by supplementing the formal procedures, rule, etc. with realistic applications of them to operating situations. (15)"

This non-formal behavior system is by definition an informal organization which Dubin perceives as complimenting the formal organization.

In his synthesis of earlier investigations of executives' functional behavior, Dubin found that executives spend 18 to nearly 40 percent of their time "getting information." The lower percentages were derived from self-estimates and the higher percentages were derived from obser-
vation reports. The importance of these findings is that executives spend considerable amounts of time acquiring information with the observed executives spending only one-fifth the time making decisions as they did in gathering information. These data on executive behavior led Dubin to conclusions similar to those of earlier investigators. Specifically, the amount of time spent in person-to-person communication and the social/status boundaries in informal networks. As he puts it,

A remarkable amount of total time is spent by all ranks of management with organizational peers which, by inference, leads to the conclusion that much of the active coordination of the actual work of the organization that 'makes things really run' is carried out through non-formal relations. (25)

In an earlier study of the same naval facility, Walton (1959) found that while his workers might hear organizational news first via the grapevine, they tended to suspend judgment until official notice was received. (81)

Cohen (1962) in his brief review of the laboratory research on communication networks provided findings which reinforced the importance of informal communication networks in organizations. Specifically, these findings were that the "circle" and "wheel" network configuration (19-20) were the most efficient problem solving networks and at the same time provided the highest degree of member satisfaction. The applicability of this finding to this discussion is that both of these types of networks provide for considerable cross or lateral communication opportunities in contrast to the very limited communication opportunities with the more formal scalar or chain of command type network.

In his sweeping review of the early literature on organizational communication, Guetzkow concentrated on message flows and message con-
tents rather than the formal versus informal aspects of organization. He did deal at some length with rumor transmission or the operation of the corporate grapevine. At the outset, Guetzkow decries the dearth of research on rumor transmission.

There has been little systematic study of such dissemination of unofficial information with high interest value by informal, person-to-person communication within organizations. (501)

Citing the earlier work by Caplow, Davis and Festinger et al., Guetzkow concludes that

these studies seem to reveal no characteristics which distinguish rumors in any fundamental way from other communications. (502)

It should be kept in mind that Guetzkow classifies all grapevine communication as rumor and defines rumor as the "dissemination of unofficial information with high interest value by informal, person-to-person communication." (502)

Guetzkow proceeds to prove his case for the similarity between rumor and other organizational communication by demonstrating the identical communication processes, message flows, transmission speeds, and message contents that operate for both rumor and other types of organizational communication. (502-504) He concludes,

Thus, 'need to know' influences rumor and non-rumor communication alike. In this, as in many other ways, rumor communication seems to be part and parcel of the communication system which exists in organizations, failing to be quantitatively differentiable. If the processes involved in grapevines are fundamentally similar to those involved in other aspects of organizational communication, it is understandable why no special literature has come into being. (505)

Sutton and Porter (1968) investigated the operation of the grapevine in a governmental organization for the purpose of testing the generability of Davis' earlier findings (1953b). Their study included
rank and file workers as well as executives which might explain in part
the difference in the findings of the two studies. Sutton said Porter
employed the ecco analysis technique developed by Davis and found
liaison personnel among the rank and file in the same percentage (10
percent) found by Davis in his management group. They, too, found the
positive relationship between organizational rank and knowledge of or­
ganizational events. Their findings differ from those of Davis in that
the predominant flow of information was within the functional group.
This they attribute to the lack of mobility on the part of subordinate
workers, closer relationship (peer groupings) among the rank and file
as opposed to the reduced number of available executive peers within a
given functional group and the social barriers that would limit the
number of acceptable sources of social exchange available to the exe­
cutives within a given functional group. The findings of this investi­
gation also differed from those of Davis in that the liaison individuals
tended to function as such regardless of the type of information flow­
ing through the net.

Evidence indicated that one small group of
individuals consistently acted as liaison
links in the flow of communications. (229)

Gerstberger and Allen (1968) investigated information channel
selection by engineers working in a research and development laboratory.
In this particular laboratory, they identified nine different information
channels to intra-organizational and extra-organizational information
sources. Frequency of channel selection was analyzed on the basis of
three perceived criteria: accessibility, ease of use, and technical
quality. After considerable analysis they concluded that accessibility
is the single most important determinant in the frequency of information
channel selection. Both accessibility and technical quality influence
the choice of a first information source and the perception of accessibility is directly related to the amount of experience an engineer has with a particular channel (297). These findings reinforce the earlier observations of informal networks made by Caplow, Allport and Postman and Knapp.

Davis (1969) reported the results of a survey of lower and middle managers of electrical utilities. In this survey, these managers were asked to categorize their primary source of grapevine information about their organization. Sources were categorized as in or outside the respondent's chain of command, by organizational rank relative to the respondent, and as being within or outside the respondent's organization. The respondents reported that more than half of their sources (26) were at or above the respondent's organizational level, but most of these (12) were at the same level. Of particular interest was the number of sources that were below the organizational level of the respondents. Thirty-one of the sources were below the respondents' organizational level, nineteen in the chain of command, and twelve outside the chain of command. (270) These findings point up the seeming paradox of the existence of a grapevine within the organizational chain of command. Davis, however, feels that this situation where people in the chain of command talk, but not officially, is quite common. "A considerable portion of communication among people in chains of command is of this type." (271) The findings of this survey differed somewhat from those of Jacobson and Seashore, and Sutton and Porter. Only four of the respondents listed extra-organizational primary sources and two of these were their wives who got their information on the wives' network.

Allen and Cohen (1969) investigated the flow of technical information in two research and development laboratories. Using sociometric
techniques, they identified the sociometric "stars" or the most frequent recipients of communication as "technological gatekeepers." (17) These gatekeepers exhibited many of the characteristics associated previously with liaison personnel. They held supervisory positions and communicated frequently both within and outside their respective organizations. In fact, one of these primary characteristics was their access to and frequent use of extra-organizational information sources, e.g. professional colleagues. Allen and Cohen also noted the operation of social barriers within these informal communication networks. This was especially true of the individuals holding Ph.D.'s who restricted the bulk of their communication to those with similar academic credentials.

Bodensteiner (1970) investigated inter-organizational communication channel usage under varying degrees of uncertainty in a research and development organization.

The strongest feature of the data were the marked and discernable increased utilization and evident reliance on the face-to-face and telephone channel during periods of project problem uncertainty. It appears that the reduction of project problem uncertainties is accomplished primarily through the face-to-face channel, supplemented by the telephone channel. The teletype and written correspondence channels appear to be of little consequence during these periods of uncertainty. (1430-A)

Dewhirst (1971) investigated the influence of perceived information-sharing norms on communication channel utilization among a group of scientists and engineers. Based upon the perceptions of the respondents, Dewhirst established three information sharing norms ranging from "strong", "perceives colleagues as enthusiastically sharing information" to "weak", "perceives colleagues as reluctantly, grudgingly sharing information" or "avoiding the sharing of information." (309) He then examined the internal and external use of interpersonal and written
channels for organizations in each normative category. His investigations revealed that within the organization members of strong norm groups tended to make more use of interpersonal channels and members of the weak norm groups tended to rely more heavily on written channels. Surprisingly, channel utilization outside the organization which accounted for slightly over 30 percent of the utilizations showed a reversal of this tendency. The strong norm groups relied more heavily on written communications and the weak norm groups relied more heavily on interpersonal communication in their searches for information outside the organization.

While not dealing specifically with organizational communications, Tesser, Rosen and Batchelor (1972) reported on a series of laboratory studies that are applicable to this discussion. Their investigations centered around what they refer to as the MUM effect, keep MUM about Undesirable Messages. (240) The results indicated that the transmission of a message was due to the interaction of a perceived desire to transmit and a perceived obligation to transmit. Both of these variables were positively correlated with the degree of message pleasantness assigned by the transmitter. The situation with respect to bad news transmission is more ambiguous. In summary, the findings support the intuitive conclusion that people are more likely to transmit messages that the recipient will perceive as being pleasant news.

Davis (1973) in a brief distillation of his previous investigations of informal networks addresses the topics of rumor and the grapevine. In this instance, he defines rumor as "part of the grapevine -- the injudicious and untrue part that is communicated without factual evidence." (47) This distinction between "rumors" and the remainder of the grape-
vine information appears somewhat discriminatory because he subsequently allows that "rumors are generally correct" (emphasis supplied) and that

My own research indicates that in normal business situations, between 75% and 95% of grapevine information is correct, even though most of the stories are incomplete in detail. (47)

Reif, Monczka and Newstrom (1973) challenged a basic assumption of organizational theory when they investigated perceptions of formal and informal organizations using a semantic differential technique. Their results contradicted the assumption that the informal organization was more powerful or as powerful as the formal organization. (Likert: 1967; Thayer: 1968) Their data indicated that the formal organization was better and stronger than the informal organization (394). Of the informal organizational concepts studied, grapevine and clique were shown to be relatively bad and weak. However, the concepts that one would tend to associate with the operation of a grapevine, i.e. voluntary teamwork, personal influence, social interaction, group cohesion, and social group membership were all perceived as being good and strong. (395) One wonders whether the respondents, participants in management training seminars, might not have been unduly influenced by their environment.

MacDonald (1976) investigated communication roles and networks in a formal government organization. Using self-reporting methods, he compiled data on the communication contacts and the perceptions of those contacts from a group of 185 staff members. He initiated the study from the perspective of three role types: liaison, non-liaison group member, and isolate. Liaison he defined as "a member with frequent communication contacts in at least two communication groups." (366) Non-liaison group members were those who had no more than one non-liaison contact outside their own group. (367) Isolates were described as those persons who
neither chooses or is chosen. MacDonald did not identify any isolates.

A total of 62 groups containing 26 liaison persons were identified. These liaison persons were readily identified by the other members of the organization who accorded the liaisons more communication capability and organizational influence than the liaisons accorded themselves. The liaisons perceived others as having more work-related information which is surprising since most of the liaisons were in formal supervisory positions. Not all supervisors, however, were liaisons. (373) These findings led MacDonald to suggest that "liaisonness is not a discrete category or function." There is more likely a "range of linkage roles serving different purposes for individual participants and work groups." (374)

W. Davis and O'Connor (1977) prefaced their report of grapevine activity in a university speech and theatre department with a brief, but excellent review of the grapevine literature. After inserting an item of information (Davis' wife was pregnant) into the grapevine, they then used K. Davis' eco analysis techniques to chart the flow and spread of the information. Their study in this academic setting substantiated most of the previous findings:

The grapevine is an effective and rapid means of communication. It tends to follow a cluster, rather than a chain pattern of communication. Most people when hearing information do not transmit that information to more than one person. Persons within a particular group communicate primarily with other persons in that same group. Finally, information is transformed as it reaches its final destination as certain facts are either dropped, emphasized or assimilated. (68)

Wofford et al (1977) viewed informal communication systems which they called internal systems as compensators that filled the behavior gaps left by the formal organization. Citing an earlier compilation by Bodensteiner (1970), they showed that previous surveys of nearly 5,000
engineers, scientists, and managers, indicated that the respondents used informal channels for an average of 55 percent of their organizational communication. In an additional compilation of previous research, they demonstrated that managers at all levels spent from 57 to 80 percent of their time engaged in oral communication. (391) These authors also combined the previous findings of Jacobson and Seashore with respect to liaison personnel and the findings of Allen and Cohen with respect to technological gatekeepers. Wofford et al modeled these two concepts into one they called a "key communicator."

Essentially key communicators are people who possess or have access to a lot of information and who are frequently asked by their colleagues to share it. Obviously, they do not all tend the same gate; they specialize in the type of information they provide. But they do seem to share similar traits and characteristics. (408)

These traits and characteristics parallel very closely those previously ascribed to liaison personnel. The traits cited by Wofford et al include gregarious, approachable, socially active, younger-than-average, trustworthy, safe, and dynamic (409). The importance of these key communicators is better appreciated when it is understood that they function as internal sources for information external to the particular organizational grouping.

Goldhaber et al (1978) reviewed the state of the art for organizational communication. In the portion of the review dealing with information flow, the authors discussed structural factors, communications roles, channel, and message factors. They used the term "structure" to refer to the pattern of regularly occurring interactions in a communication network.
The structural complexity of a network is affected by the degree of uncertainty and complexity in the environment. The perceptions and predispositions of network members, the size of the network, and the ongoing processes of group information and change which characterize social systems. (77)

In discussing communication roles, the authors deal with the paradigm of liaison, group member, and isolate previously discussed.

The findings reviewed here indicate that liaisons are more gregarious, influential, and satisfied members of communication networks than isolates. Liaisons hold higher official positions in the organization and their integration with diverse groups and coordinating bodies further enhances their power. Liaisons have been with the organizations longer, know the system better, and perceive it to be more open than do isolates. Finally, the role of liaison has social reality to both those that hold it and others in the system. Liaisons and their contacts perceived the centrality (77-78) importance, and influence of this integrative role.

They do caution, however, that because of differing criteria and definitions "it is difficult to make sense of the differences in the numbers of liaisons, isolates, and group members identified in different studies." (78)

With respect to channel and message factors,

The results indicate that the flow of formal and informal messages mostly occur in face-to-face interaction, with organization members spending between one-third and two-thirds of their day in this manner. (78)

The remainder of the article discusses the results of International Communication Association communication audits which tend to support these findings and to suggest related areas of further study.

Albrecht (1979) evaluated the role of communication in perceptions of organizational climates. For the purpose of this study, the subjects were categorized as key communicators or non-key communicators. Her results indicated that key communicators had a more positive
attitude toward the organization, had less potential for ambiguity concerning their environment, had more access to information and were more satisfied with the messages they received. (354-355)
C. Organizational Decision Making

No attempt will be made to present a thorough review of the literature on organizational decision making. Because this discussion is concerned with the pre-decision process, the activities that precede reaching a specific decision, a sampling of recent publications should suffice. The specific area of inquiry within the pre-decision process will be the information gathering activities that precede the arrival at a managerial decision.

Hall (1965) emphasizes the importance of this information gathering aspect of the information process when he states,

It is the information structuring clique in an organization which is the one in which decisional (as opposed to merely formal) power resides. (161)

The importance of information gathering activity is further emphasized by Gordon, Miller and Mintzberg. (1975) Each of their nine models of normative managerial decision making shows a considerable amount of the decision making process being devoted to the acquisition of information. (16-120)

Ebert and Mitchell (1975) in their exhaustive analysis of organizational decision making dwelled at considerable length on the information processes. When addressing the subject of information search, they suggested the following characteristics could be ascribed to this type of behavior:

a) For ill-defined problems, information will be sought more predominantly through informal than through formal channels.

b) The substantive character of the decision problem rather than the procedural dictates of the organization, provide primary guidance in selecting information sources.
Information deemed required by the substance of the problem 'is more likely sought from frequently used sources than from infrequently used sources' and is strongly influenced by the experience of the problem solver. Furthermore, the problem solver is likely to identify frequently used sources (rather than infrequently used sources) as possessing needed information. (95)

Janis and Mann (1977) in their recent book, *Decision Making: A Psychological Analysis of Conflict, Choice, and Commitment*, address information gathering in some detail (171-180) and infer that the most important type of information gathering is that which is associated with choice behavior (decision making) because one has to make a choice before engaging in conflict or making a commitment.

Simon (1977) visualizes decision making as a four-phase process.

1) finding occasions for making a decision (Intelligence)
2) finding possible courses of action (Design)
3) choosing among courses of action (Choice)
4) evaluating past choices (Review) (40-41)

All of these phases would seem to require searches for information, but the areas of specific interest for this discussion would involve the pre-decision portion of the process, the intelligence and design phases.

In summary, managerial decision making can involve considerable effort devoted to searches for information and these searches are most likely to take place within the familiar ground of informal communication network within the organization.
D. Summary

The previous discussion has traced the evolution of rumor investigation into considerations of the operation of informal communication networks in organizations. This evolution seems to be rather straightforward because of the similarities between the conditions for the transmission of rumors and the operation of informal communication networks. In both cases the operative requirements of importance and ambiguity encourage the transmission of informal messages during person-to-person contacts with friends or acquaintances. The resemblances between the rumor publics and informal organizational networks extend these similarities by virtue of the fact that both tend to operate within delineated social boundaries.

The importance and ambiguity factors associated with rumor transmission would seem to transfer directly to activities within an organizational setting, specifically, decision-making. If one assumes that most organizational decisions are important, then attention must be directed to the amount of ambiguity related to each of these organizational decisions.

The relative amount of ambiguity may well be related to the degree of uncertainty in the organizational decision-making environments. Under conditions of considerable organizational uncertainty, one may postulate a reversal of reported communication behaviors. Instead of waiting passively for information, it would seem more appropriate to actively search for information.

A brief pertinent reflection upon common and often encountered directives will demonstrate the high degree of ambiguity often inherent in managerial decision-making situations. It is possible to move from
the anecdotal, "Do something, even if it's wrong!", to the more specific "Raise sales by 10 per cent!" Each of these directives carries little information except for the content of the formal directive.

Mission type orders or directive instructions of this type obviously bring a high degree of ambiguity into the decision-making environment. The uncertainties created by this paucity of formal information would tend to cause the manager involved to seek information from sources more readily available, the informal sources. One can't ask the boss, so one casts about for possible sources of information. These informally Selected Information Sources (ISIS) would probably resemble very closely the "liaison personnel" and the "key communicators" identified by previous investigations.

If this assumption is correct, these ISIS would tend to be people who had opportunities to communicate freely, had frequent opportunities to communicate outside their particular organizational grouping, had considerable tenure with the organization, and may have had sources of authority or status that were not directly attributable to their positions in the organization.

The purposes of this investigation were manifold. The first purpose was to gain an understanding of the use of ISIS under varying conditions of ambiguity in the pre-decision process; the second purpose was to identify the characteristics or attributes associated with the ISIS; the third purpose was to determine the correlation between the nature of the decision topic and the selection of a specific ISIS; and the final purpose was to determine the preferred method of contact with the ISIS during the search for information in the pre-decision process.
RESEARCH OBJECTIVES

The objectives of this study were to attempt an integration of previous findings with respect to the operation of informal organizational communication networks during the information acquisition phase of the managerial pre-decision process. The importance of the informal communication networks in organizational behavior has been previously demonstrated. (Burns: Davis: Guetzkow) The existence of persons critical to the operation of these networks has been repeatedly recognized. (Caplow: Jacobson and Seashore: Davis: Sutton and Porter) The use of informal communication during the pre-decision process not only appears appropriate from an intuitive point of view, but has been demonstrated by Bodensteiner.

The relationship between the conditions of ambiguity in rumor prone environments and the conditions of uncertainty in organizational decision making have not been addressed by previous investigators. There would appear to be a correlation between the conditions that establish the need for information that propagates rumors and the uncertainty conditions that cause decision makers to search among informal communication networks for information sources.

The literature indicates only the most tenuous connection between the liaison personnel reported by Jacobson and Seashore and the key communicators identified by Sutton and Porter. It would seem reasonable to assume that the liaison personnel and the key communicators are probably the same individuals and serve as information sources under conditions of ambiguity during the information acquisition phase of the pre-decision process.
In order to attempt this integration the following problem statement and derived hypotheses have been developed:

II. RESEARCH PROBLEM

Given the conclusions drawn from the previous research, it would appear that following problem statement and derived hypotheses would be appropriate for an extension of accepted theory in this field of inquiry.

**PROBLEM STATEMENT:** Does a relationship exist between the amount of ambiguity in the decision-making environment and the amount of search activity among informal communication networks for information sources during the related pre-decision process?

**HYPOTHESES:**

H1 A positive correlation exists between (1) the amount of ambiguity in the decision-making environment and (2) the extent of search activity among informal communication networks for information sources during the related pre-decision process.

H2 The specific informal information(s) sources selected will vary significantly with the subject/topic of the decision under consideration.

H3 The behaviors and attributes ascribed to the informal information sources will closely resemble behaviors and attributes previously identified with liaison personnel and by communicators.

H4 The significantly chosen method of communication with the selected information source(s) will be person-to-person (face-to-face and/or telephone conversation).
If confirmed, these hypotheses should serve to integrate previous investigations in the use of informal communication networks in organizations and provide some insight into the information acquisition phase of the managerial pre-decision process. Ideally, the findings of this study would serve not only as a basis for further study, but also as a set of suggestions for improving the quality of managerial decision making under conditions of ambiguity.
III. METHODOLOGY

The methodologies for the investigation of rumor transmission are rather limited. One of the earlier efforts by Back et al. (1950) pointed out that

There has been little attempt to study the details of the transmission of rumors or information, except with respect to the distortions which occur. (307)

These authors then established two criteria which rumor study methodology must meet:

1) Obtain accurate reporting of the rumor or information at various points in its transmission.

2) Obtain accurate reporting of all, or an adequate sample of the communications which take place. (307)

They then examined two methods, post rumor interviews and participant observation. From the perspectives of the above criteria, the post rumor interview method was seen as the least effective because of problems of individual recall and the need for a 100 percent coverage of the group surveyed.

It almost seems as though people perceive only the 'thing', that is, the content of the information, and tend not to perceive the medium through which it comes, that is, who tells it to them. (309)

The participant observer method was judged as being more effective, but not without difficulty. Their initial difficulty was in the selection of their co-operatives, the observers within the organization, and the impacts that these selections would have on the results of the investigations. The major areas of bias associated with this method were in the sampling of the communications recorded and the artificial limiting of the communication process since this method removed the co-operators from the communication network. They reported receipt, but not transmission of information. (309-310)
Davis (1953) advocated a methodology for communication analysis which makes it possible to record and analyze communication patterns in terms of their variables, such as timing, media, subject matter, and organizational level. He referred to this method as ecco analysis, or episodic communication channels in organization (emphasis supplied) and stated that the method reported data in the manner of a communication echo. The basic approach was to furnish a brief questionnaire to each organizational group member and determine the first source for a particular item of information. The results were then coded to indicate respondent and information source. The networks established in this fashion were then compared with the organizational chart to demonstrate the actual information flow in the organization.

Burns used a series of self-reporting forms that were to be completed by his respondents after each communication episode. This method involved difficulties because one of the four respondents completed his forms from memory rather than immediately after the communication episode. Other difficulties were encountered by the discrepancies between the respondents' estimates of time spent and actual time spent on various functional subject areas, e.g. Burns executives estimated that they spent 52.5 percent of their time on production matters where in actuality they spent between 32 and 34 percent of their time on such matters.

Davis' ecco analysis has proven to be an enduring and effective technique employed by subsequent researchers in the area of organizational information flow, e.g. Sutton and Porter; W. Davis and O'Connor; and MacDonald. While the specific techniques employed by Davis were
not be used in this investigation, the philosophy of his method was employed. The survey instrument requested post facto information from respondents with respect to job related decisions, degrees of ambiguity in the decision environment, use of formal versus informal information channels and descriptions of their informally selected information sources, ISIS. The instrument was designed to reflect extensions of the hypotheses of this study.

Research included a sample of forty-two managers. The term "manager" can be defined in a variety of ways and the specific definition for the purposes of this investigation was negotiated with the organization under study. In general, however, a manager is considered to be an individual who has the authority to allocate organizational resources. Resources in this context can be addressed as either time or money. A manager then can be an individual who had the authority to allocate the use of another organization member's time or authorize the expenditure of organizational resources. As envisioned here, the term "manager" included both line and staff personnel who have or had the authority to allocate organizational resources or to recommend the allocation of such resources. The sample was obtained from personnel employed by a large governmental agency.

This survey instrument was designed to reflect extensions of the concepts contained in the hypotheses. Prior to the administration of this survey instrument to the selected subjects for this investigation, the instrument was subjected to a pilot administration.
The survey instrument was designed to obtain the information required to test the hypotheses set forth in the previous discussion. The relationship between the specific hypotheses and the items in the survey instrument will be addressed below.

Item 1 (Essence of decision) was an introductory question that also related to the decision topic query contained in H2.

H1 A positive correlation exists between 1) the amount of ambiguity in the decision-making environment and 2) the extent of search activity among informal communication networks for information sources during the related pre-decision process. This hypothesis is extended in Items 2 (degree of ambiguity or uncertainty in the decision making environment), in Item 3 (the blend of information search among formal and informal sources), and Item 4 (the amount of information search activity).

H2 The specific informal information sources selected will vary significantly with the subject topic of the decision under consideration. This hypothesis is extended by Item 1 (essence of decisions) and Item 6 (correlation between the decision topic and the selection of a specific ISIS).

H3 The behaviors and attributes ascribed to the information sources will closely resemble the behaviors and attributes previously attributed to liaison personnel and by communicators. This hypothesis is extended by Item 5 (relative position of ISIS) and by the latter portion of Item 6 (description of ISIS).
H4 The significantly preferred method of communication with the selected information source(s) will be person-to-person (face-to-face and/or telephone conversation). This hypothesis is extended by Item 7 (professed method of contact with ISIS).

ANALYSIS OF DATA:

The raw data obtained from the responses to this survey instrument were analyzed in several different fashions. The most basic analysis consisted of simple item counts that were converted into percentage responses. The other basic approach consisted of tests for correlation between the variables in the individual hypotheses and the respective information obtained from the survey items.

Item 1 was used as a base point for topic correlation with the ISIS selected and described in Items 5 and 6. Items 2, 3, and 4 were analyzed to determine the interaction between the degree of uncertainty in the decision-making environment and the resulting amount of search activity in relation to the amounts of ambiguity in the decision-making environment. Item 7 was examined by means of an item count to determine the most preferred method of contacting the ISIS for each decision.

These methods of analysis were employed to demonstrate the amount of reliance placed on informal information sources during the pre-decision process, to discover the relationships between the decision topic and the selection of source, to describe the characteristics of the selected information source, and to determine the most preferred method of contact with the information sources selected.
IV. PROCEDURES

In order to negotiate access to the target organization (Northern Region, U.S. Forest Service) a series of meetings were held with the Director of Administrative Management, Northern Region. The purpose of these meetings was to accomplish the following objectives:

1. Deriving a mutually acceptable definition of the term, manager.
2. Acquiring organizational assistance in developing three case problems of varying degrees of organizational ambiguity.
3. Receiving permission to conduct a pilot and main study among personnel in the Northern Region office.

The definition of the term "manager" was resolved with little difficulty. A manager was defined as a person with the authority to allocate organizational resources. Organizational resources were considered to include employee effort as well as the allocation of organizational funding.

With the cooperation of Forest Service personnel, three case problems were developed. These problems were designed to vary in perceived organizational ambiguity. The objective was to provide problems portraying a highly ambiguous situation (Problem 1), a routinely ambiguous situation (Problem 2), and a situation with little or no ambiguity (Problem 3).

Organizationally relevant case problem outlines for each of the varying conditions of ambiguity were provided by Forest Service management personnel. These outlines were expanded into the three case problems statements. Each of these problem statements was revised until it had a Gunning Fog Index of 7 or less. (Van Dersol:1962) It was anticipated that keeping the readability index well below that of the eighth grade reading level would reduce the complexity of the questionnaire and
thus enhance the probability return and reduce the amount of time required to complete the questionnaire.

The development of these case study problems allowed the completion of a paper and pencil survey instrument. This instrument consisted of seven items (see Appendix III). A variety of responses were required since the instrument employed a variety of questioning techniques. The most frequently used technique was the one employing Likert-type scales followed by multiple-choice responses and yes/no answers. With the exception of Item 1, dealing with length of service at various organizational levels, all the items were designed to test the four hypotheses or portions thereof.

Item 2 was designed to ascertain the amount of perceived uncertainty associated with each of the case problems. The respondents were asked to rate each of the case problems on a scale of from 1 (low uncertainty) to 7 (high uncertainty). This item was formulated to establish the varying degrees of uncertainty for each of the case problems and to flow into the subsequent question items that related more directly to the testing of H1.

Item 3 requested that the respondent report on the blend between formal and informal information sources that would have been used for each of the case problems. Scales were presented that ranged from a value of 10 (totally formal sources) to 1 (totally informal sources). This item was designed to interact with Item 2 and show the relationship between the amount of ambiguity associated with the case problems and the recourse to informal information sources.

The fourth item contained two sets of Likert-type scales and requested that the respondents rate: 1) the amount of information search activity associated with each case problem and 2) the degree with which
this search activity would vary from similar problems of the same type. The scales concerning the amount of search activity ranges from 10 ("left no stone unturned") to 1 ("There is only one answer"). The scales on the degree of search activity variance ranged from extensive (10) to sub-normal (1).

Item 5 asked the respondents to indicate percentages of information search activity among four potential information source categories. This item was designed to establish the relationship between the degree of ambiguity associated with the case problems and the locus of information search activity. The four information source categories were: superior, colleague, subordinate, and external sources. This item was a direct extension of H1, i.e. higher ambiguity would result in more information search among informal sources. For the purposes of this study only the superior category was considered to be a formal information source.

The sixth item in the instrument was designed to test H2 (information source will vary with decision topic) and to develop a profile of the informally selected information source (ISIS). The available responses included characteristics that had previously ascribed to liaison personnel and key communicators (Jacobson and Seashore: (1951); Sutton and Porter: (1963).) An additional characteristic (unobtrusive sources of status/authority) was included to test the validity of some of the author's organizational observations which were associated with H3.

The final item in the questionnaire was designed to test H4 (method of communication with ISIS). It was hypothesized that the preferred method would be a person-to-person mode (face-to-face and/or telephone conversation). The responses available ranged from conversations at
scheduled meetings through the use of third party queries.

PILOT STUDY:

A study proposal was submitted and subsequently approved by Northern Region, U.S. Forest Service (Appendix I). Upon receipt of approval, a pilot study was begun. This pilot study was undertaken for the following purposes:

1) to test the degrees of ambiguity associated with the three hypothetical case problems;

2) to obtain reactions and comments that pertained to the clarity and readability of the instrument as well as suggestions for the improvement of the instrument;

3) to obtain information as to the amount of respondent time required for the completion of the questionnaire.

In order to accomplish these purposes, the basic questionnaire was augmented with separate pages that requested comments on the levels of perceived case problem ambiguity, general comments concerning the clarity and organization of the questionnaire and the amount of time required for completion of the questionnaire. (Appendix III).

SUBJECTS:

The fifteen subjects for this pilot study were selected by the Forest Service contact personnel. Two criteria were employed: 1) individuals that were acting or had acted as managers; and 2) individuals that were likely to respond to the queries contained in the survey instrument. The judgment of the contact personnel was completely vindicated inasmuch as all fifteen of the pilot study subjects returned completed survey instruments. All of the pilot study subjects occupied positions
within the offices of the Northern Region, U.S. Forest Service located in Missoula, Montana.

MATERIALS:

The survey materials consisted of the basic questionnaire, instructions for the completion of the pilot group comments (see Appendix 3) and pre-addressed and stamped envelopes that would allow the responses to be returned directly to the investigator. This technique reinforced the consistent striving for confidentiality and freedom of response. Since the pilot survey instruments were distributed through Forest Service channels, it was felt that a knowledge of the availability of a direct response channel would add to the validity of the individual responses ("The boss won't be able to see my comments"). The rationale and purpose of each of the items in the questionnaire have been discussed above in the initial portion of this chapter.

PROCEDURES:

The pilot study questionnaires were dispatched through internal message distribution channels using organizational routing slips. The replies were received by direct mail and were analyzed as indicated in the following section.

PILOT STUDY RESULTS:

All fifteen subjects responded and the evaluations of the degrees of ambiguity of the three case problems were considered significant for the purposes of this study. Sixty percent of the pilot respondents evaluated Problem 1 as highly uncertain. Six percent rated this problem as falling between "highly uncertain" and "about average." The remain-
Thirty-three percent of the respondents rated the problem as presenting a case of "about average" ambiguity.

Problem 2 was rated as "highly uncertain" by 67 percent of the respondents. Six percent rated the problem as "highly uncertain." The remaining 27 percent rated Problem 2 as "quite routine."

Problem 3 was designed to be "quite routine", that is, containing little or no ambiguity. Sixty-seven percent of the respondents evaluated this problem as "quite routine". This problem was rated as being "about average" by 20 percent of the respondents and as "highly uncertain" by 13 percent of the respondents.

After making minor revisions suggested by the pilot respondents, the questionnaire was submitted to the University of Montana Institutional Review Board for approval to conduct the major study. This approval was granted (Appendix II) and fifty of the revised questionnaires (Appendix III) were distributed through Forest Service channels. Selection of the individuals for the survey was made by Forest Service contact personnel and included all individuals in the Northern Region office who either presently occupied a managerial position, the authority to allocate organizational resources, or who had previously occupied such a position. The position of the respondents ranged from Deputy Regional Forester to that of Specialist and length of service ranged from one year to more than thirty years. This broad spectrum selection process resulted in a thorough sampling and offered an array of organizational perspectives with respect to the pre-decision information search process within the Forest Service.

Each questionnaire packet contained a stamped, self-addressed envelope so the replies could be returned directly to the researcher.
The questionnaires were distributed on 4 August 1980 and within a month 42 responses (84%) had been returned.

The responses to the individual questionnaire items were analyzed by a variety of statistical procedures that ranged from simple response count through a one-way analysis of variance for repeated measures. The results obtained and the statistical procedures employed for each item will be discussed in detail in the following section dealing with results.
V. RESULTS

The responses obtained from the forty-two returned questionnaires will be discussed in the sequence established by the survey instrument. Analysis techniques for each survey item or sub-item will be detailed during the discussion of the individual responses.

ITEM 1:

Item 1 was included in the survey instrument at the request of the Forest Service contact personnel cooperating with the research project. This item requested that the respondents indicate the total length of service with the Forest Service and to detail the years of service at the various Forest Service organizational levels. The results of these responses are reflected in Table 1.

<table>
<thead>
<tr>
<th>Location</th>
<th>Washington Region</th>
<th>Forest District</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Years</td>
<td>1.39</td>
<td>7.72</td>
<td>6.45</td>
<td>4.49</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
<td></td>
<td>.61</td>
</tr>
</tbody>
</table>

The data reflected in this table delineate an interesting phenomenon. The purpose of the target organization (Northern Region) appears to be to administer the subordinate levels (Forest) and to act as an interface with the higher echelons in the organization (Washington Office), yet there are few respondents who have experience at the higher organizational levels.

ITEM 2:

Item 2 contained three case problems that had been developed with the
assistance of Forest Service personnel. The case problems were designed to portray decision situations within the organization that ranged from highly uncertain to routine. The respondents were requested to rate the amount of uncertainty associated with each of the three case problems. The replies were tabulated and analyzed by means of the computer program for the analysis of variance for repeated measures. The results of this analysis are indicated in Table 2.

Table 2
(Item 2)

Analysis of Variance of Degrees of Perceived Ambiguity

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>395.21</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Subjects</td>
<td>99.21</td>
<td>41</td>
<td></td>
<td>*1.57</td>
</tr>
<tr>
<td>Between Problems</td>
<td>164.91</td>
<td>2</td>
<td>82.45</td>
<td>*51.57</td>
</tr>
<tr>
<td>Error</td>
<td>131.10</td>
<td>82</td>
<td>1.60</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.

The results of the calculations of the Scheffe' test for critical difference are shown in Table 3.

Table 3
(Item 2)

Scheffe' Contrasts Between Degrees of Perceived Ambiguity

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN RESPONSE</td>
<td>4.246</td>
<td>3.576</td>
<td>1.556</td>
</tr>
</tbody>
</table>

Contrasts:

\[ \bar{X}_1 - \bar{X}_2 \]
\[ \bar{X}_2 - \bar{X}_3 \]
\[ \bar{X}_1 - \bar{X}_3 \]

\[ *p < .05; \text{critical difference} = .69. \]
Since the survey instrument assigned higher values to the more ambiguous ratings, it would appear that both Problems 1 and 2 were considered as being more ambiguous than Problem 3. This response pattern was repeated in the other responses. Problems 1 and 2 were seen as more ambiguous than Problem 1, but not as being significantly different in the amount of ambiguity.

**ITEM 3:**

Item 3 asked the respondents to quantify the blend of formal versus informal search activity that would be required for each of the three case problems. The scales ranged from a value of 10 (ambiguous) to a value of 1 (routine). The responses were analyzed by means of the computer program and the results are shown in Table 4.

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1003.71</td>
<td>125</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Between Subjects</td>
<td>218.38</td>
<td>41</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Between Problems</td>
<td>321.47</td>
<td>2</td>
<td>160.74</td>
<td>28.42*</td>
</tr>
<tr>
<td>Error</td>
<td>463.86</td>
<td>82</td>
<td>5.66</td>
<td></td>
</tr>
</tbody>
</table>

*\(p < .05\).

The results of the calculations for the Scheffe' critical difference test are reflected in Table 5.
Table 5
(Item 3)
Scheffe' Contrasts of Blends of Search Activity
(Formal vs Informal)

<table>
<thead>
<tr>
<th>Problem</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Response</td>
<td>5.50</td>
<td>4.26</td>
<td>8.10</td>
</tr>
</tbody>
</table>

Contrasts:

\[ \bar{X}_1 - \bar{X}_2 = 1.24 \]
\[ \bar{X}_2 - \bar{X}_3 = -3.83 \]
\[ \bar{X}_1 - \bar{X}_3 = -2.60 \]

\[ \ast p < .05; \text{ Critical Difference } = 1.30 \]

Here, too, it appears that the Problems 1 and 2 are treated in essentially the same fashion with respect to the amount of recourse to formal sources.

ITEM 4:

The first portion of Item 4 requested that the respondents describe the amount of information search activity that would be required of each of the case problems. The rating scales ranged from a value of 10 (“Left no stone unturned”) to a value of 1 (“There is only one answer”). The responses were analyzed using a computer program for a one-way analysis of variance for repeated measures. The results of this analysis are indicated in Table 6.
Table 6
(Item 4, Part 1)
Analysis of Variance - Amount of Search Activity

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>1011.210</td>
<td>125</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Between Subjects</td>
<td>284.548</td>
<td>41</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Between Problems</td>
<td>362.048</td>
<td>2</td>
<td>181.024</td>
<td>40.711</td>
</tr>
<tr>
<td>Error</td>
<td>364.619</td>
<td>82</td>
<td>4.447</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .05.

The mean responses and the Scheffe' critical differences are shown in Table 7.

Table 7
(Item 4, Part 1)
Scheffe' Contrasts of the Amounts of Search Activity

<table>
<thead>
<tr>
<th>Problem</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Response</td>
<td>6.19</td>
<td>5.24</td>
<td>2.21</td>
</tr>
</tbody>
</table>

Contrasts:
\[
\overline{x}_1 - \overline{x}_2 = 0.95
\]
\[
\overline{x}_2 - \overline{x}_3 = 3.03
\]
\[
\overline{x}_1 - \overline{x}_2 = 3.98^*
\]

*p < .05; Critical Difference = 1.165.

The second portion of Item 4 asked that the respondents compare the amount of search activity for these case problems with that associated with similar type problems. The rating scales ranged from a value of 1 (Sub-normal) to 10 (Extensive). An analysis of variance program was employed and yielded the results indicated in Table 8.
Table 8  
(Item 4, Part 2)  
Analysis of Variance - Relative Degree of Search Activity  

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>684.04</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Subjects</td>
<td>128.71</td>
<td>41</td>
<td>3.18</td>
<td>46.29*</td>
</tr>
<tr>
<td>Between Problems</td>
<td>294.49</td>
<td>2</td>
<td>147.25</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>260.84</td>
<td>82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

The results of the calculations of Scheffe' critical differences are shown in Table 9.

Table 9  
(Item 4, Part 2)  
Scheffe' Contrasts for Relative Degree of Search Activity  

<table>
<thead>
<tr>
<th>Problem</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Response</td>
<td>6.33</td>
<td>5.36</td>
<td>2.71</td>
<td></td>
</tr>
</tbody>
</table>

Contrasts:
\[ \bar{X}_1 - \bar{X}_2 = .98 \]
\[ \bar{X}_2 - \bar{X}_3 = 2.64^* \]
\[ \bar{X}_1 - \bar{X}_3 = 3.28^* \]

*p < .05; Critical Difference = .98.

The data contained in these tables would appear to indicate the positive relationship between the amount of perceived ambiguity and the amount of information search activity in the managerial pre-decision process.

ITEM 5:  
Item 5 asked the respondents to indicate the percentages of the
different types of information sources that they would have sought for each of the three case problems. Four categories of information sources: superior, colleague, subordinate, and external source were offered. The mean percentages of the responses are indicated in Table 10. (Responses that did not total 100 percent were eliminated from the computation of the tabular data.)

<table>
<thead>
<tr>
<th>Source Consultation</th>
<th>Percentages of Mean Responses by Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Superior</td>
</tr>
<tr>
<td>Problem 1 (N=36)</td>
<td>28.61</td>
</tr>
<tr>
<td>Problem 2 (N=35)</td>
<td>23.17</td>
</tr>
<tr>
<td>Problem 3 (N=29)</td>
<td>21.38</td>
</tr>
</tbody>
</table>

These results would appear to indicate that decision makers in the target organization resort more to superiors as the amount of decision making ambiguity is increased. Colleagues and subordinates are selected more frequently with reductions in ambiguity levels.

ITEM 6:

The first portion of Item 6 was designed to determine the relationship between the ISIS (Informally Selected Information Source) and the decision topic. The second portion was designed for the purpose of acquiring a profile of the ISIS for each specific case problem.

In the first portion of the item the respondents were asked if they would seek out the same ISIS for each of the case problems. All of the
respondents indicated that they would not. The second portion of Item 6 queried whether the topic would have affected the choice of an ISIS and again all the respondents indicated that they would select a different ISIS for each different topic.

Table 11 reflects the percentage of responses dealing with the ISIS characteristics for each case problem. Because of incomplete responses to some of the questionnaires, the figures represent percentages of the total number of responses in all categories for each element of the item.

<table>
<thead>
<tr>
<th>Table 11</th>
<th>(Item 6, Part 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of ISIS</td>
<td>Percentage of Response</td>
</tr>
<tr>
<td>PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>Organizational Location</td>
<td></td>
</tr>
<tr>
<td>Work Group</td>
<td>7.41</td>
</tr>
<tr>
<td>Regional Office</td>
<td>8.64</td>
</tr>
<tr>
<td>External</td>
<td>18.52</td>
</tr>
<tr>
<td>Organizational Position</td>
<td></td>
</tr>
<tr>
<td>Managerial (Lines)</td>
<td>7.22</td>
</tr>
<tr>
<td>Managerial (Staff)</td>
<td>9.79</td>
</tr>
<tr>
<td>Subordinate</td>
<td>4.64</td>
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<tr>
<td>Colleagues</td>
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<tr>
<td>Consultant</td>
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<tr>
<td>External Source</td>
<td>11.34</td>
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<tr>
<td>Communication Activity Requirement</td>
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<tr>
<td>Immediate Organization</td>
<td>8.43</td>
</tr>
<tr>
<td>Organization (RO)</td>
<td>10.24</td>
</tr>
<tr>
<td>Within and Without (RO)</td>
<td>18.67</td>
</tr>
<tr>
<td>Little Communication</td>
<td>.12</td>
</tr>
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<td>PROBLEM</td>
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<td>-------------------------------------------</td>
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<tr>
<td><strong>Communication Freedom</strong></td>
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</tr>
<tr>
<td>Immediate Organization</td>
<td>8.18</td>
</tr>
<tr>
<td>Organization (RO)</td>
<td>6.82</td>
</tr>
<tr>
<td>Outside Organization</td>
<td>7.27</td>
</tr>
<tr>
<td>Within and Without (RO)</td>
<td>10.91</td>
</tr>
<tr>
<td>Reluctant to Communicate</td>
<td>1.82</td>
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<tr>
<td><strong>Years of Organizational Service</strong></td>
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<tr>
<td>0-10</td>
<td>6.11</td>
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<td>10-20</td>
<td>9.16</td>
</tr>
<tr>
<td>20+</td>
<td>14.50</td>
</tr>
<tr>
<td>N/A (Outside Source)</td>
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<tr>
<td><strong>Unobtrusive Sources of Authority</strong></td>
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<tr>
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<tr>
<td>Outside Organization</td>
<td>7.84</td>
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<tr>
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<td>14.71</td>
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</table>

The responses reflected in the above table indicate that this ISIS is likely to be a member of the immediate work group or someone that can be easily contacted (Regional Office). As predicted, the majority of the ISI occupied managerial positions. An interesting aspect of these responses is that subordinates were consulted slightly more often than colleagues.

Again as predicted, the organizational position required considerable communication activity both within and outside the organization and only 3.64% of the ISIS were described as being reluctant to communicate. This finding supports earlier research by Somovar et al. (1969) which placed administrators among those persons who spent the highest percentage of their time speaking and listening (304). The ISIS tended to have considerable organizational experience with over 65% having more than 10
Years with the organization. Unobtrusive sources of status/authority were primarily related to the organizations, but approximately 20 percent of the ISIS were described as having status/authority that derived from extra-organizational sources.

ITEM 7:

The final item in the questionnaire concerned the preferred means of communicating with the ISIS. The respondents were offered a selection of communication modes ranging from scheduled meetings to the use of third party intermediaries. The percentage of total responses for each mode are shown in Table 12.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>X RESPONSE</th>
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<tr>
<td>Face-to-face Conversation</td>
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<td>Scheduled</td>
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<td>27.08</td>
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<tr>
<td>Unscheduled</td>
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<td>35.42</td>
<td>40.91</td>
<td>30.78</td>
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<tr>
<td>Telephone/Intercom</td>
<td>48.00</td>
<td>33.33</td>
<td>31.82</td>
<td>37.72</td>
</tr>
<tr>
<td>Telegra/Telex</td>
<td>--</td>
<td>--</td>
<td>2.27</td>
<td>.76</td>
</tr>
<tr>
<td>Written Communication</td>
<td>6.04</td>
<td>17</td>
<td>9.09</td>
<td>6.42</td>
</tr>
<tr>
<td>Third Party</td>
<td>--</td>
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</tr>
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</table>

As predicted, the preferred methods of communication were face-to-face or telephone conversation.
VI. DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

This final portion of the study will be comprised of three sub­sections. The first sub-section will consist of a discussion of the in­formation displayed in the tabular data in the section on results. The second sub-section will consist of an analysis of the varying degrees of support for the individual hypotheses and the final sub-section will dis­cuss the implications of this inquiry.

DISCUSSION:

The data contained in Table 1 (Distribution of Respondent's Organiza­tional Experience) indicate a considerable amount of experience with the Forest Service. The average length of service with the Forest Service was 20.66 years. The longest average length of service at a specific organizational level was at the Regional Office, the target organization, and was 7.72 years. This was followed by an average of 6.45 years of service at the Forest level, subordinate to the Regional Office, and an average of 4.49 years service at the District level, sub­ordinate to the Forest offices. While the individual lengths of service varied from one year to over thirty years, the responses encompass a group with considerable managerial and organizational experience.

This depth of organizational experience may serve as an explanation for the facility with which the respondents appear to communicate within the organization. The average length of time spent with the Regional Office and the commonality of experiences derived from the length of service at the Forest and District levels could provide similar frames of reference and long standing working relationships. These factors would tend to promote an environment where there would be reduced commu­nication apprehension. This assessment would appear to be reinforced by
the data contained in Table 5 and 10 which show a considerable use of formal information sources, especially superiors, during the information acquisition process.

While recourse to a superior is considered recourse to a formal information source for the purposes of this study, it should be remembered that Burns (1954) found that in conversation between superiors and subordinates that the superiors considered the majority of the conversations to be directive in nature, while the subordinates considered these same conversations to be either informative or advisory. Given the respondent's mean length of experience in the organization and the commonality of organizational backgrounds, it is quite likely that consultation with a superior would not be perceived as recourse to a formal information source.

Item 2 requested that the respondents use a linear scale to rate the three case problems with respect to the degrees of perceived ambiguity. The analysis of variance resulted in an F-ratio of 51.57 ($p < .05$) between the case problems. The calculations for the Scheffe' contrasts showed that the differences in perceived ambiguity between Problem 1 (highly ambiguous) and Problem 2 (normally ambiguous) were not significant. It was, however, highly possible that Problem 3 (routine) was considered less ambiguous than Problem 2 or Problem 1 (see Tables 2 and 3 in the Results section).

This pattern of difference, but no significance between the amounts of perceived ambiguity between case Problems 1 and 2 and considerable differences in the perceived ambiguity of Problem 3 (routine) and Problems 1 and 2 was repeated consistently throughout the questionnaire responses that dealt with evaluations of the three case problems. This results left
the investigator in a position of dealing with two levels of ambiguity instead of the original three.

The data resulting from the responses to Item 3 (Blend of Search Activity among Formal and Informal Sources) reflected a between problem F-ratio of 28.42 (p < .05). The Scheffe' contrasts again indicated a difference that failed to reach significance between the responses for Problems 1 and 2 and a significant difference between the responses between Problem 3 and Problems 1 and 2 (see Table 5). These results would appear to indicate that in ambiguous situations managers tend to blend the information search activity between formal and informal sources, while more routine decisions elicit recourse to formal sources. The fact that the routine problem involved personnel matters may have some bearing on these results.

In Item 4 the respondents were asked to describe the amount of information search activity that would be associated with each case problem. Here again the differences between Problems 1 and 2 did not achieve significance. However, the differences between Problems 3 and Problems 1 and 2 were significant (see Tables 6 and 7). These data would appear to indicate that there is a direct relationship between the degree of decision-making ambiguity and the amount of information search activity that takes place during the pre-decision making-process.

The second portion of the Item 4 asked the respondents to compare the amount of search activity for the case problems with the amount of search activity required for problems of a similar degree of ambiguity. The responses again followed the pattern previously discussed with no significant difference between Problems 1 and 2 while indicating a considerable significant difference between Problems 3 and Problems 1 and 2 (see Tables 8 and 9).
Item 5 asked the respondents to assign by percentage the types of information sources that would have been sought for each of the three case problems. An examination of the data contained in Table 10 reveals that recourse to superiors tends to reduce with the reduction in the degrees of perceived ambiguity, while consultation with colleagues tends to increase as the degree of perceived ambiguity decreases. Across the spectrum of ambiguity presented by the case problems, the source most frequently consulted was a colleague ($\bar{x} = 34.06\%$).

Item 6 was designed to ascertain the relationship between the decision topic and the selection of an ISIS (Informally Selected Information Source). It was also hoped that a profile of the ISIS could be developed from the responses to the queries regarding the characteristics of the ISIS for each problem. Each respondent indicated that they would have selected a different ISIS for each problem and that the topic would have affected the choice of a specific ISIS.

The responses with respect to the characteristics of the ISIS contained in Table 11 indicate that the majority of the ISIS (71.6\%) are located either within the immediate work group (32.09\%) or the local organization (39.51\%). The organizational position occupied by the ISIS tended to be managerial (Line = 13.92\% : Staff = 27.32\%). Subordinates were selected as ISIS about as frequently (20.62\%) as were colleagues (20.10\%). The number of consultations with line managers decreased with the amount of perceived ambiguity, while the selection of staff personnel as ISIS seemed relatively constant across the ambiguity spectrum. The ISIS tend to occupy positions that require considerable communication activity within their immediate organization or work group (25.29\%), within the larger organization (26.51\%), and both within and outside their
organizations (31.93%). This position related requirement for communication activity of the part of the ISIS is reinforced by the responses that indicated that only 3.64% of the ISIS were reluctant to communicate freely. The respondents indicated that the ISIS tended to be selected from personnel with considerable organizational experience. The individuals most frequently selected were among those with 10 to 20 years' experience with the organization (35.88%) and the next most frequently selected ISIS were from the group with over 20 years of organizational experience (30.53%). Given the average length of service of the respondents, these data would appear to reinforce the consultation with superiors (over 20 years service) reflected in Table 10.

The responses to the query on unobtrusive sources of status or authority (non-position related) of the ISIS indicated that the majority of the ISIS (53.93%) had sources of authority or status within the organization that were not directly related to their job or position. The respondents did acknowledge that extra-organizational factors could be a status/authority determinant by indicating that 20.58% of the ISIS had sources of authority or status that originated outside the organization.

The final item in the questionnaire asked the respondents to describe the preferred method of communication with the ISIS for each problem (Table 12). For the purposes of this study face-to-face conversations and telephone communications were considered to be similar. The responses reflected that the preferred method of communication with the ISIS was face-to-face mode (55%) with 24.33% of the conversations being scheduled and 30.78% of the conversations unscheduled. Telephone conversations were the most popular means of communication accounting for 37.72% of the communication interactions for the three case problems. An interesting aspect of the responses to this item was that the reduction in
face-to-face contacts reduced with the reduction in perceived ambiguity, while the number of unscheduled communication contacts increased with the reduction in perceived ambiguity. Telephone conversations also appeared to reduce with a reduction in the degree of perceived ambiguity (Table 12).

The conclusions derived from the results obtained with respect to the four hypotheses that were advanced will be addressed in the following subsection.

CONCLUSIONS:

This study was undertaken for the purpose of testing four hypotheses concerning the use of informally selected information sources during the managerial pre-decision making process. The results obtained have been displayed in the above tables and discussed briefly in the preceding subsection. This sub-section will address each of the hypotheses in turn and offer conclusions as to the degree of support obtained for each hypothesis.

H1 postulated that there is a positive relationship between the amount of ambiguity in the decision-making environment and the extent of information search activity among informal information networks. This hypothesis received somewhat guarded support. The term "guarded" is employed because the respondents did not make a significant discrimination between Problem 1 (highly ambiguous) and Problem 2 (normal ambiguity). They did, however, consider Problem 3 (routine) to differ significantly from Problems 1 and 2 and the data (Tables 4 and 5) indicate that there is a definite tendency to seek informal information sources under conditions of increased decision-making ambiguity.

H2 proposed that the selection of the informally selected information source would vary with the decision topic. This hypothesis was
supported. Each of the respondents reported that they would have selected a different informal information source of each of the three case problems and that the specific problem topic would have affected their selection of an informal information source. The consistent support for this hypothesis would appear to verify the existence of the overlapping and multiple informal organizational communication networks that have been previously described by Davis (1953) and other early researchers.

H3 postulated that the informally selected information source (ISIS) would have organizational attributes and personal characteristics that would closely resemble those previously associated with liaison personnel and key communicators. This hypothesis received more than adequate support. The ISIS is most likely to be a colleague (Table 10), is most likely to be located in the respondent's organization, most likely to be a manager, have a position that requires considerable communication activity, communicate freely, have considerable experience with the organization, and have unobtrusive sources (non-position related) of organizational authority or status (Table 11).

H4 postulated that the significantly preferred method of communication with the ISIS would be face-to-face or telephone conversations. This hypothesis was supported. Only 7 percent of the reported communications with the ISIS employed a written mode.

In reviewing the data presented in Tables 1 through 12, it would appear that all the hypotheses were supported by the data and analyses. Support for H1 is not as firm as the support for other hypotheses.

IMPLICATIONS:

The implications contained in this study fall into the categories of validation, generalization, application and investigation.
Validation: The results of this study appear to validate the earlier work in this area that was conducted by Davis (1953b), Sutton and Porter (1968), Jacobson and Seashore (1951), and Walton (1961) with respect to the existence and cooperation of informal communication networks in organizations. These informal information networks do exist. They are used extensively in the information acquisition process and are specialized with respect to decision-related topics.

Of particular interest were the results that combined the concepts of the liaison personnel with those of the key communicator. The ISIS (Informally Selected Information Source) concept developed for this study shows a blending of these concepts into an identifiable profile of an information source. The key communicator identified by Sutton and Porter (1968) is also very likely to be the liaison person described by Jacobson & Seashore (1951). The results of this study would also seem to weaken belief in the "Godfather" or "Rabbi" concept. The data reflect that there is no one person in the organization to whom organizational members turn for information regardless of the decision topic.

Generalization: The results obtained should be generalized in a rather cautious fashion. The organization studied is a middle level governmental hierarchial segment serving as an interface between the National Forests and the National Forest Service Headquarters. This organizational position requires considerable communication activity from its members. Further, the average length of the respondent's organizational experience (over 20 years) and the average length of service (over 7 years) within the target organization may reflect a facility of communication that would not appear with the data concerning recourse to superiors and subordinates as informal information sources. The depth
of experience and length of time with the organization under study probably do not present an environment that can be duplicated in many organizations.

Application: As part of the consideration for being allowed to make this study, the target organization requested a report containing suggestions concerning methods for improving organizational communication. The major suggestion in this report (Appendix IV) was that senior management members hold periodic briefings on organizational objectives and progress towards those objectives for administrative support personnel.

Investigation: One of the areas of inquiry that would appear to be especially fruitful is to attempt to refine the profile of the ISIS across a variety of organizations. Once a closer identification is achieved, the personnel operating in the existing informal communication networks in other types of organizations could provide an organizational resource for the rapid dissemination of critical information through informal channels.

While not addressed by this particular study, it would appear that useful inquiries could be made into the relationships between gender and information source selections. With more women moving into the work force and up the managerial ladder it might prove helpful to investigate the gender-related aspects that affect the operation and use of informal communication networks in organizations.

Another area of inquiry that may prove to be of some benefit to management is the identification of locations where the ISIS tend to gather. The ISIS in this study appear to have remarkable similarities and would probably tend to frequent the same locations for coffee, lunch, meetings, etc. These locations could serve as dissemination points for appropriate information. It would also appear useful to delve more
deeply into the bases for unobtrusive (non-position related) organizational status. The data collected reflect that a significant number of the ISIS do have such unobtrusive status and the relationships between this attribution and their selection as an information source appear to merit further study.

SUMMARY:

This study was undertaken to test four hypotheses concerning the operation of informal communication networks in organizations during the information acquisition phase of the managerial pre-decision process. All of the hypotheses were supported. Recourse to informal information sources does increase with the degree of perceived ambiguity. The source selected is determined by the decision topic and is a person who communicates freely both within and outside the specific organization. The preferred methods of communicating with the informal information source is the face-to-face mode or by the telephone. This demonstrates that informal communications networks in organizations are employed under conditions of pre-decision-making and that because of their informal nature are not subject to organizational control.

This study reinforces and integrates the findings of earlier researchers in the area of informal organizational communication networks. It can also serve as a reference point for further studies that can serve to describe more accurately the characteristics of the various ISIS (Informally Selected Information Source) in various organizations. It is hoped that this more precise identification will assist practitioners of management and communication in their everlasting task of getting the right information to the right people in their organization. It is also
to be hoped that this study will allow managers to begin the process of identification of informal information sources within their organization.
VII. REFERENCES


APPENDICES
Mr. Louis N. Elmore
604 Continental Way
Missoula, Montana 59801

Dear Mr. Elmore:

We have reviewed and approved your proposal to use the Regional Office as a source of sample data for your Master's thesis.

People from the Information Office and our Administrative Management Staff will assist you with the identification and definition of some sample case "problems," a pilot test of the questionnaire, and selection of the people to be sampled in our Regional Office.

Your thesis work may identify some opportunities for us to increase the effectiveness of our operations through improved communications and information gathering techniques.

Upon completion of your thesis, I would appreciate a letter from you outlining any suggestions you may have relative to our improving our information and decisionmaking procedures.

Sincerely,

[Signature]

WARREN G. DAVIES
Deputy Regional Forester
UNIVERSITY OF MONTANA

E: August 4, 1980
O: Louis N. Elmore, Interpersonal Communication
M: University of Montana Institutional Review Board for Use of Human Subjects in Research

As a result of the deliberations by the University of Montana Institutional Review Board your proposed research project, Information Acquisition Phase of the Managerial Pre-Decision Process, has been approved and is considered a "no risk" project not requiring the written informed consent of the participants.

☐ has been conditionally approved and the conditions imposed by the Board are:

☐ has not been approved in its present form. The Board suggests that you:

NOTE: It is mandatory that you report immediately to the IRB:
1. Changes in procedures,
2. Unanticipated problems,
3. Adverse reactions of, or effects on, subjects.

Cc: Dr. Baker

H. R. Fevold, Chairman
Dear Folk:

My name is Lou Elmore. I am a graduate student in Interpersonal Communication at the University of Montana. Like most graduate students, I need to gather data for my thesis and I am asking for your help in this effort.

More specifically, the thesis deals with the search for information under different degrees of uncertainty during the pre-decisionmaking process. After we weed out the jargon from that last statement, we are left with the question of who you ask for information before you make a job-related decision? This is the area of interest for the thesis.

In return for your help in this study (completing the attached questionnaire), I would like to offer the following promises:

1) Permission for this study has been granted by Northern Region U.S. Forest Service.

2) All replies will be kept in the strictest confidence and individual replies will be destroyed after the data have been compiled. I am looking for numbers, not names.

3) Northern Region will be furnished with a copy of the completed thesis and an additional copy will be available at the Mansfield Library at the University of Montana.

Completing the questionnaire should take no more than thirty minutes and a stamped, self-addressed envelope is attached so that your reply may be returned directly to me.

Thanks again for your help and support.

Sincerely,

Louis N. Elmore

Enc.
INTRODUCTION:

As you can tell from the cover letter, you are being asked to assist in a study of the managerial pre-decision process in organizations. In order for this process to be meaningful, it might be helpful to define a few of the terms that are used throughout this questionnaire.

Manager, in the sense used here, refers to a person with the authority to allocate organizational resources. This authority can range from the allocation of megabucks to telling a typist which letter has priority. Each of these actions involves the allocation of organizational resources and therefore are managerial decisions.

Organization is used to designate two different types of groups. The first type of group, your immediate organization refers to the work group with which you identify. This work group might be designated as a team, a panel, a section, a committee, a branch, a division, an office, or a staff unit.

The more general term, organization refers to the personnel that are assigned to major organizational unit containing your work group. For example, Administration Management might be an immediate organization within the organization of the Northern Region, U.S. Forest Service. As used here, organization does not refer to operating levels above or below your organizational levels, the Washington Office and the Forest offices would not be included in your organization.

This will be mentioned later in this questionnaire, but there are a number of sources of information that any of us might use to gather data prior to making a decision (Formal sources, experience, documentation, etc.) The sources of interest in this study are people. Is there someone you would ask for advice or information when faced with making a decision? Would you go to the same person for advice/information on all topics? How would you describe this person? This is what this study is seeking to determine.

Now that we have waded through all of the above, would you share with me some information about yourself? This information is designed to provide a profile of decision makers, but not to identify you as an individual.

1) How many years have you been with the Forest Service? _______

2) Would you please indicate the approximate number of years that you have served at the various levels or the Forest Service organization. If you have not served at a particular organizational level, please mark the level with an "x".

   a) Washington Office __________ years.
   b) Regional office ___________ years.
   c) Forest level _____________ years.
   d) District ____________________ years.
e) Other ________________ years.

3) Would you please indicate the type of position you now occupy (e.g., specialist, staff director, scientist, etc.) ________________.

The remainder of the questionnaire will ask you to answer questions as to how you would go about gathering information you would need to solve several different types of problems.

Please answer as accurately as you can.

Thank you.
1. Set forth below are three short case problems of the sort that might be encountered in your organization. Please take a few minutes and familiarize yourself with each problem. Each of these problems should have a different degree of uncertainty. If any of these cases could not apply to the position that you hold, please think of a similar type problem that would apply to the discharge of your organizational duties. After looking over the problems, you will be asked to answer some question. Please answer these questions as though these were real-life situations that came up in the course of your work. As is usual in questionnaires of this sort, all replies will be kept in the strictest confidence!

PROBLEM 1 One of the roads in your area has been severely damaged by floods. The repair costs will use up most of your road budget. The repairs can not be delayed. The Federal Highway Administration has said that they may have the funds for the repairs. They will know by the last of August. You must decide by July 1st whether to use your funds or bet that the Federal Highway Administration will make the repairs.

PROBLEM 2 You know that Energy Conservation Measures will affect the operation of your unit during the next field season. You are not sure how severe the constraints will be. They could be in the form of miles or gallons of fuel. Should you contract for on-site camp facilities or continue to drive to the job site?

PROBLEM 3 Your unit has just received the rules on flex time. These rules say that all personnel must be in the office from 9-11 a.m. and from 1-3 p.m. One of your workers wants to take only 15 minutes for lunch and leave at 2:15 p.m.

2. After reviewing these problems, please indicate the degree of uncertainty that you might expect to find in your organizational setting while searching for a decision for each type of problem. The degrees of uncertainty could range from high (What in the world do I do now?) to low (There is only one way to handle this). Please indicate the degree of uncertainty that you would associate with each of the problems, or problems of a similar type by circling a number on the scales provided below. A seven on the scale would indicate a high degree of uncertainty, while a one would indicate a low degree of uncertainty or near certainty. A four
on the scale would represent the degree of uncertainty that you would consider normal in your decision making environment on this particular topic.

Degree of Uncertainty

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<tr>
<th>Problem 1</th>
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<th>Low</th>
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3. At some stage in this pretend pre-decision process you would seek information that might have a bearing on your decision. In many organizational settings this information comes from a blend of formal sources (directives, manuals, procedure guides, letters of instruction, directions from your boss, etc.) and informal sources (conversations with your peers or equals within or outside your organization, suggestions from your subordinates, or other sources, etc.) Please indicate your estimate of what this information blend would be for each of the three problems. If all of your information would come from formal (official/supervisor) sources, then mark a ten on the scale. If all of your information would come from informal (unofficial/other) sources, then mark a one on the scale. If 50 percent of your information would come from formal sources then you would mark a five on the scale, and so on.

Please remember that you are to consider only that information for which you would make an active search. (Your experience is not an information source for the purpose of this study.)

<table>
<thead>
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<td>5</td>
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<tr>
<td>Problem 3</td>
<td>10</td>
<td>2</td>
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<td></td>
<td>9</td>
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</table>
4. Now please describe the amount or extent of information search activity that would be required for each of the three problems and circle an appropriate number on the following scales.

If the information search would involve great deal of activity on your part, circle a 10. If little or no search activity would be required, then circle a 1. Average or normal amounts of information search activity would be indicated by circling a 5 and so on.

<table>
<thead>
<tr>
<th>Problem</th>
<th>High-(Left no stone unturned)</th>
<th>Average</th>
<th>Low-(There is only one answer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem 1</td>
<td>10</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Problem 2</td>
<td>10</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Problem 3</td>
<td>10</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

Now please consider these three problems and the amount of search activity that they would require. Based upon your experience and judgement would you say that the amount of information search activity for each problem would be normal, above normal, or below normal for the specific problem topics? Please indicate on the scales below the relative degree by which the amount of information search for these problems would vary, if at all, from the amount of information search for decisions of this type and relative degree of importance.

<table>
<thead>
<tr>
<th>Extensive</th>
<th>Average</th>
<th>Sub-normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem 1</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Problem 2</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Problem 3</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

5. Most people occupying positions of responsibility in organizations tend to classify other members of the organization as either colleagues (peers or equals), superiors or subordinates. If you would have sought informal information sources during the pre-decision process leading to
solutions to the three case problems, please indicate the relative percentage of the sources from each category that you would have consulted. If you would have sought information from persons outside your organization, (Regional Office), for example a spouse, a friend, a relative, outside agency, etc., please indicate those exterior sources as well.

Problem 1 - Superior ___% Colleague ___% Subordinate ___% Ext. Source ___%
Problem 2 - Superior ___% Colleague ___% Subordinate ___% Ext. Source ___%
Problem 3 - Superior ___% Colleague ___% Subordinate ___% Ext. Source ___%

NOTE: At this point it would be helpful to jot down on some scratch paper the names of the most important informal information source that you would have selected for each of the three problems. You will be asked to describe some of the characteristics of these individuals in the next portion of the survey. Thank you.

6. Listed below are brief descriptions of various behaviors, organizational characteristics, and sources of authority or status for informal information sources. Please indicate which of these descriptive phrases might best apply to the informal source you would have selected during your information search prior to solving problems 1 through 3.

If you would have selected more than one information source for any of your problems, describe the one information source that you would have considered to have been the most helpful in solving your problem. Please indicate only those descriptions that would have applied to your one particular problem information source. In the interests of brevity, we will refer to your Informally Selected Information Source by the acronym, ISIS.

Please refer to your scratch notes and determine the ISIS that you would have sought out in gathering information for your three problems. Would you have sought out the same ISIS for all of your problems?

Yes ___ (I would have used the same source for all of my problems)
No ___ (I would have used different sources for different problems)
If your response was NO to the above item, reflect for a moment and match the ISIS for each problem with the topic for that problem. Would the problem topic have affected your choice of an ISIS?

Yes __

No ___ (Would have used the same ISIS for all of the Problems)

In the section below you will be asked to describe the ISIS you would have used for each of your problems. You may indicate the appropriate description by circling the number for the problem (1 through 3) to the right of the descriptive phrase. If you would have used the same ISIS for all of the problems, please circle the ALL to the right of the description.

**PROBLEMS**

The ISIS for your problem(s) would have been:

- a. a member of your immediate organization (work group) 1 2 3 All
- b. a member of your organization (RO) 1 2 3 All
- c. not a member of your organization (RO) 1 2 3 All

The position occupied by ISIS is:

- a. managerial (line officer) 1 2 3 All
- b. managerial (staff) 1 2 3 All
- c. Subordinate 1 2 3 All
- d. a colleague inside your organization 1 2 3 All
- e. a consultant retained by your organization 1 2 3 All
- f. someone outside your organization (RO) 1 2 3 All

The position (job) of ISIS requires considerable communication activity:

- a. within your immediate organization 1 2 3 All
- b. within your organization (RO) 1 2 3 All
c. both within and outside your organization (RO) & 1 & 2 & 3 & All 
d. does not require much communication activity & 1 & 2 & 3 & All 

ISIS communicates freely (without apprehension) with others:

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<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. within your immediate organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. within your organization (RO)</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>c. outside your organization</td>
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<tr>
<td>d. both within and outside your organization</td>
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<tr>
<td>e. ISIS is reluctant to communicate freely</td>
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ISIS length of time with your organization (Forest Service) is:

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<th>3</th>
<th>All</th>
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</thead>
<tbody>
<tr>
<td>a. less than ten years</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b. between ten and twenty years</td>
<td></td>
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<tr>
<td>c. more than twenty years</td>
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<tr>
<td>d. not applicable (outside source)</td>
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ISIS has sources of status or authority not directly related to their job or position:

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<th>2</th>
<th>3</th>
<th>All</th>
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<tbody>
<tr>
<td>a. within your organization (RO) (for example, membership on special committees, personal relation(s) with higher management or staff individuals, etc.)</td>
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<tr>
<td>b. outside your organization (for example, positions of authority in social, fraternal, service, or church group(s), social status in the local community, union position, athletic prowess, etc.)</td>
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<td></td>
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<tr>
<td>c. ISIS is not a member of my organization</td>
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</table>

7. Please indicate below the method you would have used to contact your ISIS for each problem. Circle the one and only one most probable method for each problem.
a. face-to-face conversation

   1. Scheduled (by appointment/or periodic meeting)  
      1 2 3 All
   2. Unscheduled (drop in/happenstance)  
      1 2 3 All

b. telephone/intercom  
   1 2 3 All

c. telegram/telex/computer  
   1 2 3 All

d. written communication (letter/memo, etc.)  
   1 2 3 All

e. third party )"Check with ___________ and see what ___________ thinks."
   1 2 3 All

Thanks so much for your help in completing this questionnaire. It really is appreciated. All of your responses will be confidential and a copy of the results of this study will be furnished to your organization.

PLEASE RETURN THIS QUESTIONNAIRE IN THE ENVELOPE PROVIDED. A SPEEDY RESPONSE WOULD SURE HELP.

THANKS AGAIN!

Louis N. Elmore
15 December 1980

Mr. Raymond F. McLaughlin
Director, Administrative Management
Northern Region
U.S. Forest Service
Missoula, Montana 59807

Dear Ray:

When granting approval for my research project, Mr. Davies requested that I identify opportunities for improving communications in the Northern Region. Since I understand that he is no longer assigned to Northern Region, I am taking the liberty of forwarding a few observations and suggestions to you for whatever action you deem appropriate. You will also receive a copy of my approved thesis and will be able to place your interpretations on the data it contains.

First, a few observations. The respondents to the survey appear to communicate quite freely both vertically and horizontally within the organization. I suspect that the major factors contributing to this ease of communication are the average length of total service, nearly 21 years, and the average length of time, nearly 8 years, spent at the Regional Office. The conclusion that may be drawn here is that the respondents have considerable experience with the Forest Service and the operations of the Regional Office and thus are well established in the existing informal communication networks.

One area of interest is the apparent paucity of respondent service at the Washington Office, less than 2 years on the average. If the Regional Office is viewed as an interface between the Forests and the Washington Office, these results would indicate the personnel in the Regional Office tend to communicate more freely with the Forests and Districts than with the Washington Office. This disparity may be more apparent than real, perhaps only a few of the respondents need to communicate with the Washington Office? However, if this need exists, the best method of establishing working communication channels is through continual person-to-person contact on a frequent basis, meetings, informal interactions, and simple propinquity.

As far as improving your internal communications, I would suggest a periodic briefing for administrative assistants and other personnel that direct message flows. This briefing should be short and be conducted by the most senior person available. The briefing agenda should include a discussion of organizational objectives, progress toward those objectives, and a question and answer session. Closed door meetings may not be appropriate for your organization, however, my experience has been that these type of meetings can provide excellent opportunities for frank, unfiltered organizational feedback.

You had previously mentioned some concern about the operations of the "underground" or rumor control. The articles in my bibliography contain excellent sections on rumor control. (See especially: Allport
and Postman, Caplow and K. Davis). These findings can be summarized as follows:

1) Do not try to trace the source of a rumor; it cannot be done.

2) Do not acknowledge the content of a rumor; it lends more credibility to the rumor.

3) Do disseminate the factual information through official channels as rapidly as possible. Use the highest possible and most credible official source.

My thanks again for the invaluable assistance that you and Lynn Mason have provided. If you desire my amplification of my comments in the thesis, please call me at 728-2998.

Sincerely,

Louis Elmore