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# Organizational commitment, attitudes toward information, and the use of formal and informal information in evaluating the performance of subordinates

Peter Francis Oehlers

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**ORGANIZATIONAL COMMITMENT, ATTITUDES  
TOWARD INFORMATION, AND THE USE OF  
FORMAL AND INFORMAL INFORMATION  
IN EVALUATING THE PERFORMANCE  
OF SUBORDINATES**

by

Peter Francis Oehlers. B.S., M.B.A., C.P.A., C.M.A.

A Dissertation Presented in Partial Fulfillment  
of the Requirement for the Degree  
Doctor of Business Administration

COLLEGE OF ADMINISTRATION AND BUSINESS  
LOUISIANA TECH UNIVERSITY

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We hereby recommend that the dissertation prepared under our supervision  
by Peter F. Oehlers

entitled Organizational Commitment, Attitudes Toward Information, and the Use of Formal and Informal  
Information in Evaluating the Performance of Subordinates

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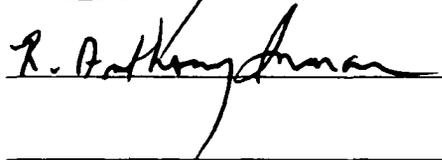
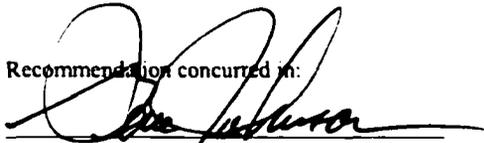


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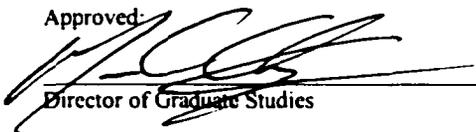
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Recommendation concurred in:



Committee

Approved:



Director of Graduate Studies



Dean of the College

Approved:



Director of the Graduate School

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## **ABSTRACT**

Formal information is information developed by the organization which is recognized and sanctioned by senior management. All other information is, by definition, informal. In this regard, this study was performed to gain insights into the relationship between Relative Attitude toward Formal Information (as opposed to informal information) and Relative Use of Formal Information (as opposed to informal information) in the performance appraisal process. Additionally, this study was undertaken to gain insights into the relationship between Organizational Commitment and Relative Use of Formal Information in the performance appraisal process.

Data was collected from members of the Institute for Supply Management (formerly National Association of Purchasing Management) using a questionnaire survey instrument. The primary statistical analysis technique employed in the study was multiple regression with univariate procedures used to a lesser extent. While the results of the study do not suggest the existence of a relationship between Organizational Commitment and Relative Use of Formal Information, the results of the study do suggest that appraisers in this sample used relatively more formal information when making termination decisions than when making other performance-related decisions (i.e., periodic performance reviews, merit pay adjustments, and promotion decisions). This finding seems extremely plausible

given the legal and regulatory environment surrounding the termination process. In turn, this finding should “give comfort” to all stakeholders in the performance appraisal process.

Additionally, the results of this study suggest that the Information Coverage dimension of Relative Attitude toward Formal Information is positively associated with Relative Use of Formal Information with respect to periodic performance reviews, merit pay adjustments, and promotion decisions. In contrast, Relative Use of Formal Information with respect to termination decisions is positively associated with the Information Accuracy dimension of Relative Attitude toward Formal Information as well as two appraiser attributes—Years in Current Position and Union Membership of Subordinates.

KEY WORDS: Formal Information. Organizational Commitment,  
Performance Appraisal Process

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# **CHAPTER 1**

## **INTRODUCTION**

Managers, at regular intervals, are required to appraise subordinates' performance to provide input for pay, promotion, and retention decisions. Performance appraisal is described as the process of identifying, observing, measuring, and developing human performance in organizations (Carrol and Schneir, 1982). Similarly, performance appraisal is also described as the process by which organizations evaluate individual job performance (Werther and Davis, 1996). Both descriptions of performance appraisal display an obvious need for information.

Johnson (1986, 114) found that "informal information is relied upon relatively more than formal information in all four of the performance-related decision situations studied: pay, promotion, termination and periodic appraisal." Additionally, Johnson (1986, 120) found a strong association between the following constructs: Attitude toward Formal (and Informal) Information and the Relative Use of Formal (and Informal) Information. Grounded in the results of Johnson (1986), this study is designed to gain insights regarding the relationship between Relative Attitude toward Formal Information (i.e., a construct defined as the difference between Attitude toward Formal Information and Attitude toward Informal Information) and Relative Use of Formal Information (Johnson, 1986) in the

performance appraisal process. Additionally, this study is designed to gain insights regarding the relationship between Organizational Commitment (e.g., Mowday, Steers, and Porter, 1979) and Relative Use of Formal Information (Johnson, 1986) in the performance appraisal process.

### Formal Information and Informal Information

Johnson (1986) and Clancy and Collins (1979) suggest that **formal information** is information, developed by the organization, which is recognized and sanctioned by senior management. Stated otherwise, formal information represents the output of formal information systems. Formal information systems can be characterized by policies, procedures or other documentation. Formal information can be numeric or nonnumeric in nature.

Johnson (1986) and Clancy and Collins (1979) suggest that **informal information** is information that is not developed by the organization, and is not recognized or sanctioned by senior management. Informal information may be in numeric or non-numeric form and may be perceived by some managers as a supplement to or a replacement for formal information. Johnson (1986, 3) suggests that informal information systems can “range from detailed records maintained methodically, to hearsay, rumor and memory.” It is not surprising that “recent lawsuits argue that, far from being objective, such [performance] appraisals are influenced by manager’s personal biases” (Goldstein, 2001, 61). In this regard, this study is designed to gain additional insights regarding two specific personal

“biases”<sup>1</sup>—**Relative Attitude toward Formal Information and Organizational Commitment**—in the context of the performance appraisal process.

Hunt and Morgan (1994, 1568) suggest that Organizational Commitment is an individual’s (1) belief and acceptance of organizational goals and values, (2) willingness to exert effort toward organizational goal accomplishment, and (3) strong desire to maintain organizational membership. Under the assumption that an appraiser with a higher level of Organizational Commitment is likely to “comply with organizational rules,” an appraiser with a higher level of Organizational Commitment is likely to choose performance appraisal information sanctioned by the organization, that is, formal information. Relative Attitude toward Formal Information represents the difference between two concepts evaluated in Johnson (1986)—Attitude toward Formal Information and Attitude toward Informal Information. A positive Attitude toward Formal Information suggests that an appraiser has a favorable disposition toward formal information. In turn, a positive Attitude toward Informal Information suggests that an appraiser has a favorable disposition toward informal information. In essence, Relative Attitude toward Formal Information represents the extent that the appraiser’s Attitude toward Formal Information exceeds the appraiser’s Attitude toward Informal Information.

#### Relative Use of Formal Information

Relative Use of Formal Information is defined as the extent to which formal information is perceived to be relied upon (as opposed to informal information) in the

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<sup>1</sup>One definition of bias is “an inclination of temperament or outlook” (Webster’s, 1991).

performance appraisal process (Johnson, 1986, adapted). In this regard, a seven-point Likert scale (1 = 100% Formal; 7 = 0% Formal) was employed to measure Relative Use of Formal Information. With respect to the extreme responses, "100% Formal" would suggest that only formal information was perceived to be relied upon in the performance appraisal process whereas "0% Formal" would suggest that no formal information was perceived to be relied upon in the performance appraisal process. As an example of a non-extreme response, "50% Formal" (i.e., 4 = 50% Formal) would suggest that, of all of the information perceived to be relied upon in the performance appraisal process, only 50% of such information was perceived to be formal information; in turn, the other 50% of such information was perceived to be non-formal information, that is, informal information.

#### Role of Accountants/Auditors in the Performance Appraisal Process—The Motivation

Johnson (1986, 2) suggests that it "... is naive to assume that individuals rely strictly on the output of formal information systems when making performance related judgments and decisions." However, Johnson (1986, 119) also states that the ...

"... relatively greater use of informal information than formal information in performance-related decision making suggests a discrepancy between the formally agreed upon rules of governance in the organization and the true system of rewards. Implied is a propensity for contractual disputes, particularly when the formal system is intended to assure legal compliance. Also, implied are dysfunctional consequences to the organization which may result from conflicting or inaccurate 'messages' regarding the individuals' roles in the organization."

Implicit in the above is the assertion that, in certain circumstances, the design of performance appraisal systems, as well as the training of appraisers, may require

adjustment. In turn, this study is motivated, in large part, by the fact<sup>2</sup> that accountants/auditors are often well-positioned to identify weaknesses in performance appraisal systems thereby contributing information needed to improve performance appraisal systems and training. Accordingly, insights provided by the results of this study should facilitate the efforts of accountants/auditors in this regard.<sup>3</sup>

### Statement of the Problem

While Johnson (1986) has examined the relationship between Attitude toward Formal (Informal) Information and Relative Use of Formal Information, no study, known to this author, has examined either (1) the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information or (2) the relationship between Organizational Commitment and Relative Use of Formal Information (in the performance appraisal context—or any other context). Accordingly, this study is designed to gain additional insights regarding these hypothesized relationships.

### Data Analysis and Methodology

Data was collected from members of the Institute for Supply Management (formerly the National Association of Purchasing Management) using a questionnaire survey

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<sup>2</sup>Accountants/auditors are often involved in evaluating compliance with personnel policies and procedures (as a part of an ad hoc or routine internal control compliance review). Identifying weaknesses in internal control systems (such as personnel policies and procedures) represent a “value added” procedure.

<sup>3</sup>The role of accountants/auditors varies with the needs of the organization. For example, Jacka (2001, 81) suggests that the review of traditional controls (by accountants/auditors) may not be sufficient and that a rigorous examination of soft controls may be needed. Additionally, Jacka (2001, 82) suggests that soft controls would include, but not be limited to “training, workload management, experience, employee turnover, innovation and creativity, and leadership.”

instrument. The survey (Appendix A and Appendix B) was developed, in large part, from three scales found in the literature, i.e., the Organizational Commitment Questionnaire scale developed by Mowday, Steers, and Porter (1979); and, the Attitude toward Formal Information scale and the Attitude toward Informal Information scale, both developed by Johnson (1986). Information regarding Relative Use of Formal Information was also collected with respect to the following performance-related decision situations (Johnson, 1986, p.5): periodic performance appraisals, merit pay adjustments, promotions, and terminations. Additional demographic variables were also collected in the survey. The primary statistical analysis technique employed in the study was multiple regression with univariate procedures used to a lesser extent.

### Chapter Summary

An overview of the study was provided in this chapter. The remainder of this study is organized as follows. Chapter Two provides an overview of the literature relevant to this study. Chapter Three provides a discussion of the hypotheses and the overall methodology. Chapter Four provides the results of the data analysis. And finally, Chapter Five provides a summary of this study.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

This chapter contains a summary of the literature related to the study. In this regard, a summary of the literature is provided for each of the following areas: Performance Appraisal and Accounting; Organizational Commitment; and, Formal and Informal Information. For convenience, summary tables are provided for each area at the end of each section. The chapter concludes with an overall summary.

#### Performance Appraisal and Accounting

Hopwood (1972) analyzed the merits of three appraisal styles: a budget-constrained style, a profit-conscious style, and a non-accounting style. A budget-constrained style appraises performance based on an individual's ability to meet a short-term budget. A profit-conscious style appraises performance based on an individual's ability to accomplish the long term goals of the organization. A non-accounting style appraises performance without using a large amount of accounting data. Hopwood finds that the profit-conscious style results in greater efficiency (in terms of an organization's operations) than the budget constrained style. The profit-conscious supervisor maintains concern with costs without the dysfunctional decision making or data manipulation that comes with the budget-constrained style. Hopwood argues that a balance of accounting information and non-

accounting information will result in greater efficiency than the use of either of the two extreme styles.

Hopwood (1974) also evaluated the managerial factors that influence the organizational and personal impacts of an accounting system. The study was grounded in the three styles identified in his 1972 study: the budget-constrained style, the profit-conscious style, and the non-accounting style. Hopwood found that managers do not always use their preferred personal style. For example, supervisors may choose the budget-constrained style for their performance appraisal (i.e. to evaluate themselves), but choose another style to evaluate their subordinates. Additionally, the results suggest that the accounting system is a valuable tool in the profit-conscious style and that profit-conscious supervisors use formal information as well as informal information in the budgeting process.

Otley (1978) studied budget use and managerial performance based on Hopwood's 1972 study using various performance styles. Otley felt that the use of information is just as critical as the characteristics of that information, i.e. information content. Otley found that the effect of appraisal style on interpersonal trust is significant and consistent with the hypothesis that the greater the ambiguity of appraisal the greater the budgetary stress. Additionally, Otley suggested that the more committed the appraiser is to the system and the organization, the more effective the appraisal.

Govindarajan (1984) studied the use of accounting data in performance appraisal by taking environmental uncertainty into consideration. Govindarajan examined the three managerial (performance appraisal) styles identified in Hopwood's (1972) study and used

in Otley's (1978) study. Based on a contingency framework, Govindarajan found that as environmental uncertainty increased, more subjective measures (i.e., informal information) rather than the formula-based measures (formal information) were employed in determining incentive bonuses.

Kaplan and Reckers (1985) examined auditor performance appraisal using attribution theory. According to the authors, attribution theory is concerned with how people make causal explanations. For example, if an appraiser decides that an event is caused by the person engaging in the event then that attribution (to the person engaging in the event) is called an internal attribution. In contrast, if an appraiser decides that an event is caused by situational factors then that attribution (to the situational factor) is called an external attribution. Results of their examination suggest that work history and client history each significantly affect the attribution judgments and responses made by auditors.

Kaplan and Mackey (1992) examined the relationship between the use of accounting information and specific organizational factors (i.e., type of production process, work-in-process inventory costs, and set-up costs). Examination results suggested that the use of accounting information for performance appraisal is systematically related to specific organizational design variables (i.e., type of production process, work-in-process inventory costs, and set-up costs).

Kaplan and Reckers (1993) examined the effects of a subordinate's explanation for substandard performance on appraisal judgment done by the supervisor. Similar to their 1985 study, this study was grounded in attribution theory. Study results suggested that attributions of appraisers influenced end-of-job appraisals, including performance

appraisals. Also, the results suggested that attributions of appraisers influenced unstructured job scheduling decisions.

Mia and Chenhall (1994) examined the association between manager's use of broad scope management accounting systems (MAS) information and functional areas. Broad scope MAS information includes both formal and informal information which is internal as well as external; financial as well as nonfinancial; and, historical as well as future oriented. The results suggest that managerial performance benefits from the use of broad scope MAS information were moderated by differentiation of activity.

In summary, the results of research to date suggest that a wide variety of accounting and non-accounting information is used in the performance appraisal process. Stated otherwise, the results suggest that traditional accounting information is not the sole source of information in performance appraisal.

**TABLE 2.1**

**Performance Appraisal and Accounting  
Literature Review Summary**

<u>STUDY</u>	<u>YEAR</u>	<u>FINDINGS</u>
Hopwood	1972	Hopwood measured three appraisal styles using different types of accounting information. The profit conscious style, using a balance of accounting and non-accounting information, yielded greater efficiency.
Hopwood	1974	Hopwood evaluated three appraisal styles with regard to use of accounting data in performance appraisal. The results suggested that profit-conscious managers use formal as well as informal information in the budgeting process.
Otley	1978	Otley studied budget use and managerial performance based on Hopwood (1972) using the three appraisal styles. Results indicated appraisal style and trust are significant and experienced managers perform better with regard to budget manipulation than newer managers.
Govindajaran	1984	Govindajaran expanded on the work of Hopwood (1972) and Otley (1978) by evaluating the association of environmental uncertainty and performance appraisal. The results suggested that as environmental uncertainty increased, more subjective measures (i.e., informal information) rather than the formula-based measures (formal information) were employed in determining incentive bonuses.
Kaplan and Reckers	1985	Kaplan and Reckers examined performance appraisal using attribution theory in an audit context. This study found that the relationship between information attributed to performance appraisal and work history and client history was significant.
Kaplan and Mackey	1992	Kaplan and Mackey examined the relationship between the use of accounting information and organizational design factors. The study found the production process, work-in-process and setup costs were significant.

**TABLE 2.1 (Continued)****Performance Appraisal and Accounting  
Literature Review Summary**

<b><u>STUDY</u></b>	<b><u>YEAR</u></b>	<b><u>FINDINGS</u></b>
Kaplan and Reckers	1993	Kaplan and Reckers evaluated the effects of a subordinate's performance on appraisal judgments. The results suggested that attributions of appraisers influenced end-of-job appraisals, including performance appraisals. Also, the results suggested that attributions of appraisers influenced unstructured job scheduling decisions.
Mia and Chenhall	1994	Mia and Chenhall evaluated the use of broad scope information used to enhance managerial performance. The results suggested that managerial performance benefits from the use of broad scope managerial accounting system information were moderated by differentiation of activity.

### Organizational Commitment

Through a meta-analysis of nine previous studies, Mowday, Steers, and Porter (1979) developed and validated a fifteen-item scale to measure an individual's Organizational Commitment. After additional analysis, the scale was reduced to nine-items and titled the Organizational Commitment Questionnaire (OCQ).

Mathieu and Zajac (1990) performed a meta-analysis examining the antecedents, correlates and the consequences of Organizational Commitment. The results of the study suggested that age, organizational tenure, satisfaction and turnover are associated with Organizational Commitment. Also, the OCQ was again successfully validated.

Cohen (1993) performed a meta-analysis in order to evaluate the association between Organizational Commitment, employee turnover, and employee tenure with the organization. Cohen's results suggested that the commitment measure used strongly affects the magnitude of the relationship between Organizational Commitment and the departure of the employee. Again, the OCQ was successfully validated.

Hunt and Morgan (1994) examine two extreme views of Organizational Commitment—global and constituency-specific. Global commitment is defined as commitment to the entire organization, whereas consistency-specific commitment is defined as commitment to a subunit or part of the organization. In summary, the results of Hunt and Morgan support the theory that constituency-specific commitments contribute to global organizational commitment, specifically to top management and commitment to supervisor.

Roberts (1998) investigated critical issues and emerging trends in performance appraisals, including performance documentation, Total Quality Management (TQM), and Organizational Commitment. In this study, Roberts suggests that the absence of Organizational Commitment can significantly negatively impact performance appraisal, through poor training, lack of time spent on subordinate evaluation and process bias. Additionally, Roberts recommended that a complete picture of the employee's performance must be developed and that multiple sources of information are required as each source provides unique details on various aspects of employee's performance.

In summary, Organizational Commitment has been evaluated in terms of performance evaluation and information use. Additionally, the OCQ has been successfully employed in prior research.

**TABLE 2.2**

**Organizational Commitment  
Literature Review Summary**

<u>STUDY</u>	<u>YEAR</u>	<u>FINDINGS</u>
Mowday, Steers, and Porter	1979	Mowday et al. examined the measurement of Organizational Commitment using the Organizational Commitment Questionnaire. The study incorporated nine previous studies to develop the fifteen question survey to measure an individual's Organizational Commitment. The results of the study also suggested that a reduced nine question format could yield the same results as the fifteen question format..
Mathieu and Zajac	1990	Mathieu and Zajac performed a meta-analysis examining the antecedents, correlates, and consequences of Organizational Commitment. The results suggested that the OCQ is a valid measure of Organizational Commitment.
Cohen	1993	Cohen performed a meta-analysis on Organizational Commitment and turnover. The results suggested that the OCQ is a valid measure of Organizational Commitment.
Hunt and Morgan	1994	Hunt and Morgan examined two views of Organizational Commitment - global commitment and constituency-specific commitment. The results indicated that global commitment contains constituency-specific commitment.
Roberts	1998	Roberts investigated emerging issues in performance appraisals. The results suggested that poor Organizational Commitment can negatively impact the performance appraisal.

### Formal Information and Informal Information

Simon, Guetzkow, Kozmetsky and Tyndall (1954) suggest that the major issue faced by the controller's department is to efficiently provide management with the information it needs to make decisions. They suggested that managerial accountants provided the greatest service when they felt they had the authority to provide management with the information requested. Additionally, they suggested that managers typically requested two sets of standards from the controller department, official standards and historical standards. Further, in addition to the officially sanctioned records maintained by the controller's department, Simon et al. found managers keep unofficial records, i.e., informal information. In sum, Simon et al. suggest that accountants should provide more information and detail in reports or perform more complex analysis and/or gather additional raw data for managerial use.

Dirsmith and Covaleski (1985) examined control issues within public accounting firms. The results of their study suggest that partners and managers regarded formal information systems as sufficient for firm needs. Additionally, Dirsmith and Covaleski suggest that informal communications arose because of mentioning. Further, Dirsmith and Covaleski suggest that a paradox exists given that firms tend to promote the use of formal information for managing individuals whereas subordinates tend to learn about the organization culture (rules) through informal information.

Schweikart (1986) discussed the use of formal and informal information in a multinational context. Results indicated that relevance of formal accounting reports were negatively associated with economic and educational environmental variables while

relevance of informal information was positively associated with a favorable environment. For U. S. based multinational corporations, the U.S. offices found that informal information was kept in larger variety, due to the proximity to the home office. Foreign offices valued profit and loss information (formal information) more highly than their U.S. offices.

Jones and McLeod (1986) examined which information sources supported executive information systems. In their study, Jones and McLeod found that executives control the volume and value of information. Additionally, they found that both formal and informal information is used by executives in making decisions.

Johnson (1986) examined the use of formal and informal information in individual performance appraisal. The results suggested that informal information is used relatively more than formal information in performance appraisal. Additionally, the results suggest that informal information may be easier to use and understand, more qualitative, and more confidential than formal information.

Pettinger and Bawden (1994) discussed the use of different types of information by training professionals for the planning, delivery and appraisal of training programs. They suggest that "training failures" are typically associated with a lack of appropriate information. Additionally, they suggest that "appropriate training" requires information from a variety of formal and informal sources both from inside and outside the organization.

Lievrouw and Finn (1996) suggest "that the notion of formal vs. informal information flows is not just a matter of channel or technology choice" since multiple channels and technologies can be employed. Additionally, Lievrouw and Finn suggest

organizations that rely on information technologies foster more informal social contexts with a move away from formal information.

Fleck (1996) examined informal information flows and expertise in financial services. Fleck also suggested that informal information flow helps define (or establish) expertise in terms of an individual's knowledge, power and tradeability (marketability). Additionally, Fleck suggested that technology changes in financial services are supported by expertise and informal information.

MacDonald (1996) examined informal information flow and strategy in international firms. MacDonald suggested that larger organizations cope better with formal information while smaller organizations are more flexible with their use of formal information and informal information. Additionally, the results suggest that the information requirements of structure and control far outweigh the information requirements of strategy.

In summary, formal information and informal information are used in a variety of managerial functions. Admittedly, the relative use of formal information in relationship to the use of informal information may vary with the specific managerial function undertaken.

**TABLE 2.3**

**Formal Information and Informal Information  
Literature Review Summary**

<b><u>STUDY</u></b>	<b><u>YEAR</u></b>	<b><u>FINDINGS</u></b>
Simon, Guetzkow, Kozmetsky and Tyndall	1954	Simon et al. examined the organizational focus of the controller's office. The results suggest that managers keep informal records in addition to formal information to make decisions.
Dirsmith and Covaleski	1985	Dirsmith and Covaleski examined control issues within public accounting firms. The results suggest that control is affected by formal and informal approaches and by formal and informal information. Seniors and staff felt informal information systems were important while partners and managers felt formal information systems were sufficient.
Schweikart	1986	Schweikart discussed the use of formal and informal information using multinational analysis. The results suggest that formal (accounting) reports were negatively associated with environmental variables while informal information was positively associated with these variables.
Johnson	1986	Johnson examined the use of formal and informal information in individual performance appraisal. The results suggest that informal information is relied upon more than formal information.
Pettinger and Bawden	1994	Pettinger and Bawden discussed the use of different types of information by training professionals for the planning, delivery and appraisal of training programs. The results did not suggest a strong relationship between formal information and training methods.

**TABLE 2.3 (Continued)****Formal Information and Informal Information  
Literature Review Summary**

<b><u>STUDY</u></b>	<b><u>YEAR</u></b>	<b><u>FINDINGS</u></b>
Lievrouw and Finn	1996	Lievrouw and Finn evaluated the association between information flows with new information technologies and informality using the communications situations model. The results of this study suggest that the more information technology was adopted (formal information), the more informal social contexts arose (informal information).
Fleck	1996	Fleck examined informal information flows and expertise in financial services. The results suggest that some groups use informal information to develop expertise and that expertise in financial services is expanding because of new technology and informal information.
MacDonald	1996	MacDonald examined informal information flow and strategy in international firms. The results suggest that larger organizations use formal information to better cope with their environment while smaller organizations use a combination of formal and informal information. Additionally, information needs for structure and control outweigh information needs for strategy.

### Chapter Summary

This chapter contains a summary of the literature that relates to the study. In this regard, a summary of the literature has been provided for each of the following areas: Performance Appraisal and Accounting; Organizational Commitment; and, Formal Information and Informal Information. For convenience, summary tables are provided for each area. The information contained in this chapter facilitated the development of the research methodology employed in this study (which is discussed next).

## **CHAPTER III**

### **METHODOLOGY**

Grounded in the results of Johnson (1986), this study is designed to gain additional insights into the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information in the performance appraisal process. Additionally, this study is designed to gain insights regarding the relationship between Organizational Commitment and Relative Use of Formal Information in the performance appraisal process. In essence, this chapter presents the research methodology employed to accomplish these objectives. In this regard, the chapter is organized as follows. First, the models depicting the hypothesized relationships underlying this study are presented. Second, the specific hypotheses and their underlying rationales are provided. Thereafter, variable measures, data procurement and analysis procedures are delineated. The chapter concludes with a summary.

#### **Models Depicting the Hypothesized Relationships**

Models depicting the hypothesized relationships underlying this study are presented in this section as follows. First, Figure 3.1 depicts the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information.

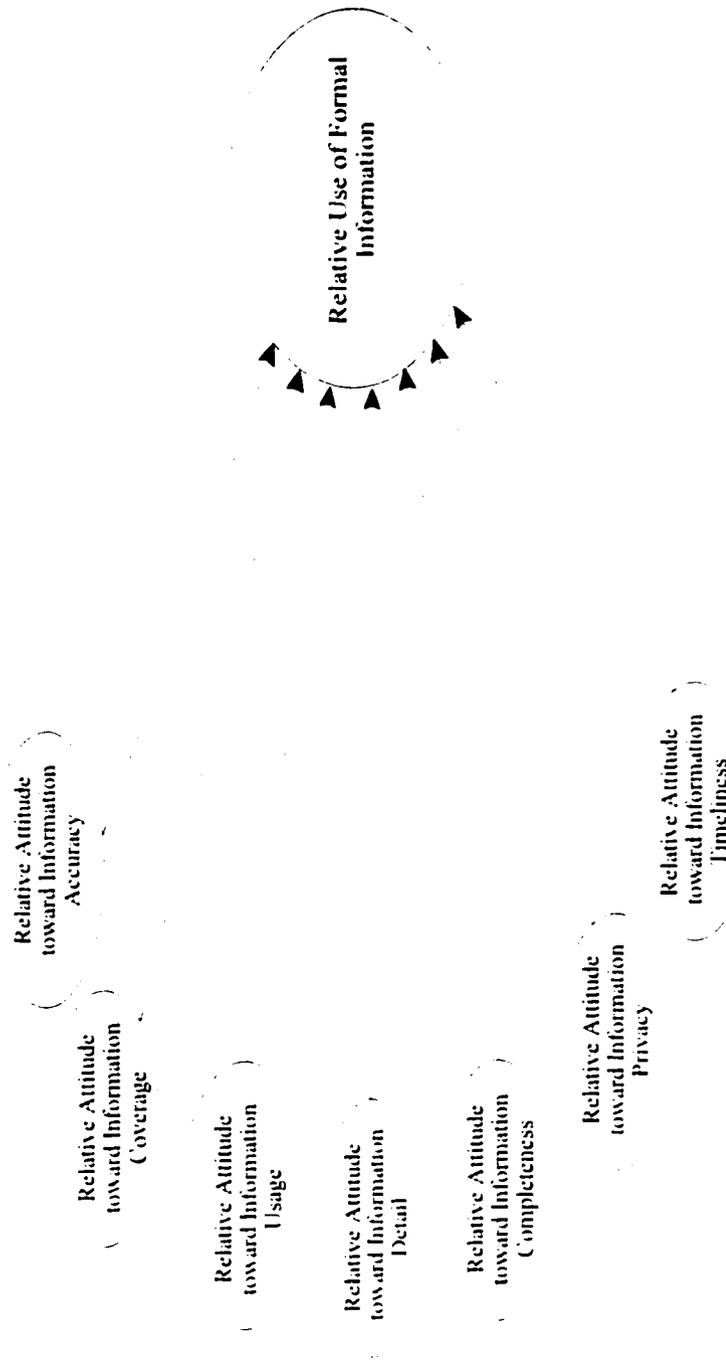


Figure 3.1  
Relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information

Second, Figure 3.2 depicts the relationship between Organizational Commitment and Relative Use of Formal Information. Finally, Figure 3.3 depicts the comprehensive model of all of the hypothesized relationships evaluated in this study. The specific hypotheses associated with the models are discussed in the next section.

### Hypothesis Development

The hypotheses of the study are presented in this section. In essence, the hypotheses provide a framework for the analysis of (1) the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information; and, (2) the relationship between Organizational Commitment and Relative Use of Formal Information. However, before the hypotheses associated with these two objectives are presented, two preliminary issues must be addressed: (1) the homogeneity of the four different performance-related decision situations; and, (2) the relationship between Attitude toward Formal (Informal) Information and Relative Use of Formal Information (Johnson, 1986).

#### Homogeneity of Performance-Related Decision Situations

There are four different performance-related decision situations employed in this study with respect to the Relative Use of Formal Information: periodic performance appraisals, merit pay adjustments, promotions, and terminations (Johnson, 1986, 5). The results of Johnson (1986, 88) suggest that differences may exist among the responses of each of these four performance-related decision situations. In this regard, the following



**Figure 3.2**  
**Relationship between Organizational Commitment**  
**and Relative Use of Formal Information**

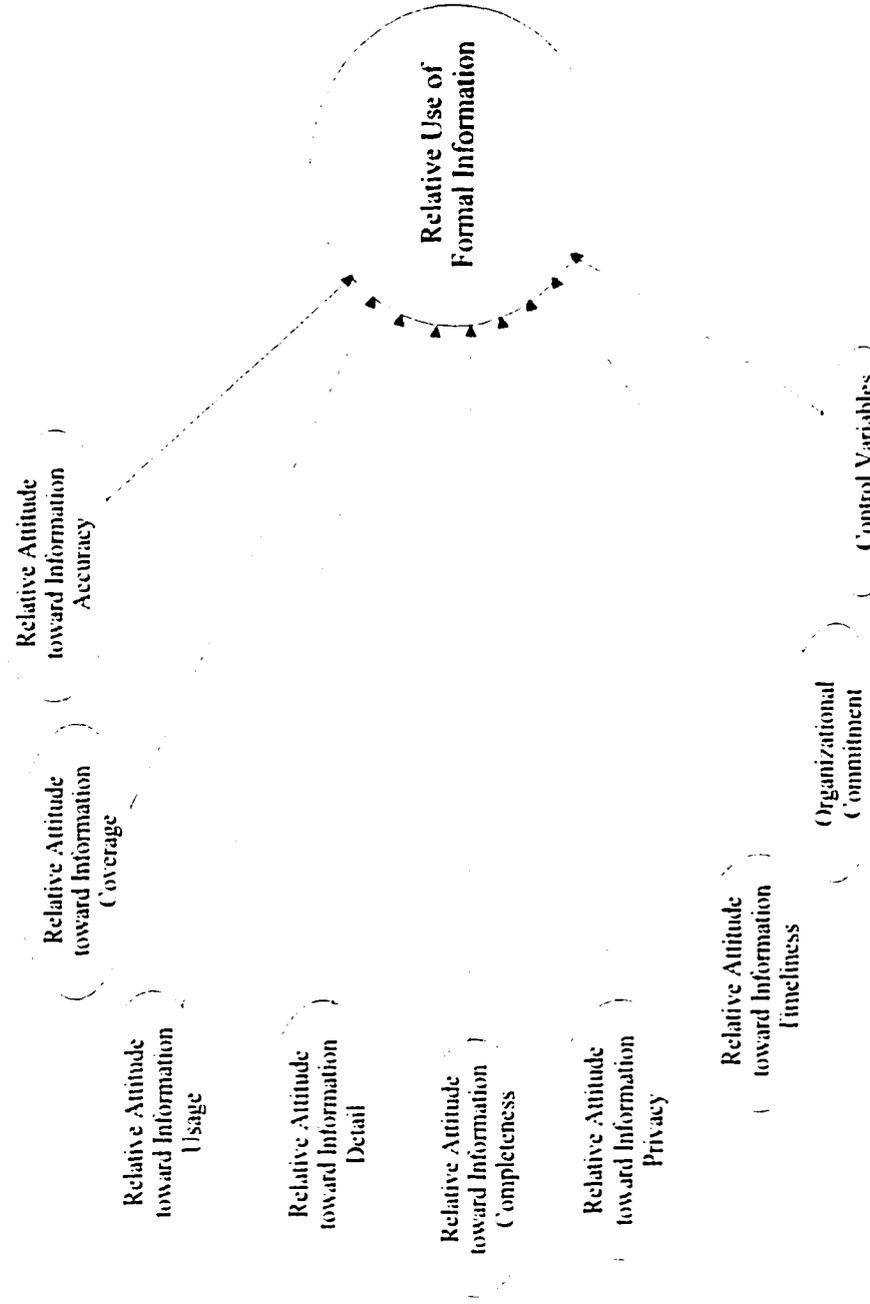


Figure 3.3  
Relationship between Relative Attitude toward Formal Information, Organizational Commitment, Control Variables and Relative Use of Formal Information

hypothesis is specified with respect to the homogeneity of the four different performance-related decision situations.

**Hypothesis 1:** Supervisors are consistent in their use of formal and informal information across the four performance-related decision situations (periodic performance review, merit pay adjustment, promotion and termination).

**Hypothesis 1 (alternative):** Supervisors are not consistent in their use of formal and informal information across the four performance-related decision situations (periodic performance review, merit pay adjustment, promotion and termination).

Attitude toward Formal (Informal)  
Information and Relative Use of  
Formal Information

This section presents the conceptual formulations underlying the hypothesized relationship between Attitude toward Formal (Informal) Information and Relative Use of Formal Information. Recall that Relative Use of Formal Information, the dependent variable in this hypothesized relationship, is defined as the extent to which formal information is perceived to be relied upon (as opposed to informal information) in the performance appraisal process (Johnson, 1986, adapted).

With respect to Attitude toward Formal (Informal) Information, recall that Johnson (1986) and Clancy and Collins (1979) suggest that **formal information** is information developed by the organization, which is recognized and sanctioned by senior management whereas **informal information** is information that is not developed by the organization and is not recognized or sanctioned by senior management. In essence, a positive Attitude toward Formal (Informal) Information suggests that an appraiser has a favorable disposition toward the Relative Use of Formal (Informal) Information.

Given the above conceptual formulations, the following hypotheses are specified with respect to the relationship between Attitude toward Formal (Informal) Information and Relative Use of Formal Information.

**Hypothesis 2:** Supervisors' attitudes toward formal information are positively related to their use of formal information in making performance-related decision situations.

**Hypothesis 2 (alternative):** There is no relationship between supervisors' attitudes toward formal information and their use of formal information in making performance-related decision situations.

**Hypothesis 3:** Supervisors' attitudes toward informal information are positively related to their use of informal information in making performance-related decision situations.

**Hypothesis 3 (alternative):** There is no relationship between supervisors' attitudes toward informal information and their use of informal information in making performance-related decision situations.

Relative Attitude toward Formal Information and Relative Use of Formal Information

Hypotheses Four through Ten specify the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information. Grounded in the results of Johnson (1986, 70), Relative Attitude toward Formal Information will be evaluated in terms of seven dimensions: Information Accuracy, Coverage, Usage, Detail, Completeness, Privacy, and Timeliness. In essence, a positive Relative Attitude toward Formal Information with respect to a particular dimension (by an appraiser) is expected to be associated with a greater Relative Use of Formal Information with respect to that particular dimension (by an appraiser).

**Hypothesis 4:** Supervisors who perceive formal (informal) information to be more accurate will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 4 (alternative):** Supervisors' perceptions regarding the accuracy of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 5:** Supervisors who perceive formal (informal) information to be more complete will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 5 (alternative):** Supervisors' perceptions regarding the completeness of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 6:** Supervisors who perceive formal (informal) information to be easier to use will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 6 (alternative):** Supervisors' perceptions regarding the ease of use with respect to formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 7:** Supervisors who perceive formal (informal) information to be more detailed will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 7 (alternative):** Supervisors' perceptions regarding the level of detail of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 8:** Supervisors who perceive formal (informal) information to be more understandable will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 8 (alternative):** Supervisors' perceptions regarding the understandability of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 9:** Supervisors who perceive formal (informal) information to be more confidential will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 9 (alternative):** Supervisors' perceptions regarding the confidentiality of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 10:** Supervisors who perceive formal (informal) information to be more timely will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 10 (alternative):** Supervisors' perceptions regarding the timeliness of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

### Organizational Commitment and Relative Use of Formal Information

This section presents the conceptual formulations underlying the hypothesized relationship between Organizational Commitment and Relative Use of Formal Information. Recall again that Relative Use of Formal Information, the dependent variable in this hypothesized relationship, is defined as the extent to which formal information is perceived to be relied upon (as opposed to informal information) in the performance appraisal process (Johnson, 1986, adapted).

With respect to Organizational Commitment, recall that Hunt and Morgan (1994, 1568) suggest that Organizational Commitment is an individual's (1) belief in and acceptance of organizational goals and values, (2) willingness to exert effort toward organizational goal accomplishment, and (3) strong desire to maintain organizational membership. Under the assumption that an evaluator with a higher level of Organizational Commitment is likely to "comply with organizational rules," an evaluator with a higher level of Organizational Commitment is likely to choose information sanctioned by the organization, that is, formal information. Thus it is likely that the level of Organizational

Commitment is positively associated with Relative Use of Formal Information. The following hypothesis formalizes this assertion.

**Hypothesis 11:** When making performance-related decisions, organizational commitment will be positively associated with reliance on formal information.

**Hypothesis 11 (alternative):** When making performance-related decisions, organizational commitment will not be associated with reliance on formal information.

### Control Variables

In addition to the seven dimensions of Relative Attitude toward Formal Information as well as Organizational Commitment, a number of control variables are also included in the multiple regression procedure used to evaluate Hypotheses Four through Eleven. The control variables include: Age; Gender; Education Level; Years with Current Organization; Years in Current Position; Number of Employees Supervised; and, Union Membership of Subordinates. Hypothesis Twelve is expressed in a generic form encompassing all control variables.

**Hypothesis 12:** When making performance-related decisions, professional and personal characteristics will be positively associated with reliance on formal information.

**Hypothesis 12 (alternative):** When making performance-related decisions, professional and personal characteristics will not be associated with reliance on formal information.

### Variable Measures

This section presents the variable measures employed in this study. First, Attitude toward Formal (Informal) Information scale(s) developed by Johnson (1986) is (are) presented. Second, the Relative Attitude toward Formal Information calculation is presented. Third, the Organizational Commitment Questionnaire developed by Mowday, Steers, and Porter (1979) is presented. Finally, Relative Use of Formal Information, the measure of the appraiser's information preference in performance appraisal, adapted from Johnson (1986), is presented.

#### Attitude toward Formal (Informal) Information Scale(s)

Attitude toward Formal (Informal) Information is measured by a seven-item scale (see Table 3.1). Johnson (1986) developed and validated the scale as follows. First, interviews were conducted to develop a preliminary questionnaire. Second, the questionnaire was pre-tested by administering the questionnaire to three senior level human resource executives at an international financial institution. Third, the validity of the scale was confirmed through the use of factor analysis. A seven point Likert scale was employed in the scale (1 = favorable response; 7 = unfavorable response). The measure of Attitude toward Formal Information (or Attitude toward Informal Information) is calculated by adding the responses of each of the seven individual statements. In order to evaluate the acceptability of the measure, the reliability of the measure will first be calculated using the Coefficient (Cronbach) alpha statistic and then the resulting Cronbach

**TABLE 3.1****Measures of Attitude toward  
Formal (Informal) Information****Source: Johnson (1986) adapted**

1. How accurate is the information?
2. To what extent does the information cover "vital" items?
3. How easy is it for you to use the data?
4. To what extent is the information detailed?
5. How would you describe your understanding of the information?
6. How confidential is the information?
7. How timely is the information?

alpha statistic will be compared to the Cronbach alpha statistics related to the results of Johnson (1986).

**Relative Attitude toward Formal Information Calculation**

Relative Attitude toward Formal Information represents the difference between two concepts evaluated in Johnson (1986) and discussed in the previous section—Attitude toward Formal Information and Attitude toward Informal Information. For analysis purposes, Relative Attitude toward Formal Information is calculated for each of the following seven dimensions: Information Accuracy, Coverage, Usage, Detail, Completeness, Privacy, and Timeliness. These dimensions represent the seven items included in the scales used to calculate Attitude toward Formal Information and Attitude toward Informal Information (again, which are discussed in the previous section).

With respect to the calculation of Relative Attitude toward Formal Information, given that both Attitude toward Formal Information and Attitude toward Informal Information are measured in terms of a seven-point Likert scale (where a **value of 1 indicates a high assessment** and a **value of 7 indicates a low assessment**), when Attitude toward Informal Information is subtracted from Attitude toward Formal Information (in order to calculate Relative Attitude toward Formal Information), the end-points of the resulting seven-point Likert scale become -6 (i.e.,  $1 - 7 = -6$ ) for a maximum favorable assessment of Relative Attitude toward Formal Information and a -6 (i.e.,  $7 - 1 = -6$ ) for a maximum negative assessment of Relative Attitude toward Formal Information. Stated otherwise, a negative calculated amount (of Relative Attitude toward Formal

Information) would suggest that an appraiser has a relatively higher preference for formal information (versus informal information). In contrast, a positive calculated amount (of Relative Attitude toward Formal Information) would suggest that an appraiser has a relatively lower preference for formal information (versus informal information). In order to evaluate the acceptability of the measure, the reliability of the measure will be calculated using the Coefficient (Cronbach) alpha statistic.

#### Organizational Commitment Scale

Organizational Commitment is measured by the nine-item Organizational Commitment scale (Table 3.2). This Organizational Commitment scale is one of the major dimensions of the Organizational Commitment Questionnaire (OCQ) developed and validated by Mowday, Steers and Porter (1979). The scale was subsequently validated by Mathieu and Zajac (1990). A seven-point Likert scale (7 = completely agree; 1 = completely disagree) was employed for data analysis purposes; in turn, a value of 7 indicates a high level of Organizational Commitment, while a value of 1 indicates a low level of Organizational Commitment. The measure for Organizational Commitment is calculated by adding the responses of each of the nine statements. In order to evaluate the acceptability of the measure, the reliability of the measure will first be calculated using the Coefficient (Cronbach) alpha statistic and then the resulting Cronbach alpha statistic will be compared to the Cronbach alpha statistics related to the results of Mowday, Steers and Porter (1979) and Mathieu and Zajac (1990).

**TABLE 3.2**

**Measures of Organizational Commitment  
Independent Variable Scale: Mowday, Steers, and Porter (1979)**

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization to be successful.
2. I talk up this organization to my friends as a great organization to work for.
3. I would accept almost any type of job assignment in order to keep working for this organization.
4. I find that my values and the organization's values are very similar.
5. I am proud to tell others that I am part of this organization.
6. The organization really inspires the very best in me in the way of job performance.
7. I am extremely glad I chose this organization to work for, over others I was considering at the time I joined.
8. I really care about the fate of this organization.
9. For me, this is the best of all possible organizations for which to work.

### Relative Use of Formal Information Scale

Relative Use of Formal Information is defined as the extent to which formal information is perceived to be relied upon (as opposed to informal information) in the performance appraisal process (Johnson, 1986, adapted). In this regard, a seven-point Likert scale (1 = 100% Formal; 7 = 0% Formal) was employed to measure Relative Use of Formal Information with respect to the four different performance appraisal decisions (Table 3.3): periodic performance appraisals, merit pay adjustments, promotions, and terminations (Johnson, 1986, 5).

Relative Use of Formal Information is represented by the response of the appraiser (respondent). With respect to the extreme responses, "100% Formal" would suggest that only formal information was perceived to be relied upon in the performance appraisal process whereas "0% Formal" would suggest that no formal information was perceived to be relied upon in the performance appraisal process. As an example of a non-extreme response, "50% Formal" (i.e., 4 = 50%) would suggest that, of all of the information perceived to be relied upon in the performance appraisal process, only 50% of such information was perceived to be formal information; in turn, the other 50% of such information was perceived to be non-formal information, that is, informal information. Again, depending on the results of the tests associated with Hypothesis One, the measures of the four performance-related decision situations will be grouped together (for analysis purposes) if such measures are homogeneous.

**TABLE 3.3****Measures of Relative Use of Formal Information:  
Performance Appraisal Decisions****Johnson (1986), adapted.**

(Scale: 1 = 100% Formal; 7 = 0% Formal)

1. Please indicate the relative "weight" you place on formal vs. informal information when you prepare the periodic performance appraisal for a subordinate.
2. Please indicate the relative "weight" you place on formal vs. informal information in your decisions (or suggestions) regarding merit pay adjustments of subordinates.
3. Please indicate the relative "weight" you place on formal vs. informal information in your decisions (or suggestions) regarding promotions of subordinates.
4. Please indicate the relative "weight" you place on formal vs. informal information in your decisions (or suggestions) to terminate the employment of subordinates.

Note: The term "weight" used in the above measures of Relative Use of Formal Information represents the extent (i.e., the percentage) to which formal information is perceived to be relied upon (as opposed to informal information) in the performance appraisal process (Johnson, 1986, adapted).

### Data Collection Procedures

The sampling frame consisted of members of the Institute for Supply Management (formerly the National Association of Purchasing Management). Members come from a variety of organizations, including public and private organizations, and from all parts of the United States and its territories. Surveys were mailed to a random sample of 2,000 managers with supervisory experience. The random sample of managers was provided by the Institute for Supply Management. Admittedly, the sole use of members of the Institute of Supply Management may yield results which may not be representative of all individuals performing performance appraisals. Additionally, a low response rate may also limit the generalizability of the results of this study. Admittedly, the only incentive (for potential respondents) to complete the survey questionnaire was the fact that the wording in the cover letter indirectly suggested that the name of the potential respondent was provided by the Institute of Supply Management.

A cover letter on university letterhead was sent to each survey recipient explaining the purpose of the survey and assuring the respondent of the confidentiality of responses along with a set of instructions. A copy of the cover letter is located in Appendix A. In addition to the cover letter and the survey, a postage-paid, return envelope was provided. To enhance the response rate, a second mailing was sent to the initial non-respondents.

With over 40,000 members of the Institute for Supply Management, not all members will have supervisory experience. In this regard, members initially selected but having no supervisory experience were requested to "pass along" the survey to someone

in the organization that had such experience. A copy of the survey is located in Appendix B.

The survey (Appendix A and Appendix B) was developed, in large part, from three scales found in the literature, i.e., the Organization Commitment Questionnaire scale developed by Mowday, Steers and Porter (1979); and, the Attitude toward Formal Information scale and the Attitude toward Informal Information scale both developed by Johnson (1986). Information regarding Relative Use of Formal Information was also collected with respect to the following performance-related decision situations (Johnson, 1986, p.5): periodic performance appraisals, merit pay adjustments, promotions, and terminations. Additional demographic variables were also collected in the survey.

#### Data Analysis

The primary statistical analysis technique employed in the study was multiple regression with univariate procedures used to a lesser extent. Specifically, these techniques were used to evaluate (1) the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information; and, (2) the relationship between Organizational Commitment and Relative Use of Formal Information. Insights provided by the results of this study should facilitate accountants' auditors' identification of weaknesses in performance appraisal systems as well as contribute to the improvement of performance appraisal systems.

### Chapter Summary

The research methodology employed in this study was discussed in this chapter. In this regard, a model depicting the hypothesized relationships underlying this study was presented first. Thereafter, the specific hypotheses and their theoretical underpinnings were provided. And finally, variable measures, as well as data procurement and analysis procedures, were delineated. The results of the procedures performed in this study are provided in Chapter IV.

## **CHAPTER IV**

### **DATA ANALYSIS AND RESULTS**

The results of the data analysis are presented in this chapter. In this regard, the chapter is organized as follows. First, the description of the data set used in the study is presented. Second, measurement issues are discussed. Third, the results of the hypotheses testing are reported. And finally, the chapter concludes with a summary.

#### Description of the Data Set

As previously discussed, data was collected from members of the Institute of Supply Management using a survey instrument (Appendix A and B). Specifically, the survey instruments were mailed to a random sample of 2,000 managers with supervisory experience. The initial mailing occurred during the month of September 1999. A second mailing was sent to the initial non-respondents in January 2000.

There were 161 completed questionnaires received. Additionally, 20 partially completed questionnaires were received. Since these 20 questionnaires were largely incomplete with respect to the questions of primary interest to the study, it was decided to omit these questionnaires from further consideration. Finally, there were 69 blank questionnaires returned for stated reasons:

Insufficient address or not at the given address	53
Could not answer due to company policy and other reasons	13
Not doing performance evaluations in their organization	<u>3</u>
Total	69

The response rate of 8.05 percent (161 out of 2,000) was below expectations for business research, especially given that a second mailing was performed. Responses provided by early and late respondents were compared to assess the probability of non-response bias. Given that there were two mailings, the sample was divided into two groups based on when the surveys were received. The responses of these two groups were compared using t-tests and the Mann-Whitney U tests. The null hypothesis in this case was that there was no difference between early and late respondents. The results of the t-tests suggest that there were no significant differences at the 0.05 level. Additionally, with respect to the results of the Mann-Whitney U tests, the results also suggest that there also was no significant differences at the 0.05 level.

#### Demographic Information

Demographic information pertaining to the evaluator was obtained from the survey instrument and is summarized in Table 4.1 and 4.2. These tables summarize differences in respondent characteristics regarding the gender, age, education, supervisory experience and union affiliation.

TABLE 4.1

## Personal Characteristics of Respondents

<b>Gender</b>		<b>Number</b>	
Male		120	74.5 %
Female		<u>41</u>	25.5 %
	Total	161	
<b>Age</b>			
Less than 31		3	1.9 %
31 or above, but less than 41		34	21.1 %
41 or above, but less than 51		67	41.6 %
51 or above, but less than 61		51	31.7 %
61 or above		<u>6</u>	3.7 %
	Total	161	
<b>Education</b>			
Some High School Education		1	0.6 %
High School Graduate		4	2.5 %
Some College Education		29	18.0 %
College Graduate		63	39.1 %
Graduate Education : Degree		<u>64</u>	39.8 %
	Total	161	

**TABLE 4.2**  
**Professional Characteristics of Respondents**

	<b>Number</b>	
<b>Supervisory Experience</b>		
Less than 4 years	13	8.1 %
4 years and above, but less than 7 years	27	16.8 %
7 years and above, but less than 10 years	11	6.8 %
10 years and above, but less than 13 years	23	14.3 %
13 years and above, but less than 16 years	20	12.4 %
16 years and above	<u>67</u>	41.6 %
Total	161	
<b>Current Position</b>		
Less than 4 years	71	44.1 %
4 years or above, but less than 7 years	41	24.8 %
7 years or above, but less than 10 years	14	8.7 %
10 years or above, but less than 13 years	20	12.4 %
13 years or above, but less than 16 years	8	5.0 %
16 or above	<u>8</u>	5.0 %
Total	161	
<b>Union Membership</b>		
Union Organization	23	14.3 %
Non Union Organization	<u>138</u>	85.7 %
Total	161	

### Descriptive Statistics

Descriptive statistics for the variables of interest were presented in Tables 4.3 and 4.4. Frequency indicates the number of respondents (161).

Table 4.3 presents descriptive statistics relating to the Relative Use of Formal Information. A value of 1 indicates a high preference for formal information, while a value of 7 indicates a low preference for formal information. The mean was below the midpoint value of 4 for each of the four performance-related decision situations: periodic performance review, merit pay adjustment, promotion decisions and termination decisions. Accordingly, the descriptive statistics suggest that, on average, appraisers in the sample have a slightly higher preference for formal information. In contrast, Johnson (1986, 114) found that “informal information is relied upon relatively more than formal information in all four of the performance-related decision situations studied: pay, promotion, termination and periodic appraisal.” Differences in the results of this study and the results of Johnson (1986, 114) may stem from several sources. First, differences in the population of interest—appraisers from multiple companies participated in this study while appraisers from only one company participated in Johnson (1986). Second, evolutionary differences in the technological sophistication of formal appraisal systems—there was well over a decade between the time that data was collected for this study and the time when data was collected for Johnson (1986). Finally, differences in performance-related appraisal

**TABLE 4.3**  
**The Relative Use of Formal Information**  
**Descriptive Statistics**

<b>Description of the Item</b>	<b>Frequency</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>
Periodic Performance Review	161	3.53	1.27	4.0
Merit Pay Adjustment	161	3.49	1.34	4.0
Promotion Decision	161	3.68	1.34	4.0
Termination Decision	161	2.87	1.55	3.0

Note: The overall results of the procedures performed in conjunction with Hypothesis 1, as shown in Table 4.12, suggest that the above means were significantly different. Stated otherwise, the four performance-related decisions were not homogeneous. Thus, the measures of the above four items were not combined for analysis purposes.

**TABLE 4.4**

**Attitude toward Formal Information, Attitude toward Informal Information, and Organizational Commitment Descriptive Statistics**

<b>Description of the item</b>	<b>Frequency</b>	<b>Overall Mean</b>	<b>Overall Standard Deviation</b>	<b>Overall Median</b>	<b>Individual Mean</b>	<b>Individual Standard Deviation</b>	<b>Individual Median</b>
Attitude toward Formal Information (Based on 7 Questions using a 7 point Likert Scale)	161	19.84	6.305	19.0	2.83	1.230	2.75
Attitude toward Informal Information (Based on 7 Questions using a 7 point Likert Scale)	161	23.46	7.136	23.0	3.35	1.339	3.25
Organizational Commitment (Based on 9 Questions using a 7 point Likert Scale)	161	49.48	8.25	50.0	5.50	1.216	5.5

training—the legal and regulatory climate surrounding performance-related appraisals has continued to become increasingly burdensome since Johnson (1986).<sup>4</sup>

Table 4.4 presents descriptive statistics relating to Attitude toward Formal Information. For Attitude toward Formal Information, a value of 1 indicates a high assessment of formal information (i.e., a more formal perception of certain descriptive characteristics of formal informal information), while a value of 7 indicates a low assessment of formal information. The seven items had an average mean score below the midpoint value of 4.

Table 4.4 presents descriptive statistics related to Attitude toward Informal Information. For Attitude toward Informal Information, a value of 1 indicates a high assessment of informal information, while a value of 7 indicates a low assessment of informal information. The seven items had an average mean score below the midpoint value of 4.

Table 4.4 presents descriptive statistics related to Organizational Commitment. For data analysis purposes, a value of 1 indicates a low level of Organizational Commitment, while a value of 7 indicates a high level of Organizational Commitment. The nine items had an average mean score above the midpoint Likert value of 4.

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<sup>4</sup>The results of the procedures evaluating the homogeneity among the four performance-related decisions situations are reported later in this chapter (Hypothesis 1).

Table 4.5 presents descriptive comparative statistics with respect to each of the seven items employed to measure both Attitude toward Formal Information and Attitude toward Informal Information. While the mean difference with respect to the timeliness of information (Q 7A FO vs. Q 7B FO) was not significant, the other six mean differences were significant at the 0.01 level. Given this, and the fact that all of the mean differences were negative (e.g., Q 1A FO less Q 1B FO equals  $-0.68$ ), the appraisers in this sample, on average, have a relatively higher **assessment** of formal information than informal information.<sup>5</sup> Generally speaking, these findings were consistent with Johnson (1986, 93-95). In contrast, recall that the findings of this study (Table 4.3) regarding Relative Use of Formal Information were not consistent with Johnson (1986, 114). Given that these comparative results are mixed, the results of the procedures evaluating the association between Attitude toward Formal (Informal) and Relative use of Formal Information in this study (Hypotheses Two and Three) may also differ from Johnson (1986).

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<sup>5</sup>Given that both Attitude toward Formal Information and Attitude toward Informal Information are measured in terms of a seven-point Likert scale (where a **value of 1 indicates a high assessment** and a **value of 7 indicates a low assessment**), when Attitude toward Informal Information is subtracted from Attitude toward Formal Information (in order to calculate Relative Attitude toward Formal Information), the end-points on the resulting seven-point Likert scale become  $-6$  (i.e.,  $1 - 7 = -6$ ) for a maximum favorable assessment of Relative Attitude toward Formal Information and a  $+6$  (i.e.,  $7 - 1 = 6$ ) for a maximum unfavorable assessment of Relative Attitude toward Formal Information. Thus a negative mean suggests that an appraiser has a relatively higher assessment of formal information than informal information.

**TABLE 4.5****Tests for Differences in Attitude toward Formal Information  
and Attitude toward Informal Information**

Attitude toward Formal Information (Mean) vs. Attitude toward Informal Information (Mean)	Mean Difference	Standard Error	t statistic	p-value
Q 1A FO (2.69) vs. Q 1B FO (3.37)	-0.68	0.108	-6.301	0.000
Q 2A FO (2.77) vs. Q 2B FO (3.39)	-0.61	0.123	-4.997	0.000
Q 3A FO (2.89) vs. Q 3B FO (3.30)	-0.41	0.132	-3.105	0.002
Q 4A FO (3.10) vs. Q 4B FO (3.63)	-0.63	0.131	-4.851	0.000
Q 5A FO (2.38) vs. Q 5B FO (2.80)	-0.42	0.117	-3.617	0.000
Q 6A FO (2.88) vs. Q 6B FO (3.64)	-0.76	0.154	-4.952	0.000
Q 7A FO (3.15) vs. Q 7B FO (3.24)	-0.09	0.118	-0.735	0.464

<u>Item Description</u>	<u>Formal Information</u>	<u>Informal Information</u>
Accuracy of information	Q 1A FO	Q 1B FO
Coverage of "vital" items	Q 2A FO	Q 2B FO
Ease of use of data	Q 3A FO	Q 3B FO
Detail of information	Q 4A FO	Q 4B FO
Understanding of information	Q 5A FO	Q 5B FO
Confidentiality of information	Q 6A FO	Q 6B FO
Timeliness of information	Q 7A FO	Q 7B FO

### Measurement Issues

The reliability and construct validity of the measures for Attitudes toward Formal Information, Attitudes toward Informal Information, and Organizational Commitment are addressed in this section. Reliability is concerned with consistency of results, that is, whether the same measures would produce the same results in a different sample (Long, 1983). Construct validity is concerned with the vertical correspondence between the unobservable and operational measure that is purported to measure the construct (Peter, 1981).

#### Reliability

Coefficient (Cronbach) alpha is the basic statistic employed to evaluate the reliability (internal consistency) of a measure (Churchill, 1979, 70). The results of the reliability analysis for each construct are presented in Table 4.6. In summary, the reliability of each of these measures were acceptable, as suggested by Crocker and Algina (1986), given that all of the coefficient alpha scores were above 0.80.

**TABLE 4.6**

**Reliability of Scale Measures for Attitude toward Formal  
Information, Attitude toward Informal Information,  
and Organizational Commitment**

<b>Scale Measure</b>	<b>Coefficient Alpha</b>	<b>F Statistic</b>
Attitude toward Formal Information	0.8533	12.97
Attitude toward Informal Information	0.8714	17.69
Relative Attitude toward Formal Information	0.8748	6.55
Organizational Commitment	0.8958	103.77

### Construct Validity

Factor analysis confirms which variables represent a construct and the unidimensionality of the measures used (Churchill, 1979). The steps in factor analysis include a correlation analysis of the components and a calculation of factor loadings. In this regard, factor analysis was employed to evaluate the measures associated with the following constructs: Attitude toward Formal Information, Attitude toward Informal Information, Relative Attitude toward Formal Information, and Organizational Commitment. Specifically, factor analysis was performed (1) to reduce the amount of independent variables, if appropriate, and (2) to confirm the factor loadings and dimensions. Factor loadings were calculated using the principal components technique with varimax rotation (Mowday, Porter, and Steers, 1979). Loadings at  $\pm 0.40$  are considered important while loadings of  $\pm 0.50$  or greater are considered very significant (Hair, Anderson and Tatham, 1987).

#### Attitude toward Formal Information

The correlations between the seven dimensions of Attitude toward Formal Information (Table 4.7) were significant; thus the results of the correlation analysis suggested that the seven dimensions of Attitude toward Formal Information would load on one factor. In turn, the results of the factor analysis, shown in Table 4.8, indicated that all seven items loaded on one factor with loadings at least 0.433 or higher, explaining approximately 56.8%

**TABLE 4.7**

**Correlations among the Items Measuring  
Attitude toward Formal Information**

<b>Variables</b>	<b>Q 1A FO</b>	<b>Q 2A FO</b>	<b>Q 3A FO</b>	<b>Q 4A FO</b>	<b>Q 5A FO</b>	<b>Q 6A FO</b>	<b>Q 7A FO</b>
Q 1A FO	1.000						
Q 2A FO	0.676***	1.000					
Q 3A FO	0.501***	0.489***	1.000				
Q 4A FO	0.565***	0.610***	0.649***	1.000			
Q 5A FO	0.556***	0.541***	0.572***	0.514***	1.000		
Q 6A FO	0.219***	0.202**	0.240***	0.320***	0.204***	1.000	
Q 7A FO	0.515***	0.531***	0.521***	0.613***	0.521***	0.452***	1.000

\*\*\*significant at the 0.01 level

\*\* significant at the 0.05 level

Note: The above variables are defined in Table 4.8.

**TABLE 4.8**  
**Attitude toward Formal Information**  
**(Factor Loadings)**

Variables	Factor Loadings
Q 1A FO	0.800
Q 2A FO	0.800
Q 3A FO	0.792
Q 4A FO	0.832
Q 5A FO	0.749
Q 6A FO	0.433
Q 7A FO	0.794
% of Variance Explained	56.839
Eigenvalue	3.946

Description of the variables (questions):

- Q 1A FO = Accuracy of information
- Q 2A FO = Coverage of "vital" items
- Q 3A FO = Ease of use of data
- Q 4A FO = Detail of information
- Q 5A FO = Understanding of information
- Q 6A FO = Confidentiality of information
- Q 7A FO = Timeliness of information

Note: These variables (questions) relate to formal information.

of the total variance. Additionally, the eigenvalue was 3.946. In summary, the results of the factor analysis were quite satisfactory and were consistent with Johnson (1986).

#### Attitude toward Informal Information

The correlations between the seven dimensions of Attitude toward Informal Information (Table 4.9) were significant; thus the results of the correlation analysis suggested that the seven dimensions of Attitude toward Informal Information would load on one factor. In turn, the results of the factor analysis, shown in Table 4.10, indicated that all seven items loaded on one factor with loadings at least 0.615 or higher, explaining approximately 59.5% of the total variance. Additionally, the eigenvalue was 4.159. In summary, the results of the factor analysis were quite satisfactory and were consistent with Johnson (1986).

#### Relative Attitude toward Formal Information

The correlations between the seven dimensions of Relative Attitude toward Formal Information (Table 4.11) were significant; thus the results of the correlation analysis suggested that the seven dimensions of Relative Attitude toward Formal Information would load on one factor. In turn, the results of the factor analysis, shown in Table 4.12, indicated that all seven items loaded on one factor with loadings at least 0.312 or higher, explaining approximately 59.2% of the total variance. Additionally, the eigenvalue was 4.143. In summary, the results of the factor analysis were quite satisfactory and were not inconsistent

**TABLE 4.9**

**Correlations among the Items Measuring  
Attitude toward Informal Information**

<b>Variables</b>	<b>Q 1B FO</b>	<b>Q 2B FO</b>	<b>Q 3B FO</b>	<b>Q 4B FO</b>	<b>Q 5B FO</b>	<b>Q 6B FO</b>	<b>Q 7B FO</b>
Q 1B FO	1.000						
Q 2B FO	0.734***	1.000					
Q 3B FO	0.509***	0.550***	1.000				
Q 4B FO	0.638***	0.654***	0.670***	1.000			
Q 5B FO	0.568***	0.595***	0.520***	0.599***	1.000		
Q 6B FO	0.367***	0.418***	0.285***	0.462***	0.415***	1.000	
Q 7B FO	0.503***	0.513***	0.363***	0.473***	0.504***	0.536***	1.000

\*\*\*significant at the 0.01 level

Note: The above variables are defined in Table 4.10.

**TABLE 4.10**  
**Attitude toward Informal Information**  
**(Factor Loadings)**

Variables	Factor Loadings
Q 1B FO	0.813
Q 2B FO	0.851
Q 3B FO	0.739
Q 4B FO	0.845
Q 5B FO	0.798
Q 6B FO	0.615
Q 7B FO	0.709
% of Variance Explained	59.479
Eigenvalue	4.159

Description of the variables (questions):

- Q 1B FO = Accuracy of information
- Q 2B FO = Coverage of "vital" items
- Q 3B FO = Ease of use of data
- Q 4B FO = Detail of information
- Q 5B FO = Understanding of information
- Q 6B FO = Confidentiality of information
- Q 7B FO = Timeliness of information

Note: These variables (questions) relate to informal information.

**TABLE 4.11**

**Correlations among the Items Measuring Relative  
Attitude toward Formal Information**

<b>Variables</b>	<b>RA 1</b>	<b>RA 2</b>	<b>RA 3</b>	<b>RA 4</b>	<b>RA 5</b>	<b>RA 6</b>	<b>RA 7</b>
RA 1	1.000						
RA 2	0.685***	1.000					
RA 3	0.531***	0.570***	1.000				
RA 4	0.593***	0.636***	0.642***	1.000			
RA 5	0.563***	0.625***	0.632***	0.631***	1.000		
RA 6	0.334***	0.393***	0.276***	0.418***	0.326***	1.000	
RA 7	0.485***	0.555***	0.505***	0.543***	0.438***	0.454***	1.000

\*\*\*significant at the 0.01 level

Note: The above variables are defined in Table 4.12.

**TABLE 4.12**  
**Relative Attitude toward Formal Information**  
**(Factor Loadings)**

Variables	Factor Loadings
RA 1	0.625
RA 2	0.710
RA 3	0.617
RA 4	0.707
RA 5	0.634
RA 6	0.312
RA 7	0.539
% of Variance Explained	59.183
Eigenvalue	4.143

Description of the variables (questions):

- RA 1 = Difference in accuracy of information (Q 1A FO less Q 1B FO)
- RA 2 = Difference in coverage of "vital" items (Q 2A FO less Q 2B FO)
- RA 3 = Difference in ease of use of data (Q 3A FO less Q 3B FO)
- RA 4 = Difference in detail of information (Q 4A FO less Q 4B FO)
- RA 5 = Difference in understanding of information (Q 5A FO less Q 5B FO)
- RA 6 = Difference in confidentiality of information (Q 6A FO less Q 6B FO)
- RA 7 = Difference in timeliness of information (Q 7A FO less Q 7B FO)

Note: These variables (questions) relate to the  
Relative Attitude toward Formal Information.

with Johnson (1986). In this regard, recall that Johnson (1986) employed two components of Relative Attitude toward Formal Information (that is, Attitude toward Formal Information and Attitude toward Informal Information) but did not evaluate Relative Attitude toward Formal Information directly. Accordingly, the results of the procedures noted in this paragraph can only be indirectly compared to Johnson (1986).

### Organizational Commitment

The correlations between the nine dimensions of Organizational Commitment are shown in Table 4.13 and the results of the factor analysis with respect to the nine dimensions of Organizational Commitment are shown in Table 4.14. Significantly, the results of the factor analysis indicated that seven of the nine items loaded on Factor One with loadings of 0.62 or higher, explaining approximately 46.2 % of the total variance. Additionally, the other two items loaded on Factor Two with loadings of 0.79 or higher, explaining approximately 22.2% of total variance. In turn, the eigenvalues were 5.143 and 1.014 for Factor One and Factor Two, respectively. In summary, the results of the factor analysis were quite satisfactory and were consistent with Mowday, Porter, and Steers (1979) given that the eigenvalue for Factor Two was approximately 1.0 (Stewart, 1981).

**TABLE 4.13**

**Correlations among the Items Measuring  
Organizational Commitment**

<b>Variables</b>	<b>BEL1</b>	<b>BEL2</b>	<b>BEL3</b>	<b>BEL4</b>	<b>BEL5</b>	<b>BEL6</b>	<b>BEL7</b>	<b>BEL8</b>	<b>BEL9</b>
BEL1	1.000								
BEL2	0.423***	1.000							
BEL3	0.271***	0.438***	1.000						
BEL4	0.319***	0.587***	0.395***	1.000					
BEL5	0.395***	0.755***	0.408***	0.614***	1.000				
BEL6	0.279***	0.637***	0.414***	0.656***	0.625***	1.000			
BEL7	0.322***	0.692***	0.359***	0.479***	0.689***	0.676***	1.000		
BEL8	0.539***	0.451***	0.205***	0.392***	0.592***	0.453***	0.536***	1.000	
BEL9	0.260***	0.631***	0.488***	0.551***	0.655***	0.711***	0.771***	0.474***	1.000

\*\*\*significant at the 0.01 level

Note: The above variables are defined in Table 4.14.

**TABLE 4.14**  
**Organizational Commitment**  
**(Factor Loadings)**

Variables	FACTOR 1	FACTOR 2
BEL1	0.110	<b>0.876</b>
BEL2	<b>0.754</b>	0.381
BEL3	<b>0.628</b>	0.036
BEL4	<b>0.719</b>	0.239
BEL5	<b>0.734</b>	0.454
BEL6	<b>0.832</b>	0.199
BEL7	<b>0.774</b>	0.333
BEL8	0.330	<b>0.795</b>
BEL9	<b>0.855</b>	0.188
% of Variance Explained	46.240	22.172
Cumulative % of Variance Explained	46.240	68.412
Eigenvalues	5.143	1.014

Description of the variables (questions):

BEL1 = Effort to create success	BEL6 = Inspiration to perform job
BEL2 = Support of organization	BEL7 = Choice of organization
BEL3 = Acceptance of any job	BEL8 = Fate of organization
BEL4 = Similarity of values	BEL9 = Quality of organization
BEL5 = Pride in organization	

Note: These variables (questions) relate to Organizational Commitment.

### Hypothesis Testing

There are four different performance-related decision situations employed in this study with respect to **Relative Use of Formal Information**: periodic performance appraisals, merit pay adjustments, promotions, and terminations (Johnson, 1986, 5). The results of Johnson (1986, 88) suggest that differences may exist among the responses of each of these four performance-related decision situations. In this regard, the following hypothesis was specified with respect to the homogeneity of the four different performance-related decision situations.

**Hypothesis 1:** Supervisors are consistent in their use of formal and informal information across the four performance-related decision situations (periodic performance review, merit pay adjustment, promotion and termination).

**Hypothesis 1 (alternative):** Supervisors are not consistent in their use of formal and informal information across the four performance-related decision situations (periodic performance review, merit pay adjustment, promotion and termination).

A pairwise t test was employed to evaluate this hypothesis and the results are shown in Table 4.15. The results indicate that there was no significant difference between Review and Merit (t statistic of 0.450 and a p-value of 0.653). In contrast, the results indicate that there was a significant difference between each of the other pairs. Specifically, the results indicate a t statistic of -1.826 and a p-value of 0.070 for the Review versus Promotion comparison; a t statistic of 5.193 and a p-value of 0.000 for the Review versus Termination comparison; a t statistic of -2.005 and a p-value of 0.047 for the Merit versus Promotion comparison; a t statistic of 5.329 and a p-value of 0.000 for the Merit versus Termination

**TABLE 4.15****Relative Use of Formal Information: Pairwise Comparisons of the Four Performance-Related Decision Situations**

Pairwise Comparisons (Means)	t Statistic	p value
Review (3.53) vs. Merit (3.49)	0.450	0.653
Review (3.53) vs. Promotion (3.68)	-1.826	0.070*
Review (3.53) vs. Termination (2.87)	5.193	0.000***
Merit (3.49) vs. Promotion (3.68)	-2.005	0.047**
Merit (3.49) vs. Termination (2.87)	5.329	0.000***
Promotion (3.68) vs. Termination (2.87)	6.622	0.000***

Note: Termination was significantly different from all other performance-related decisions.

Review = Periodic Performance Review  
 Merit = Merit Pay Adjustments  
 Promotion = Promotion Decisions  
 Termination = Termination Decisions

\*\*\*significant level of 0.001

\*\* significant level of 0.05

\* significant level of 0.10

comparison; and, a t statistic of 6.622 and a p-value of 0.000 for the Promotion versus Termination comparison. In summary, the overall results suggest that the measures of the four performance-related decision situations are not homogeneous and should be analyzed independently. Termination was considerably different from the other three performance-related decision situations.

Hypotheses Two and Three:  
Attitude toward Information

The second hypothesis specifies the expected relationship between Attitude toward Formal Information and Relative Use of Formal Information with respect to the four performance-related decision situations. It is stated as followed:

**Hypothesis 2:** Supervisors' attitudes toward formal information are positively related to their use of formal information in making performance-related decision situations.

**Hypothesis 2 (alternative):** There is no relationship between supervisors' attitudes toward formal information and their use of formal information in making performance-related decision situations.

The results of the correlation procedure (shown in Table 4.16) suggest a positive relationship between Attitude toward Formal Information and all of the four performance-related decision situations. Specifically, the results indicate a correlation of 0.419 (p-value 0.000) with regard to Review; a correlation of 0.383 (p-value 0.000) with regard to Merit; a correlation of 0.482 (p-value 0.000) with regard to Promotion; and, a correlation of 0.207 (p-value 0.008) with regard to Termination. Thus, the results suggest that Attitude toward Formal Information is associated with Relative Use of Formal Information. Unlike Johnson

**TABLE 4.16**  
**Relationship Between Attitude Toward Formal**  
**(Informal) Information and Relative**  
**Use of Formal Information**

Variable	<u>Review</u>		<u>Merit</u>		<u>Promotion</u>		<u>Termination</u>	
	Correlation	p-value	Correlation	p-value	Correlation	p-value	Correlation	p-value
Attitude toward Formal Information	0.419	0.000***	0.383	0.000***	0.482	0.000***	0.207	0.008***
Attitude toward Informal Information	0.228	0.004***	0.070	0.377	0.132	0.095*	0.147	0.064*

\*\*\*significant at the 0.01 level  
 \*\*significant at the 0.05 level  
 \*significant at the 0.10 level

(1986, 113), the results of this study suggest a positive association between Attitude toward Formal Information and Relative Use of Formal Information—not an inverse association. The third hypothesis specifies the expected relationship between Attitude toward Informal Information and Relative Use of Formal Information with respect to the four performance-related decision situations. It is stated as followed:

**Hypothesis 3:** Supervisors' attitudes toward informal information are positively related to their use of informal information in making performance-related decision situations.

**Hypothesis 3 (alternative):** There is no relationship between supervisors' attitudes toward informal information and their use of informal information in making performance-related decision situations.

The results of the correlation procedure (shown in Table 4.16) suggest an inverse relationship between Attitude toward Informal Information and three of the four performance-related decision situations. Specifically, the results indicate a correlation of  $-0.228$  (p-value 0.004) with regard to Review; a correlation of  $-0.0070$  (p-value 0.377) with regard to Merit; a correlation of  $-0.132$  (p-value 0.095) with regard to Promotion; and a correlation of  $-0.0147$  (p-value 0.064) with regard to Termination. Thus, except for Merit, the results suggest that Attitude toward Informal Information is associated with Relative Use of Formal Information. Unlike Johnson (1986, 113), the results of this study suggest an inverse association between Attitude toward Informal Information and Relative Use of Formal Information—not a positive association.

Hypotheses Four Through Ten:  
Relative Attitude toward  
Formal Information

Hypotheses Four through Ten relate to the association between Relative Attitude toward Formal Information and Relative Use of Formal Information. The fourth hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Accuracy and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 4:** Supervisors who perceive formal (informal) information to be more accurate will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 4 (alternative):** Supervisors' perceptions regarding the accuracy of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Relative Attitude toward Formal Information with respect to Information Accuracy and three of the four performance-related decision situations. Specifically, the results indicate a t statistic of  $-0.255$  (p-value 0.799) with regard to Review; a t statistic of  $-0.087$  (p-value 0.931) with regard to Merit; a t statistic of  $-0.076$  (p-value 0.940) with regard to Promotion; and, a t statistic of  $1.736$  (p-value 0.085) with regard to Termination. Thus, with the exception of Termination, the results suggest that when making performance-related decisions, attitudes toward formal information with respect to Information Accuracy are not associated with reliance on formal information.

**TABLE 4.17**  
**Multiple Regression Results for Relative Attitude toward**  
**Formal Information and Organizational Commitment**

Variable	<u>Review</u>		<u>Merit</u>		<u>Promotion</u>		<u>Termination</u>	
	t Statistic	p-value	t Statistic	p-value	t Statistic	p-value	t Statistic	p-value
Accuracy (H4)	- 0.255	0.799	- 0.087	0.931	0.076	0.940	1.736	0.085*
Coverage (H5)	2.962	0.004***	3.676	0.000***	3.069	0.003***	1.322	0.188
Usage (H6)	1.489	0.138	1.683	0.094*	0.488	0.626	- 0.580	0.563
Detail (H7)	0.977	0.330	- 0.758	0.450	0.214	0.831	0.485	0.628
Completeness (H8)	0.672	0.502	- 0.449	0.654	1.110	0.269	0.385	0.701
Privacy (H9)	0.307	0.759	1.721	0.087*	0.750	0.455	1.372	0.172
Timeliness (H10)	0.263	0.793	- 1.729	0.086*	0.129	0.898	- 1.258	0.210
Organizational Commitment (H11)	0.069	0.945	0.068	0.946	- 1.023	0.308	1.302	0.195

\*\*\*significant at the 0.01 level

\* significant at the 0.10 level

With respect to Termination, relative attitudes toward formal information (Information Accuracy) are positively associated with reliance on formal information.

The fifth hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Coverage and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 5:** Supervisors who perceive formal (informal) information to be more complete will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 5 (alternative):** Supervisors' perceptions regarding the completeness of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) suggest a relationship between Relative Attitude toward Formal Information with regard to Information Coverage and three of the four performance-related decision situations. Specifically, the results indicate a t statistic of 2.962 (p-value 0.004) with regard to Review; a t statistic of 3.676 (p-value of 0.000) with regard to Merit; a t statistic of 3.069 (p-value 0.003) with regard to Promotion; and, a t statistic of 1.322 (p-value 0.188) with regard to Termination. Thus, with the exception of Termination, the results suggest that when making performance-related decisions, relative attitudes toward formal information with respect to Information Coverage are positively associated with reliance on formal information.

The sixth hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Usage and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 6:** Supervisors who perceive formal (informal) information to be easier to use will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 6 (alternative):** Supervisors' perceptions regarding the ease of use with respect to formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Relative Attitude toward Formal Information with respect to Information Usage and three of the four performance-related decision situations. Specifically, the results indicate a t statistic of 1.489 (p-value 0.138) with regard to Review; a t statistic of 1.683 (p-value 0.094) with regard to Merit; a t statistic of 0.488 (p-value 0.626) with regard to Promotion; and, a t statistic of  $-0.580$  (p-value 0.563) with regard to Termination. Thus, with the exception of Merit, the results suggest that when making performance-related decisions, relative attitudes toward formal information with respect to Information Usage are not associated with reliance on formal information. With respect to Merit, relative attitudes toward formal information (Information Usage) are positively associated with reliance on formal information.

The seventh hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Understanding and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 7:** Supervisors who perceive formal (informal) information to be more detailed will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 7 (alternative):** Supervisors' perceptions regarding the level of detail of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Relative Attitude toward Formal Information with respect to Information Detail and any of the four performance-related decision situations. Specifically, the results indicate a t statistic of 1.489 (p-value 0.138) with regard to Review; a t statistic of 1.683 (p-value 0.094) with regard to Merit; a t statistic of 0.488 (p-value 0.626) with regard to Promotion; and, a t statistic of -0.580 (p-value 0.563) with regard to Termination. Thus, the results suggest that when making performance-related decisions, relative attitudes toward formal information with respect to Information Detail are not associated with reliance on formal information.

The eighth hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Completeness and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 8:** Supervisors who perceive formal (informal) information to be more understandable will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 8 (alternative):** Supervisors' perceptions regarding the understandability of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Relative Attitude toward Formal Information with respect to Information Completeness for any of the four performance-related decision situations.

Specifically, the results indicate a t statistic of 0.672 (p-value 0.502) with regard to Review; a t statistic of -0.449 (p-value 0.654) with regard to Merit; a t statistic of 1.110 (p-value 0.269) with regard to Promotion; and, a t statistic of 0.385 (p-value 0.701) with regard to Termination. Thus, the results suggest that when making performance-related decisions, relative attitudes toward formal information with respect to Information Completeness are not associated with reliance on formal information.

The ninth hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Confidentiality and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 9:** Supervisors who perceive formal (informal) information to be more confidential will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 9 (alternative):** Supervisors' perceptions regarding the confidentiality of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Relative Attitude toward Formal Information with respect to Information Privacy and three of the four performance-related decision situations. Specifically, the results indicate a t statistic of 0.307 (p-value 0.759) with regard to Review; a t statistic of 1.721 (p-value 0.087) with regard to Merit; a t statistic of 0.750 (p-value 0.455) with regard to Promotion; and, a t statistic of 1.342 (p-value 0.172) with regard to Termination. Thus, with the exception of Merit, the results suggest that when making performance-related decisions, relative attitudes toward formal information with respect to Information Privacy are not associated with reliance on formal information. With

respect to Merit, relative attitudes toward formal information (Information Privacy) are positively associated with reliance on formal information.

The tenth hypothesis specifies the expected relationship between Relative Attitude toward Formal Information with respect to Information Timeliness and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 10:** Supervisors who perceive formal (informal) information to be more timely will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 10 (alternative):** Supervisors' perceptions regarding the timeliness of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Relative Attitude toward Formal Information with respect to Information Timeliness and three of the four performance-related decision situations. Specifically, the results indicate a t statistic of  $-0.263$  (p-value 0.793) with regard to Review; a t statistic of  $-1.729$  (p-value 0.086) with regard to Merit; a t statistic of  $0.129$  (p-value 0.898) with regard to Promotion; and, a t statistic of  $1.258$  (p-value 0.210) with regard to Termination. Thus, with the exception of Merit, the results suggest that when making performance-related decisions, relative attitudes toward formal information with respect to Information Timeliness are not associated with reliance on formal information. With respect to Merit, relative attitudes toward formal information (Information Timeliness) are inversely associated with reliance on formal information.

### Hypothesis Eleven: Organizational Commitment

The eleventh hypothesis specifies the expected relationship between an appraiser's Organizational Commitment and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 11:** When making performance-related decisions, organizational commitment will be positively associated with reliance on formal information.

**Hypothesis 11 (alternative):** When making performance-related decisions, organizational commitment will not be associated with reliance on formal information.

The results of the Multiple Regression procedure (shown in Table 4.17) do not suggest a relationship between Organizational Commitment and any of the four performance-related decision situations. Specifically, the results indicate a t statistic of  $-0.069$  (p-value 0.945) with regard to Review; a t statistic of  $-0.068$  (p-value 0.946) with regard to Merit; a t statistic of  $-1.023$  (p-value 0.308) with regard to Promotion; and, a t statistic of  $1.302$  (p-value 0.195) with regard to Termination. Thus, the results suggest that when making performance-related decisions, Organizational Commitment is not associated with reliance on formal information.

### Hypothesis Twelve: Control Variables

A number of control variables were included in the multiple regression procedure used to evaluate Hypotheses Four through Eleven above. The control variables include: Age; Gender; Education Level; Years with Current Organization; Years in Current Position; Number of Employees Supervised; and, Union Membership of Subordinates. Hypothesis Twelve, expressed in a generic form encompassing all control variables,

specifies the expected relationship between the between the various control variables and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 12:** When making performance-related decisions, professional and personal characteristics will be positively associated with reliance on formal information.

**Hypothesis 12 (alternative):** When making performance-related decisions, professional and personal characteristics will not be associated with reliance on formal information.

With five specific exceptions, the results of the Multiple Regression procedure (shown in Table 4.18) do not suggest a significant relationship between the various control variables and Relative Use of Formal Information. First, Union Membership of subordinates have a significant inverse relationship with Relative Use of Formal Information with respect to the termination decision (t statistic of  $-2.988$ ; p-value  $0.003$ ). Second, the appraiser's Age has a significant inverse relationship with Relative Use of Formal Information with respect to merit pay adjustments (t statistic of  $-2.157$ ; p-value  $0.033$ ). Third, an appraiser's Level of Education has a positive relationship with Relative Use of Formal Information with respect to periodic performance review (t statistic of  $1.680$ ; p-value  $0.095$ ). Fourth, an appraiser's number of Years in his Current Position has a positive relationship with Relative Use of Formal Information with respect to termination decision (t statistic of  $1.740$ ; p-value  $0.084$ ). Fifth, the Number of Employees Supervised by an appraiser has a positive relationship with Relative Use of Formal Information with respect to the promotion decision (t statistic of  $1.691$ ; p-value  $0.093$ ). Thus, the results suggest that when making performance-related decisions, personal and

**TABLE 4.18**

**Multiple Regression Results for Control Variables**

Variable	<u>Review</u>		<u>Merit</u>		<u>Promotion</u>		<u>Termination</u>	
	t Statistic	p-value	t Statistic	p-value	t Statistic	p-value	t Statistic	p-value
Gender	0.685	0.494	-0.799	0.426	-0.103	0.948	0.966	0.336
Age	1.077	0.283	-2.157	0.033**	-0.564	0.573	-0.271	0.787
Level of Education	1.680	0.095*	-0.112	0.911	1.086	0.280	-0.022	0.983
Years in Current Position	0.993	0.323	1.369	0.173	0.012	0.990	1.740	0.084*
Years in Current Organization	-0.660	0.510	-0.543	0.588	0.376	0.707	-0.464	0.643
Years of Professional Experience	0.650	0.517	1.312	0.192	0.112	0.911	-1.264	0.208
Years of Professional Supervision	0.527	0.599	0.770	0.443	-0.361	0.719	1.170	0.204
Number of Employees Supervised	0.401	0.689	1.187	0.237	1.691	0.093*	1.637	0.104
Union Membership	1.010	0.314	-0.890	0.375	-1.427	0.156	-2.988	0.003***

\*\*\*significant at the 0.01 level

\*\* significant at the 0.05 level

\* significant at the 0.10 level

professional characteristics are not generally associated with reliance on formal information in most situations.

### Overall Models

The results of the Multiple Regression procedures for each of the overall model are summarized in this section. There is one model for each of the four performance-related decision situations, that is, the four different measures of the dependent variable Relative Use of Formal Information. In addition to nine control variables, the independent variables in each overall model also consisted of Organizational Commitment as well as the seven dimensions of Relative Attitude toward Formal Information. The four overall models are presented in Table 4.19.

In summary, each of the four overall models were significant. With regard to Review, the results indicate an  $R^2$  of 0.338, an adjusted  $R^2$  of 0.259, and an F statistic of 4.297 (p-value 0.000) . With regard to Merit, the results indicate an  $R^2$  of 0.259, an adjusted  $R^2$  of 0.171, and an F statistic of 2.939 (p-value 0.000). With regard to Promotion, the results indicate an  $R^2$  of 0.288, an adjusted  $R^2$  of 0.204, and an F statistic of 3.409 (p-value 0.000). With regard to Termination, the results indicate an  $R^2$  of 0.176, an adjusted  $R^2$  of 0.078, and an F statistic of 1.799 (p-value 0.033).

**TABLE 4.19**  
**Multiple Regression Results for the Four Overall Models**

Variable	Review		Merit		Promotion		Termination	
	Coefficient	t Statistic						
Intercept	4.072 <sup>a</sup>	7.311***	4.032 <sup>a</sup>	6.434***	4.885 <sup>a</sup>	8.181***	3.133 <sup>a</sup>	4.250***
Accuracy (H4)	-0.026	0.255	0.009	0.087	-0.008	0.076	0.188	1.736*
Coverage (H5)	0.326	2.962***	0.429	3.676***	0.343	3.069***	0.157	1.322
Usage (H6)	0.151	1.489	0.181	1.683*	0.050	0.488	-0.064	-0.580
Detail (H7)	0.105	0.977	0.086	0.758	0.023	0.214	0.056	0.485
Completeness (H8)	0.068	0.672	0.048	0.449	0.115	1.110	0.042	0.385
Privacy (H9)	0.025	0.307	0.146	1.721*	0.061	0.750	0.118	1.372
Timeliness (H10)	0.024	0.263	0.167	1.729*	0.012	0.129	-0.124	-1.258
Organizational Commitment (H11)	0.072	0.069	0.005	0.068	0.074	1.023	0.100	1.302

\*\*\*significant at the 0.01 level  
 \*significant at the 0.10 level

<sup>a</sup>amount represents intercept value not variable coefficient  
 Note: continued on the next page

**TABLE 4.19 (continued)**  
**Multiple Regression Results for the Four Overall Models**

Variable	<u>Review</u>		<u>Merit</u>		<u>Promotion</u>		<u>Termination</u>	
	Coefficient	t Statistic	Coefficient	t Statistic	Coefficient	t Statistic	Coefficient	t Statistic
Gender	-0.051	-0.685	-0.062	0.799	0.008	-0.103	0.080	0.966
Age	-0.102	1.077	-0.217	2.157**	-0.056	-0.564	-0.029	-0.271
Level of Education	0.127	1.680*	0.009	0.112	0.085	1.086	-0.002	-0.022
Years in Current Position	0.081	0.993	0.119	1.369	0.001	0.012	0.159	1.740*
Years in Current Organization	-0.051	0.660	-0.044	0.543	0.030	0.376	-0.040	-0.464
Years of Professional Experience	0.058	0.650	0.124	1.312	0.010	0.112	-0.126	-1.264
Years of Professional Supervision	0.053	0.527	0.082	0.770	0.038	-0.361	0.132	1.170
Number of Employees Supervised	0.029	0.401	0.092	1.187	0.129	1.691*	0.134	1.637
Union Membership	0.072	1.010	-0.067	0.890	0.103	-1.427	-0.229	2.988***

\*\*\*significant at the 0.01 level  
 \*\* significant at the 0.05 level

\* significant at the 0.10 level  
 Note: continued on the next page

**TABLE 4.19 (continued)**  
**Multiple Regression Results for the Four Overall Models**

Variable	<u>Review</u>		<u>Merit</u>		<u>Promotion</u>		<u>Termination</u>	
	Statistic	p value	Statistic	p value	Statistic	p value	Statistic	p value
F Statistic	4.297***	0.000	2.939***	0.000	3.409***	0.000	1.799***	0.033
R-squared	0.388	na	0.259	na	0.288	na	0.176	na
Adjusted R-squared	0.259	na	0.171	na	0.204	na	0.078	na

\*\*\*significant at the 0.01 level

na not applicable

### Summary of Results of Tests of Hypotheses

The results of the tests of hypotheses are summarized below. First, the results of the test of the Hypothesis One suggest that the means of the four performance-related decision situations were not homogeneous. Thus, the measures of the four situations were not combined for further analysis purposes.

Second, the results of the tests of Hypothesis Two and Three suggest that Attitude toward Formal Information and Attitude toward Informal Information are both strongly associated with Relative Use of Formal Information. In contrast to Johnson (1986, 113), the results of this study suggest a positive association between Attitude toward Formal Information and Relative Use of Formal Information and an inverse association between Attitude toward Informal Information and Relative Use of Formal Information.

Third, with the exception of Information Coverage, the results of the tests of Hypotheses Four through Ten do not generally suggest a significant relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information. Specifically, the results suggest that three of the four performance-related decision situations (i.e., three of the four measures of Relative Use of Formal Information) are positively associated with Relative Attitude toward Formal Information with respect to Information Coverage, that is, Review, Merit, and Promotion. In addition to Information Coverage, the results suggest that two other dimensions of Relative Attitude toward Formal Information were also positively associated with Relative Use of Formal Information with respect to Merit, that is, Information Usage and Information Privacy. In contrast, one dimension of Relative Attitude toward Formal Information was inversely associated with

Relative Use of Formal Information with respect to Merit, that is, Information Timeliness. And finally, one performance-related decision situation was positively associated with Relative Attitude toward Formal Information with respect to Information Accuracy, that is, Termination.

Fourth, the results of the test of Hypothesis Eleven do not generally suggest a significant relationship between Organizational Commitment and Relative Use of Formal Information. And finally, with five specific exceptions, the results of the test of Hypothesis Twelve do not suggest a significant relationship between the various control variables and Relative Use of Formal Information. Among the five exceptions, Union Membership of Subordinates has a significant inverse relationship with Relative Use of Formal Information with respect to the termination decision. Second, the appraiser's Age has a significant inverse relationship with Relative Use of Formal Information with respect to merit pay adjustments. Third, an appraiser's Level of Education has a positive relationship with the Relative Use of Formal Information with respect to periodic performance review. Fourth, an appraiser's number of Years in his Current Position has a positive relationship with Relative Use of Formal Information with respect to termination decision. Fifth, the Number of Employees Supervised by an appraiser has a positive relationship with Relative Use of Formal Information with respect to the promotion decision.

### Chapter Summary

The results of the data analysis were presented in this chapter. The chapter was organized as follows: First, the description of the data set used in the study was presented. Second, measurement issues were discussed. Third, the results of the hypotheses testing were reported. The implications of the results are discussed in the next chapter.

## **CHAPTER V**

### **DISCUSSION AND IMPLICATIONS OF FINDINGS**

The results of the hypotheses testing (documented in the previous chapter) are summarized in this chapter. Additionally, comments are provided pertaining to the implications, limitations and contributions of this study. In this regard, the chapter is organized as follows. First, assertions underlying this study are evaluated. Second, the objectives of the study are evaluated. Third, the implications of these results are discussed. Fourth, the contributions of the study are summarized. Fifth, the limitations of the study are presented. And finally, suggestions for future research are provided.

#### Assertions Underlying This Study

There are three assertions underlying this study. First, Johnson (1986, 114) reports that the results of his study suggest that “informal information is relied upon relatively more than formal information in all four of the performance-related decision situations studied: pay, promotion, termination and periodic appraisal.” Second, with respect to Relative Use of Formal Information, the results of Johnson (1986, 88) suggest that differences may exist among the responses of each of the four performance-related decision situations measuring Relative Use of Formal Information. And third, Johnson (1986, 120) reports that the results of his study suggest a strong association between attitudes toward formal (and informal)

information and the relative use of formal (and informal) information. The results of the study related to each of these underlying assertions are reported in the three immediately following sections.

#### Relative Use of Formal Information

Johnson (1986, 114) reports that the results of his study suggest that “informal information is relied upon relatively more than formal information in all four of the performance-related decision situations studied: pay, promotion, termination and periodic appraisal.” However, the results of the results of this study suggest the opposite, that is, the descriptive statistics of this study (Table 4.3) suggest that, on average, appraisers in the sample have a higher preference for formal information with respect to all four of the performance-related decision situations. Differences in the results of this study and the results of Johnson (1986, 114) may stem from several sources. First, differences in the population of interest—appraisers from multiple companies participated in this study while appraisers from only one company participated in Johnson (1986). Second, evolutionary differences in the technological sophistication of formal appraisal systems—there was well over a decade between the time that data was collected for this study and the time when data was collected for Johnson (1986). Finally, differences in performance-related appraisal training—the legal and regulatory climate surrounding performance-related appraisals has continued to become increasingly burdensome since Johnson (1986).

### Homogeneity of Performance-Related Decision Situations

There are four different performance-related decision situations employed in this study with respect to the Relative Use of Formal Information: periodic performance appraisals, merit pay adjustments, promotions, and terminations (Johnson, 1986, 5). The results of Johnson (1986, 88) suggest that differences may exist among the responses of each of these four performance-related decision situations. In this regard, the following hypothesis was evaluated with respect to the homogeneity of the four different performance-related decision situations.

**Hypothesis 1:** Supervisors are consistent in their use of formal and informal information across the four performance-related decision situations (periodic performance review, merit pay adjustment, promotion and termination).

**Hypothesis 1 (alternative):** Supervisors are not consistent in their use of formal and informal information across the four performance-related decision situations (periodic performance review, merit pay adjustment, promotion and termination).

A pairwise t test was employed to evaluate Hypothesis One. In summary, consistent with Johnson (1986, 88), the overall results suggest that the measures of the four performance-related decision situations are not homogeneous and should be analyzed independently.

### Attitude toward Formal Information and Attitude toward Informal Information

The relationship between the Relative Use of Formal Information and both the Attitude toward Formal Information and Attitude toward Informal Information are examined to determine if a relationship exists. The results of Johnson (1986, 120) suggest

that a strong relationship exists between the Relative Use of Formal Information and both Attitudes toward Formal Information and Attitudes toward Informal Information. In this regard, the following hypotheses were evaluated with respect to the Relative Use of Formal Information and the Attitudes toward Formal Information and the Attitudes toward Informal Information.

**Hypothesis 2:** Supervisors' attitudes toward formal information are positively related to their use of formal information in making performance-related decision situations.

**Hypothesis 2 (alternative):** There is no relationship between supervisors' attitudes toward formal information and their use of formal information in making performance-related decision situations.

**Hypothesis 3:** Supervisors' attitudes toward informal information are positively related to their use of informal information in making performance-related decision situations.

**Hypothesis 3 (alternative):** There is no relationship between supervisors' attitudes toward informal information and their use of informal information in making performance-related decision situations.

The results of the correlation procedures suggest that an association exists between Attitude toward Formal Information and Relative Use of Formal Information as well as Attitude toward Informal Information and Relative Use of Formal Information. Specifically, the results of this study suggest a positive association between Attitude toward Formal Information and Relative Use of Formal Information and an inverse association between Attitude toward Informal Information and Relative Use of Formal Information. Significantly, the results of this study regarding Hypothesis 2 and Hypothesis 3 are the opposite, with respect to direction, of that found by Johnson (1986, 113).

Results of Tests Hypotheses Relating  
to the Objectives of This Research

Grounded in the results of Johnson (1986), this study is designed to gain insights regarding the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information in the performance appraisal process. Additionally, this study is designed to gain insights regarding the relationship between Organizational Commitment and Relative Use of Formal Information in the performance appraisal process.

Relative Attitude toward Formal Information  
and Relative Use of Formal Information

The first objective of this study relates to the relationship between Relative Attitude toward Formal Information and the Relative Use of Formal Information. There were seven hypotheses related to this objective.

**Hypothesis 4:** Supervisors who perceive formal (informal) information to be more accurate will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 4 (alternative):** Supervisors' perceptions regarding the accuracy of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 5:** Supervisors who perceive formal (informal) information to be more complete will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 5 (alternative):** Supervisors' perceptions regarding the completeness of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 6:** Supervisors who perceive formal (informal) information to be easier to use will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 6 (alternative):** Supervisors' perceptions regarding the ease of use with respect to formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 7:** Supervisors who perceive formal (informal) information to be more detailed will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 7 (alternative):** Supervisors' perceptions regarding the level of detail of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 8:** Supervisors who perceive formal (informal) information to be more understandable will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 8 (alternative):** Supervisors' perceptions regarding the understandability of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 9:** Supervisors who perceive formal (informal) information to be more confidential will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 9 (alternative):** Supervisors' perceptions regarding the confidentiality of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

**Hypothesis 10:** Supervisors who perceive formal (informal) information to be more timely will rely more on formal (informal) information (when making performance-related decisions).

**Hypothesis 10 (alternative):** Supervisors' perceptions regarding the timeliness of the formal (informal) information are not associated with their reliance on (or use of) formal (informal) information (when making performance-related decisions).

A Multiple Regression procedure was employed to evaluate Hypotheses Four through Ten. With the exception of Information Coverage, the results of the tests of Hypotheses Four through Ten do not generally suggest a significant relationship between

**Relative Attitude toward Formal Information and Relative Use of Formal Information.** Specifically, the results suggest that three of the four performance-related decision situations (i.e., three of the four measures of Relative Use of Formal Information) are positively associated with Relative Attitude toward Formal Information with respect to Information Coverage, that is, Review, Merit, and Promotion. In addition to Information Coverage, the results suggest that two other dimensions of Relative Attitude toward Formal Information were also positively associated with Relative Use of Formal Information with respect to Merit, that is, Information Usage and Information Privacy. In contrast, one dimension of Relative Attitude toward Formal Information was inversely associated with Relative Use of Formal Information with respect to Merit, that is, Information Timeliness. And finally, one performance-related decision situation was positively associated with Relative Attitude toward Formal Information with respect to Information Accuracy, that is, Termination. Hypotheses Four through Ten represent extensions of Johnson (1986). A direct comparison of these results (i.e., the results relating to the tests of these hypotheses) to the results of Johnson (1986) is not possible.

#### **Organizational Commitment and Relative Use of Formal Information**

The second objective of this study relates to the relationship between Organizational Commitment and the Relative Use of Formal Information. The following hypothesis related to this objective.

**Hypothesis 11:** When making performance-related decisions, organizational commitment will be positively associated with reliance on formal information.

**Hypothesis 11 (alternative):** When making performance-related decisions, organizational commitment will not be associated with reliance on formal information.

Hypothesis Eleven was evaluated in conjunction with the evaluation of Hypotheses Four through Ten using the Multiple Regression procedure. The results of the test of Hypotheses Eleven do not suggest a significant relationship between Organizational Commitment and Relative Use of Formal Information. Hypothesis Eleven represents an extension of Johnson (1986). A direct comparison of the results (of the test of this hypothesis) to the results of Johnson (1986) is not possible.

#### Control Variables

A number of control variables were included in the multiple regression procedure used to evaluate Hypotheses Four through Eleven above. The control variables include: Age; Gender; Education Level; Years with Current Organization; Years in Current Position; Number of Employees Supervised; and, Union Membership of Subordinates. Hypothesis Twelve, expressed in a generic form encompassing all control variables, specifies the expected relationship between the between the various control variables and Relative Use of Formal Information. It is stated as followed:

**Hypothesis 12:** When making performance-related decisions, professional and personal characteristics will be positively associated with reliance on formal information.

**Hypothesis 12 (alternative):** When making performance-related decisions, professional and personal characteristics will not be associated with reliance on formal information.

With five specific exceptions, the results of the Multiple Regression procedure (shown in Table 4.18) do not suggest a significant relationship between the various control variables and Relative Use of Formal Information. Among the five exceptions, Union Membership of Subordinates has a significant inverse relationship with Relative Use of Formal Information with respect to the termination decision. Second, the appraiser's Age has a significant inverse relationship with Relative Use of Formal Information with respect to merit pay. Third, an appraiser's Level of Education has a positive relationship with Relative Use of Formal Information with respect to periodic performance review. Fourth, an appraiser's Number of Years in his Current Position has a positive relationship with Relative Use of Formal Information with respect to termination decision. Fifth, the Number of Employees Supervised by an appraiser has a positive relationship with Relative Use of Formal Information with respect to the promotion decision. Hypothesis Twelve represents an extension of Johnson (1986). A direct comparison of these results (i.e., the results relating to the tests of this hypothesis) to the results of Johnson (1986) is not possible.

#### Implications of the Study

The results of Johnson (1986, 88) suggest that differences may exist among the responses of each of the four performance-related decision situations. In this regard, the results of the tests of Hypothesis One were consistent with the results of Johnson (1986, 88). The results of this study suggest that the measures of the four performance-related decision situations are not homogeneous and should be analyzed independently. From a

practical standpoint, the results of this study suggest that appraisers may place varying degrees of emphasis on the use of formal information depending on the situation in which it is used. This was especially apparent with respect to the termination decision. In this regard, the results of this study suggest that appraisers in this sample used relatively more formal information when making termination decisions than when making other performance-related decisions (i.e., periodic performance reviews, merit pay adjustments, and promotion decisions). This finding seems extremely plausible given the legal and regulatory environment surrounding the termination process. In turn, this finding should “give comfort” to all stakeholders in the performance appraisal process.

#### Contributions of the Study

This study was performed to gain insights into the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information in the performance appraisal process. Additionally, this study was undertaken to gain insights into the relationship between Organizational Commitment and Relative Use of Formal Information in the performance appraisal process.

While the results of this study do not suggest the existence of a relationship between Organizational Commitment and Relative Use of Formal Information, the results of the study do suggest the existence of other relationships. In summary, the results of this study suggest that Information Coverage is positively associated with Relative Use of Formal Information with respect to performance-related decision situations other than Termination while Relative Use of Formal Information with respect to Termination is

positively associated with the Information Accuracy dimension of Relative Attitude toward Formal Information as assessed by the appraiser as well as two appraiser attributes—Years in Current Position and Union Membership of Subordinates. Specifically, the above noted findings of the study with respect to Termination seem plausible given the legal and regulatory environment surrounding the termination process. In this regard, insights provided by the results of this study may facilitate accountants' /auditors' identification of weaknesses in performance appraisal systems as well as contribute to the improvement of performance appraisal systems.

#### Limitations of the Study

This study was subject to certain limitations which are discussed in this section. These limitations may influence the validity of the study, and, consequently, should be considered when one interprets the results.

1. Although statistical analysis of the sample data showed that late respondents did not differ significantly from early respondents, the possibility existed that the non-respondents may have differed from the respondents. However, nothing came to the attention of the author that would suggest that differences did, in fact, exist. Further, while the response rate of eight percent was minimal for business research, the 161 usable responses were adequate for the correlation statistical procedure (Isaac and Michael, 1990, pg. 197) and for the Multiple Regression procedure (Berry and Feldman, 1985, pg. 14).

2. This study only considers members of the Institute of Supply Managers. Thus, the respondents were not representative of all individuals with supervisory experience. Care should be exercised in generalizing the conclusions of this study to other groups of performance appraisers.

#### Suggestions for Future Research

The primary focus of this study was the relationship between Relative Attitude toward Formal Information and Relative Use of Formal Information in the performance appraisal process. Additionally, the relationship between Organizational Commitment and the Relative Use of Formal Information in the performance appraisal process was also addressed. These variables, though demonstrating a theoretical relationship, are not exclusive in measuring the selection of formal information. For example, prior studies have demonstrated the effect of other variables, such as new information technologies (Lievrout and Finn, 1996), strategy (MacDonald, 1996), perceived environmental uncertainty (Gordon and Narayanan, 1984), locus of control, structure and consideration (Johnson, 1986) and control issues (Dirsmith and Covaleski, 1985). Additionally, future research could also include independent variables relating to other appraiser characteristics such as knowledge of technology, participation in organization decisions, managerial style, and time pressure, and organizational issues such as changing technologies (i.e., internet/intranet information access), firm mergers and government regulatory uncertainty.

**APPENDIX A**

**CORRESPONDENCE WITH**

**RESPONDENTS**

# Widener University

One University Place • Chester, PA 19013-5792

School of Management

(610) 499-4303  
Fax (610) 499-4614

August 25, 1999

Dear NAPM member,

I am pursuing my Doctorate of Business Administration at Louisiana Tech University. As part of my dissertation research, I am gathering information from NAPM members about how employees are evaluated. If you do not evaluate the performance of subordinates, please pass along the enclosed survey to someone in your organization that does.

Please participate in this study by completing the enclosed questionnaire and returning it directly to me. A self-addressed, stamped envelope is enclosed for your convenience. The survey should only take a few minutes to complete.

Your individual responses will be treated with complete confidentiality. The survey will only be seen by me and the members of my dissertation committee, and the data will be analyzed and reported at the group or aggregate level.

If you have any questions regarding the survey, please feel free to contact me by phone, mail, or e-mail. Thank you for your participation.

Sincerely Yours,



Peter F. Oehlers  
Widener University  
One University Place  
Chester, PA 19013-5792  
(610) 499-1144  
[oehlers@widener.edu](mailto:oehlers@widener.edu)

**Instructions:**

In the first part of the survey, questions refer to information as either formal or informal. **Formal information** is any “official” company information; anything that is produced, required, or suggested by company policy or procedure. By definition, all other information is **informal information**.

In the second part of the survey, questions refer to information as financial or nonfinancial. **Financial information** is all information expressed in dollars; all other information is **nonfinancial information**.

Please answer the questions in parts one and two independently. Then proceed with the last few short sections.

Thank you for your assistance in filling out this survey.

# Widener University

One University Place • Chester, PA 19013-5792

School of Management

(610) 499-4303  
Fax (610) 499-4614

November 12, 1999

Dear NAPM member,

Recently, you should have received a survey entitled *The Use of Information in Performance Evaluation* as part of my dissertation at Louisiana Tech University. This survey was designed to gather information about your views towards the use of various types of information in the performance evaluation of your subordinates.

If you have already completed and returned this survey, thank you for your participation. If not, would you please take a few minutes to complete the enclosed survey instrument. A self-addressed, stamped envelop is also enclosed for you convenience.

Your individual responses will be treated with complete confidentiality. The survey will only be seen by me and the members of my dissertation committee, and the data will be analyzed and reported at the group or aggregate level. Your participation in this research is very important. Thank you for your time.

If you do not evaluate the performance of subordinates, please pass along the enclosed survey to someone in your organization that does. If you have any questions regarding the survey, please feel free to contact me by phone, mail, or e-mail. Again, thank you for your cooperation in helping complete my dissertation.

Sincerely yours,



Peter F. Oehlers  
Widener University  
One University Place  
Chester, PA 19013-5792  
(610) 499 - 1144  
[oehlers@widener.edu](mailto:oehlers@widener.edu)

**Instructions:**

In the first part of the survey, questions refer to information as either formal or informal. **Formal information** is any “official” company information; anything that is produced, required, or suggested by company policy or procedure. By definition, all other information is **informal information**.

In the second part of the survey, questions refer to information as financial or nonfinancial. **Financial information** is all information expressed in dollars; all other information is **nonfinancial information**.

Please answer the questions in parts one and two independently. Then proceed with the last few short sections.

Thank you for your assistance in filling out this survey.

**APPENDIX B**

**SURVEY INSTRUMENT**

### PART I: FORMAL vs. INFORMAL INFORMATION

Instructions: The following questions concern the information you use in making performance related decisions in your company, such as pay, promotion, termination, and "personal coaching". Formal information is any "official" company information; anything produced, required, or suggested by company policy; all other information is informal information. For each question, circle the number that best indicates your opinion.

#### FORMAL INFORMATION

- 1a. How accurate is the information?  
 Completely accurate Not accurate  
 1—2—3—4—5—6—7
- 2a. To what extent does the information cover "vital" items?  
 Full coverage No coverage  
 1—2—3—4—5—6—7
- 3a. How easy is it for you to use the data?  
 Simple Impossible  
 1—2—3—4—5—6—7
- 4a. To what extent is the information detailed?  
 Fully detailed No detail  
 1—2—3—4—5—6—7
- 5a. How would you describe your understanding of the information?  
 Complete None  
 1—2—3—4—5—6—7
- 6a. How confidential is the information?  
 Totally Private General Knowledge  
 1—2—3—4—5—6—7
- 7a. How timely is the information?  
 Immediate Too Late  
 1—2—3—4—5—6—7

#### INFORMAL INFORMATION

- 1b. How accurate is the information?  
 Completely accurate Not accurate  
 1—2—3—4—5—6—7
- 2b. To what extent does the information cover "vital" items?  
 Full coverage No coverage  
 1—2—3—4—5—6—7
- 3b. How easy is it for you to use the data?  
 Simple Impossible  
 1—2—3—4—5—6—7
- 4b. To what extent is the information detailed?  
 Fully detailed No detail  
 1—2—3—4—5—6—7
- 5b. How would you describe your understanding of the information?  
 Complete None  
 1—2—3—4—5—6—7
- 6b. How confidential is the information?  
 Totally Private General Knowledge  
 1—2—3—4—5—6—7
- 7b. How timely is the information?  
 Immediate Too Late  
 1—2—3—4—5—6—7

8. Please indicate the relative "weight" you place on formal vs. informal information when you prepare the periodic performance appraisal for a subordinate.

100% 100%  
 Formal Informal  
 Equal  
 1—2—3—4—5—6—7

10. Please indicate the relative "weight" you place on the formal vs. informal information used in your decisions (or suggestions) regarding promotions of subordinates.

100% 100%  
 Formal Informal  
 Equal  
 1—2—3—4—5—6—7

9. Please indicate the relative "weight" you place on the formal vs. informal information in your decisions (or suggestions) regarding merit pay adjustments of subordinates.

100% 100%  
 Formal Informal  
 Equal  
 1—2—3—4—5—6—7

11. Please indicate the relative "weight" you place on formal vs. informal information used in your decisions (or suggestions) to terminate the employment of subordinates.

100% 100%  
 Formal Informal  
 Equal  
 1—2—3—4—5—6—7

## PART II: FINANCIAL vs. NONFINANCIAL INFORMATION

Instructions: The following questions concern the information you use in making performance related decisions in your company, such as pay, promotion, termination, and "personal coaching". Financial information is all information expressed in dollars; all other information is nonfinancial information. For each question, circle the number that best indicates your opinion.

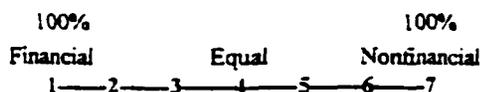
### FINANCIAL INFORMATION

- 1a. How accurate is the information?  
Completely accurate Not accurate  
1—2—3—4—5—6—7
- 2a. To what extent does the information cover "vital" items?  
Full coverage No coverage  
1—2—3—4—5—6—7
- 3a. How easy is it for you to use the data?  
Simple Impossible  
1—2—3—4—5—6—7
- 4a. To what extent is the information detailed?  
Fully detailed No detail  
1—2—3—4—5—6—7
- 5a. How would you describe your understanding of the information?  
Complete None  
1—2—3—4—5—6—7
- 6a. How confidential is the information?  
Totally Private General Knowledge  
1—2—3—4—5—6—7
- 7a. How timely is the information?  
Immediate Too Late  
1—2—3—4—5—6—7

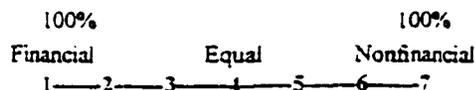
### NONFINANCIAL INFORMATION

- 1b. How accurate is the information?  
Completely accurate Not accurate  
1—2—3—4—5—6—7
- 2b. To what extent does the information cover "vital" items?  
Full coverage No coverage  
1—2—3—4—5—6—7
- 3b. How easy is it for you to use the data?  
Simple Impossible  
1—2—3—4—5—6—7
- 4b. To what extent is the information detailed?  
Fully detailed No detail  
1—2—3—4—5—6—7
- 5b. How would you describe your understanding of the information?  
Complete None  
1—2—3—4—5—6—7
- 6b. How confidential is the information?  
Totally Private General Knowledge  
1—2—3—4—5—6—7
- 7b. How timely is the information?  
Immediate Too Late  
1—2—3—4—5—6—7

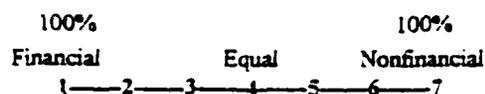
8. Please indicate the relative "weight" you place on financial vs. nonfinancial information when you prepare the periodic performance appraisal for a subordinate.



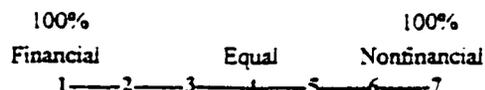
10. Please indicate the relative "weight" you place on the financial vs. informal information used in your decisions (or suggestions) regarding promotions of subordinates.



9. Please indicate the relative "weight" you place on the financial vs. nonfinancial information in your decisions (or suggestions) regarding merit pay adjustments of subordinates.



11. Please indicate the relative "weight" you place on financial vs. nonfinancial information used in your decisions (or suggestions) to terminate the employment of subordinates.



### PART III: GENERAL BELIEFS

Instructions: Below is a series of statements designed to allow you to indicate the extent of which you agree with each statement. In answering, use the following response scale and write the number corresponding to your level of agreement with each statement in the space provided beside that statement.

Completely disagree	Largely disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Largely agree	Completely agree
1	2	3	4	5	6	7	8	9

- \_\_\_ 1. A person should make certain that their actions never intentionally harm another even to a small degree.
- \_\_\_ 2. Risks to another should never be tolerated, irrespective of how small the risks might be.
- \_\_\_ 3. The existence of potential harm to others is always wrong, irrespective of the benefits to be gained.
- \_\_\_ 4. One should never psychologically or physically harm another person.
- \_\_\_ 5. One should not perform an action which might in any way threaten the dignity and welfare of another individual.
- \_\_\_ 6. If an action could harm an innocent other, it should not be taken.
- \_\_\_ 7. Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral.
- \_\_\_ 8. The dignity and welfare of people should be the most important concern in any society.
- \_\_\_ 9. It is never necessary to sacrifice the welfare of others.
- \_\_\_ 10. Moral actions are those which closely match the ideals of the most "perfect" action.
- \_\_\_ 11. There are no ethical principles that are so important that they should be a part of any code of ethics.
- \_\_\_ 12. What is ethical varies from one situation to another.
- \_\_\_ 13. Moral standards should be seen as being individualistic; what one person considers to be moral may be judged to be immoral by another person.
- \_\_\_ 14. Different types of moralities cannot be compared to "rightness."
- \_\_\_ 15. Questions of what is ethical for everyone can never be resolved since what is moral or immoral is up to the individual.
- \_\_\_ 16. Moral standards are simple personal rules which indicate how a person should behave, and are not to be applied in making judgments of others.
- \_\_\_ 17. Ethical considerations in interpersonal relations are so complex that individuals should be allowed to formulate their own individual codes.
- \_\_\_ 18. Rigidly codifying an ethical option that prevents certain types of actions could stand in the way of better human relations and adjustments.
- \_\_\_ 19. No rule concerning lying can be formulated; whether a lie is permissible or not permissible totally depends upon the situation.
- \_\_\_ 20. Whether a lie is judged to be moral or immoral depends upon the circumstances surrounding the action.

**Part IV: BELIEFS ABOUT YOUR ORGANIZATION:**

Instructions: Please indicate the extent of your agreement or disagreement with the following statements concerning the organization for which you work by circling the appropriate number.

	Completely agree							Completely disagree
1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization to be successful.	1	2	3	4	5	6	7	
2. I talk up this organization to my friends as a great organization to work for.	1	2	3	4	5	6	7	
3. I would accept almost any type of job assignment in order to keep working for this organization.	1	2	3	4	5	6	7	
4. I find that my values and the organization's values are very similar.	1	2	3	4	5	6	7	
5. I am proud to tell others that I am part of this organization.	1	2	3	4	5	6	7	
6. The organization really inspires the very best in me in the way of job performance.	1	2	3	4	5	6	7	
7. I am extremely glad I chose this organization to work for, over others I was considering at the time I joined.	1	2	3	4	5	6	7	
8. I really care about the fate of this organization.	1	2	3	4	5	6	7	
9. For me, this is the best of all possible organizations for which to work.	1	2	3	4	5	6	7	

**DEMOGRAPHIC INFORMATION**

Instructions: Please fill in the correct response for each of the following general questions about yourself.

1. Sex      Male      Female
2. Age: \_\_\_\_\_
3. Highest level of formal education: \_\_\_\_\_
4. Years in current position: \_\_\_\_\_
5. Type of industry: \_\_\_\_\_ SIC Code (if known): \_\_\_\_\_
6. Years with current organization: \_\_\_\_\_
7. Title of position in current organization: \_\_\_\_\_
8. Total years of professional work experience: \_\_\_\_\_
9. How many years of supervisory responsibility have you had? \_\_\_\_\_
10. How many employees do you supervise? \_\_\_\_\_
11. Are your employees unionized?    Yes    No

If you would like a copy of the summary results, please include a business card or write your address below.

THANK YOU FOR YOUR PARTICIPATION

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