The Managerial Decision Styles of Florida's State University Libraries' Managers

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THE MANAGERIAL DECISION STYLES OF FLORIDA'S STATE UNIVERSITY LIBRARIES' MANAGERS

BY

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ABSTRACT

Decision-making is one of the most important elements in the administration of any organization. University libraries are, of course, organizations. Inside these organizations the managers make a variety of decisions that will have a significant impact on the success of those libraries. Libraries’ managers utilize different methods in processing their decisions. Many factors play roles in the success of libraries’ managers. The manager’s managerial decision style is one factor that contributes to the success of the manager and therefore to the success of their organization; and yet, there is a dearth of research about decision styles used in library administration and how they influence the decision-making process.

The main purpose of this study was to explore the managerial decision styles of the managers (directors, associate directors, assistant directors, and the heads of departments) of Florida’s state university libraries. A second purpose was to determine the relation between the variety of managers’ decision styles and the following seven variables: gender, age, ethnicity, educational level, educational major, administrative experience, and current position. The results of this study will provide baseline information to improve our understanding of library managers and management.

This study was grounded in the Decision Style Model developed by Alan Rowe and Richard O. Mason (1987). A survey questionnaire was employed in this study. The questionnaire included two parts:

1. “The Decision Style Inventory” (DSI) developed by Row and Mason (1987). This inventory was applied to measure the decision styles of the managers of Florida’s state university main libraries.
2. The second part of the questionnaire consisted of questions designed to obtain descriptive data such as gender, age, ethnicity, educational level, educational major, current position, and administrative experience.

According to the Decision Style Model, it was found that the predominant decision style for the majority of Florida’s state university main libraries’ managers was the behavioral decision style, followed by the conceptual decision style. The directive decision style was the style used least often by most of these managers. As for the decision style patterns, the findings inform us that the majority of Florida’s state university main libraries’ managers think using the right side of the brain rather than the left side.

It was also found that there was no relationship was found between Florida’s state university libraries’ managers and their gender, age, or highest academic degree. On the other hand, the findings of this study indicated that years of administrative experience, ethnicity, position, and educational major of these managers were indeed related to the decision style or styles used by these managers.

To date there has been no research conducted on profiling the decision styles of Florida’s state university libraries’ managers and the process of how they think in order to reach their decisions. Given this, the results of this study provided baseline information to improve our understanding of library managers and management in general and in particular, understanding of library managers and management in Florida’s state university libraries.
CHAPTER ONE
INTRODUCTION

Our decisions shape our lives. Made consciously or unconsciously, with good or bad consequences, decisions are a fundamental tool we use in facing the opportunities, the challenges, and the uncertainties of life. Our success in all the roles we play reflects upon the decisions we make (Hammond, 1999).

The practice of management is complex. Managers plan, organize, staff, direct, and control activities in ways that they believe will best accomplish the organization’s objectives. While performing these functions, they are continuously making a variety of decisions that will have a significant impact on the success of the organization (Forgionne, 1991). Decision-making is an essential part of management and effects the operations of any organization. Decision-making is the most important managerial function, and it is one upon which the success or failure of any organization depends (Barnard, 1938; Yukl, 1994). Decision-making is a much slower process than one might imagine, involving as it does a blend of thinking, deciding, and acting (Stueart & Moran, 1993).

Leonard, Scholl, and Kowalski (1999) argue that the decision-making is a fundamental function in organizations and the quality of the decisions that managers make influences their effectiveness as managers, and the effectiveness of managers, in turn, affects the success or failure of the organization.
Decision-Making and Decision Makers

Decisions always involve choices from among available alternatives. Managers make choices differently because of differences in their ability to perceive and process information. Some managers have impeccable integrity, whereas others do not. Some individuals can think quickly, and others are slow in thinking, or methodical and thorough. Some are creative thinkers. Some prefer doing things rather than thinking about them. Collectively, these attributes are known as decision style. Decision style may be used to identify these different types of decision makers. Identifying these differences and knowing about an individual's decision style helps us to know how the individual thinks about various situations, processes information, and makes decisions. Once we know the decision style we may be able to predict outcomes in terms of decision behavior (Rowe & Boulgarides, 1992).

Stueart and Moran (1993) argue that the selection among alternatives is made on the basis of the following:

- Experience. In relying on one's experience, mistakes as well as accomplishments should act as guides. If experience is carefully analyzed and not blindly followed, it can be useful and appropriate.
- Experimentation. This approach toward deciding among alternatives, also legitimate in many situations, is expensive when capital expenditures and personnel are concerned.
- Research and analysis. Although this is the most general and effective technique used, it may be somewhat expensive. However, the approach is probably more beneficial and cheaper in the long run, particularly for large academic, public, and special libraries.

According to the literature, decision-making processes differ from one situation to another and from one person to another. Directors make decisions utilizing different processes (Nutt, 1990). For example, as Mech (1993) presents some directors are:
• Results-oriented and impersonal, relying on facts and figures to make decisions;
• Sensitive and responsive to the needs and feelings of others and make decisions cognizant of their impact on people;
• Planners who rely on careful analysis before making decisions;
• Creative, innovative, and take risks, depending more on intuition than on fact.

Usually, one of the most important steps in the processing of making decisions is collecting and analyzing information. Streufertn and Streufertn (1978) determined that from a human resource management point of view, information is not only processed by the structural mechanism of the organization but also by the individuals who compose the organization. They argue that research demonstrates differences in the ways in which individuals receive information and use it as a basis for making decisions. Research also shows that variations among people in cognitive complexity make them differentially effective in decision-making situations.

Studies of individual information processing can be divided into three approaches (Driver, 1975). These approaches are:

1. Experimental tradition: The experimental tradition is based on how people generally think and generate models of problem solving, decision-making, perception and learning, taking into account both internal and external factors (Simon, 1957).
2. Testing tradition: In the testing tradition, individual differences are the core. One such approach focuses on intelligence tests, in which the genetic inheritance is important and the effect of environment is seen as minimal (Simon, 1957).
3. A third tradition has emerged from these two approaches in which the thinking is viewed as a function of both internal and external factors (Driver, 1975).
Decision Making and Cognitive Style

Information processing style, often termed cognitive style, has gained prominence in the organizational behavior literature as researchers use it as a basis for studying decision-making behavior, conflict, strategy development, and group processes. However, the many operational definitions and measures of cognitive style have produced inconsistent and confusing results (Leonard et al., 1999).

It is important to note that decision-making is primarily a cognitive process that combines the mental process of perception, action, and coming to closure on stimuli. Cognitive style, on the other hand, is the patterning or linking of these thinking processes and coming to closure in the presence of ambiguity and uncertainty (Goodyear, 1987. p.9)

“The great decisions of human life, as a rule, have far more to do with instincts and other mysterious unconscious factors than with conscious will and well-meaning reasonableness. The shoe that fits one person pinches another (Jung in Johnson, 1979, p.3). ”

Leonard et al. (1999) mention that Hambrick in 1987 argues that rational models of decision-making often ignore individual decision-makers characteristics and assume that individuals process information and reach a decision in a similar manner. An individual's characteristics are often linked to differences in decision-making behavior, which is the way in which individuals process information and is also termed as cognitive style.

To most observers of the management process there appear to be significant differences in the manner by which individual decision makers seek, acquire, evaluate, integrate and use information in the process of making a decision. Furthermore, the complexity of a decision maker’s information processing behavior is determined not only by the complexity of the job environment but also by the cognitive style of the decision maker. “Cognitive style” is defined as the degree of the “thinking” complexity of the individual in assimilating, interpreting, and reacting to information environmental stimuli (Craft, 1984. pp. 1-2).
Sternberg (2001), states that according to *Webster’s Dictionary* (1967), "A style is a distinctive or characteristic manner, or method of acting or performing." Also, he mentions that in psychology, the idea of style was formally introduced by Allport (1937) when he referred to style as a means of identifying distinctive personality types or types of behavior. Allport, as Sternberg cites, argued that understanding of styles was rooted in Jung's (1923) theory of psychological types. Sternberg (2001), argues that since Allport's time, the term has been modified and imbued with different meanings, but the core definition of style, that is, its reference to habitual patterns or preferred ways of doing something (e.g., thinking, learning, teaching) that are consistent over long periods of time and across many areas of activity, remains virtually the same.

The more specific term, *cognitive style*, refers to an individual's way of processing information. Cognitive styles are adaptive control mechanisms of the ego that mediate between needs and the external environment. A movement came into prominence in the 1950s and early 1960s with the idea that styles could provide a bridge between the study of cognition (e.g., how we perceive, how we learn, and how we think) and the study of personality. A small group of experimental psychologists set out to explore and describe individual differences in cognitive functioning. Collectively, these efforts led to a school of thought in cognitive psychology, designated the "new look," which developed several stylistic constructs, all of which seemed closer to cognition than to personality. Style probably has a physiological basis and is fairly fixed for the individual (Sternberg, 2001). Mech (1993) states that cognitive style is only one element of decision style.

**Decision Style**

Rowe and Mason (1987) state that talent, skills, the right experience, being energetic and being at the right place at the right time are some factors that contribute to being a successful manager. They argue that while each of these factors can contribute to success, a hidden factor plays a role in that
success. That factor is the person’s style of thinking which contributes along with the right mix of the other factors to achieving success, and which the authors call the decision style. Yet, because it is hidden, we may tend to ignore it, even though it is such an important part of how humans think and act that it forms a fundamental base that accounts for everything that a person does (Rowe & Mason, 1987).

Decision-making style is generally conceptualized as a learned response through which an individual approaches important decisions (Driver, 1979; Driver & Brousseau., 1993; Harren, 1979; Keen, 1973; & McKenney & Keen, 1974). According to Rowe and Mason (1987), decision style is primarily a cognitive process that combines the mental activities of perception, information processing or cognition, making a judgment, and coming to closure of the problem.

Decision style is defined as how people make decisions in various situations (Zmud, 1979). Rowe and Mason (1987), argue that different decision makers make different decisions because individuals use different methods to perceive information (cognitive complexity) and evaluate information (values orientation). For example, some individuals can think intuitively, and others logically. Some individuals prefer acting to thinking. Others are concerned with people’s feelings, whereas others are concerned with the rules.

Decision style captures key aspects of a manager’s belief system, that include classification categories and sorted data that are taken for granted and unconsciously applied to decisions (Nutt, 1990).

According to Yousef (1998), a number of studies investigated the variables that influence the adoption of certain decision-making styles. Hofstede (1980) and Tayeb (1988) claimed that cultural background influences decision styles. Ali (1989) argues that decision styles differ significantly by some variables such as country, sector of enterprise, type of organization, age of managers, field of education, region of childhood, social classes, and management function.

Yousef (1998), through a study conducted in the UAE found that the following variables influence the decision styles: organizational culture, level of
technology used in the organization, decision maker’s education and management level.

James Boulgarides and Moonsong Oh (1985) conducted an exploratory study to compare Japanese, Korean, and American managerial decision styles. This study has shown some empirical evidence about the different decision styles among Japanese, Korean, and American managers. The findings suggest that cultural difference leads to unmatched diversities of managerial decision styles among the three cultural grouping.

Mech (1993), states that few studies have been written about librarians’ decision-making methods. He argues that studies concerning librarians’ cognitive approaches may shed some light on how librarians make-decisions. In the comments of his study, Mech argues that library directors must utilize the talents and abilities of others to be more effective themselves. Knowing their own and others’ decision styles can help them to use the strength of others’ decision modes to balance against the differences in the directors’ own approaches. They need, in order to improve their effectiveness, to develop their own decision styles and find ways to take advantage of the benefits provided by the other styles.

Mech (1993) found that the behavioral decision style is the predominant decision mode among the library’s directors under his study. He also found that the directors with less administrative experience are more likely to have a people oriented behavioral style than directors with more administrative experience (Mech, 1993).

Decision Style and Decision Behavior

As mentioned above, Rowe and Boulgarides (1992) argue that once we know the decision style, we may be able to predict outcomes in terms of decision behavior. They clarify that the manner in which each style reacts to stress, motivation, problem solving, and thinking provides another basis for understanding decision makers' response behavior. Table 1.1 shows the reactions of each style.
Table 1.1.

Style Reactions

<table>
<thead>
<tr>
<th>Basic Style</th>
<th>Under Stress</th>
<th>Motivated By:</th>
<th>Solves Problems by:</th>
<th>Manner of Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>Explodes</td>
<td>Power and Status</td>
<td>Rules and Policies</td>
<td>Focused</td>
</tr>
<tr>
<td>Analytical</td>
<td>Follows Rules</td>
<td>Challenge</td>
<td>Analysis and Insight</td>
<td>Logical</td>
</tr>
<tr>
<td>Conceptual</td>
<td>Is Erratic</td>
<td>Recognition</td>
<td>Intuition and Judgment</td>
<td>Creative</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Avoids</td>
<td>Acceptance</td>
<td>Feeling and Instinct</td>
<td>Emotional</td>
</tr>
</tbody>
</table>

Rowe and Boulgarides.(1992).

Summary

Decision-making is one of the most important elements in any administration of any organization. Inside the organization the managers make a variety of decisions that will have a significant impact on the long-term and short-term success of that organization. Many factors play roles in the success of organizations’ directors such as talent, skills, the right experience, being energetic, and being at the right place at the right time. The managers’ managerial decision styles are also one of these factors. All managers are not alike. They make their decisions differently by applying different approaches because they have different styles of thinking about situations, processing information, and making decisions.

The adoption of a certain managerial decision style is influenced by many demographic variables such as cultural background, age of managers, social classes, field of education, and so on. It has also been concluded that the decision style affects the decision behavior and the decision behavior has an
impact on the outcome or the action taking. Figure 1.1 shows the relationship between the demographic variables, managerial decision style, decision behavior, and action.

![Diagram](image)

**Figure 1.1. The Relationship Between the Demographic Variables, Managerial Decision Style, Decision Behavior, and Action.**

This study focused on decision style and the relationship between the managerial decision styles and a number of demographic variables. The researcher explored the managerial decision styles of Florida’s state universities library’s managers (directors, associate directors, assistant directors, and the heads of departments) and the relationships between the directors’ gender, age, ethnicity, educational level, educational major, administrative experience, and current position.

**Statement of the Problem**

Decision-making is one of the most important elements in any administration of any organization. University libraries are, of course, organizations. Inside these organizations the managers make a variety of decisions that will have a significant impact on the success of those libraries. Libraries’ managers utilize different methods in processing their decisions. As with any manager of any organization, many factors play roles in the success of libraries’ managers. These factors include but are not limited to the following: talent, skills, experience, being energetic, and being at the right place at the right
time. The manager’s managerial decision style is one hidden factor that contributes to the success of those managers and therefore to the success of their organizations. Despite the importance of decision-making in the success of libraries, there is a dearth of research about decision styles used by library administrations and how they influence the decision-making process.

**Purpose of the Study**

There were two purposes for this study. The primary purpose was to explore the managerial decision styles of the managers of Florida’s state university libraries. The secondary purpose was to determine the relation between the variety of managers’ decision styles and the following seven variables: gender, age, ethnicity, educational level, educational major, administrative experience, and current position.

**Research Questions**

The study investigated two central questions:

1. What are the managerial decision styles of the managers (directors, associate directors, assistant directors, and the heads of departments) of Florida’s state university libraries?
2. Is there a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their
   A. Gender;
   B. Age;
   C. Ethnicity;
   D. Level of education;
   E. Educational major;
   F. Administrative experience; and
   G. Current positions?
To answer the second research question the following hypotheses and null hypotheses were formulated:

**Hypotheses**

**Age.** H1. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their age. Older managers are more directive and analytical than younger managers, while younger managers are more behavioral and conceptual.

**Educational level.** H2. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their level of education. The manager who has lower degree is more directive than the one who has PhD.

**Educational major.** H3. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their educational major. The manager who holds his or her degree or one of his or her degrees in Library and Information Science is more conceptual, while the manager who has his or her degree in another major is more directive.

**Administrative experience.** H4. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their administrative experience. The managers with less administrative experience are more likely to be behavioral than managers with more administrative experience.

**Current position.** H5. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their current positions. Managers with the highest positions are more directive, while heads of departments are more analytical.

**Gender.** H6. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender.

**Ethnicity.** H7. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their ethnicity.
Conceptual Framework

This study explored the managerial decision styles of the managers of Florida's state university libraries and determined the relationship between these styles and the managers' gender, age, ethnicity, educational level, educational major, administrative experience, and current position. Figure 1.2 shows the study model.

Figure 1.2. The Study Model.

As noted by Merton (1967), it is important to ground research in established theories. He contends that “the chief function of these [theoretical]
orientations is to provide a general context for inquiry; they facilitate the process of arriving at determinate hypotheses (Merton, 1967)."

This research is grounded in the Decision Style Model developed by Alan Rowe and Richard O. Mason (1987). According to the model, brain dominance refers to an individual’s tendency to think and act according to the characteristics of one side of the brain rather than the other. The technically oriented individual is left-brain dominant, that is, a logical or analytical person. The right half of the model corresponds with those individuals who reason inductively, who think in broad or spatial terms, and who are gregarious and right-brain dominant (Mech 1993).

The decision style captures three varying factors as concepts (Rowe & Mason, 1987):

1. The way the individual thinks about the problems;
2. The way the individual communicates with others; and
3. How the individual’s expectations of others materially affect his or her performance.

Figure 1. 3 shows the decision style model. The vertical axis addresses cognitive complexity and the horizontal axis represents environmental concerns or value. The less cognitively complex individual tends to perceive the environment in terms of few or rigid rules of information processing and has a high need for structure. The individual possessing a high degree of cognitive complexity is able to integrate diverse cues and has a greater tolerance for ambiguity.

The horizontal dimension of the model represents the environment in which a person works as well as his or her response to it. A more focused person generally prefers a technical or task-oriented environment. On the other hand, an individual with more divergent interests will tend to prefer the more social or people-oriented environment.
The four decision styles are directive, analytical, conceptual, and behavioral. Each of these styles has its own characteristics such as level of tolerance for ambiguity, level of communication, level of technical concerns, and so on. These styles and characteristics are described as follows:

1. Directive: Has a low tolerance for ambiguity and low cognitive complexity. He or she focuses on technical decisions. This style is often autocratic and has a high need for power. Because of scant information and few alternatives, speed and satisfactory solutions are typical of these individuals. In general they prefer structure and specific information, which is given verbally. They are focused and aggressive and their orientation is internal to the organization and is short-range, with tight controls. Although they are efficient, they need security and status. They have the drive required to achieve results, but they also want to dominate others.
2. Analytic: Has a much greater tolerance for ambiguity than the directive style individual. Also he or she has a more cognitively complex personality that leads to the desire for more information and consideration of many alternatives. The analytical individual focuses on technical decisions and the need for control; therefore there is an autocratic bent. This style is typified by the ability to cope with new situations. As a result, this style enjoys problem-solving and strives for the maximum that can be achieved in a given situation. Position and ego are important characteristics. These individuals reach the top posts in an organization or start their own. They are not rapid in their decision-making. They also enjoy variety and prefer written reports. They enjoy challenges and examine every detail in a situation.

3. Conceptual: Has both high cognitive complexity and a people orientation. They tend to use data from more than one resource and consider several alternatives. There is a trust in relationships between them and the subordinates and shared goals with subordinates. Individuals within this style tend to be idealists who may emphasize ethics and values. They are in general creative and can readily understand complex relationships. Their focus is long-range with high organizational commitments. They are achievement-oriented and value praise, recognition, and independence. They prefer loose control to power and will frequently use participation. Typically, they are thinkers rather than doers.

4. Behavioral: Although low on the cognitive complexity scale, these managers have a deep concern for the organization and development of the people. They tend to be supportive and are concerned with subordinates' well-being. They provide counseling, are receptive to suggestions, communicate easily, and show warmth. They are empathic, persuasive, willing to compromise, and to accept loose control. With low data input, they tend toward short-range focus and use meetings for communicating. They avoid conflict, seek acceptance, and are very people-oriented, but sometimes insecure (Rowe; Boulgarides; & McGrath 1984).
The Decision Style Inventory (DSI). The Decision Style Inventory, which was applied to measure the decision styles of the managers of Florida’s state university libraries, aims at testing preferences when approaching a decision situation. According to Rowe and Mason, “the DSI, with fewer and more managerially oriented questions, also measures style on the basis of its own theory, and it also correlates highly and consistently with Jung’s concepts as measured by the Myers Briggs Type Indicator (Rowe and Mason, 1987. p. 158).” The Decision Style Inventory (see Appendix E) consists of twenty questions, each with four responses, which concern typical situations facing managers. The inventory is taken by grading the answers of questions 1 through 20. Grading is done by ranking each answer by 8, 4, 2, or 1. A ranking of 8 indicates the response that you most prefer, a 4 indicates a response that you consider often, a 2 indicates a response that you consider on occasion, and a 1 indicates the response that you least prefer.

The authors determined through extensive experimentation that doubling, rather than merely increasing by one, the score for each succeeding level of preference results in a more accurate measurement than ranking the responses 1 through 4 (Rowe & Mason 1987).

Rowe and Boulgarides (1992) state that in creating the Decision Style Inventory they started with the basic assumption that managers work with others in achieving desired results. In an organizational context, each manager reacts to four basic driving forces. These four forces are identified by the Basic Four Force Model, and are analogous to the 1951 work of Lewin in which he examined the reactionship between the individual and the group and the organization and the environment.
Significance of the Study

To date there has been no research conducted on profiling the decision styles of Florida’s state university libraries' managers and the process of how they think in order to reach their decisions. Given this, the results of this study provide information toward the following ends:

1. This study provides baseline information to improve our understanding of library managers and management. Mech (1993) states that because library directors are not all alike, an understanding of directors’ decision styles and the influence of cognitive preferences on decisions may improve our understanding of library managers and management.

2. The results also provide baseline information to researchers, in Library and Information field, for future studies on managerial decision styles using the Decision Style Model.

In the field of library and information science it is important to understand more about library managers and management. Exploring library managers’ managerial decision styles will help us to improve our knowledge of library managers and management.

Assumptions

The researcher assumed the following:

1. All managers being studied are decision makers.

2. There is a relationship between the managers’ gender, age, level of education, educational major, administrative experience, and position and their managerial decision styles.

3. The Decision Style Model lends itself to the exploration of the managers’ managerial decision styles.
4. For the purpose of this inquiry, all respondents’ answers are reliable indicators of their self-reports about their decision styles.

**Research Methodology in Brief**

The main purpose of this study was to explore the managerial decision styles of the Florida’s state university libraries, managers (directors, associate directors, assistant directors, and department heads). In addition, exploring the relationship between their decision styles and the participants’ age, gender, ethnicity, level of education, educational major, administrative experience, and current positions, was the second goal of this study.

To provide further clarity, in this study there were four dependent variables: These variables were the four decision styles determined by DSM: directive, analytical, conceptual, and behavioral. In addition there were seven independent variables. These variables were age, gender, ethnicity, level of education, educational major, administrative experience, and position. Exploring the Florida’s state university libraries managers’ managerial decision style and determining how these seven demographic variables influence these managers’ decision styles were the purposes of this study.

The study employed a survey questionnaire as a data collection instrument. The questionnaire included two parts: the first part was the Decision Style Inventory and the second part contained questions designed to obtain the demographic data.

The questionnaire was delivered to the directors, associate directors, assistant directors, and department heads of the main libraries of Florida’s state universities, which represented the population of this study. The questionnaire was delivered to the participants using more than one method. The main method used was a Web-based questionnaire. The drop-off mode was also applied.

To explore the managerial decision styles of Florida’s state university libraries’ managers, descriptive analysis (mean and percentage) was computed.
In addition, decision styles’ mean scores in relation to gender, level of education, educational major, and the director’s current position were reported.

Furthermore, a Person Product Moment Correlation (PPMC) between the variables of interest in this study was computed. More specifically, correlation between the decision styles and subjects’ age, and the decision styles and administration experience was reported. The research design and methodology is discussed in more detail in Chapter 3.

Definitions of Terms

**Decision style.** According to Rowe and Mason (1987), decision style reflects the way that a person visualizes and thinks about situations. It has to do with mental tendencies concerning personal objectives, what situations one avoids, what kind of job one enjoys, what things one dislikes, how one communicates, and how one approaches problem-solving and making decisions. There are four managerial decision styles: directive, conceptual, analytical, and behavioral. These styles are measured using the DSI.

**Managers.** Refers to the directors, associate directors, assistant directors, and department heads in the libraries under study.

**Educational major.** The field of the last degree achieved by the managers, either library and information science or other. Other refers to any other academic field.

**Administrative experience.** Refers to years of administrative experience that have been spent in the current position or previous positions of the manager.

**Current position.** Refers to the current job (directors, associate directors, assistant directors, and department heads) held by the participants at the time of completion of the questionnaire.
CHAPTER TWO
LITERATURE REVIEW

This literature review consists of three major sections:
1. Decision style models.
2. Decision Style Model (DSM) and Decision Style Inventory (DSI) developed by Alan J. Rowe and Richard O. Mason (1987).
3. Decision Style Model (DSM) related studies.

1. Decision Style Models

Managers carry out decision-making using distinctly different processes. For example, some managers apply intuitive processes with subjective data and heuristics. Others use a goal-directed process using logic and objective information. Still others are flexible in the approach, using both logic and intuition. The managers’ decision styles have been used to explain these differences in preferences (Nutt, 1990.)

A Brief Historical Background of Decision Style Models

The decision styles of managers have been discussed for an extended period of time. Taylor, in 1947, proposed a single best style, in contrast to the flexible managerial styles proposed by Tannenbaum and Schmidt in 1958. Many of the early works were focused on leadership styles rather than decision styles. Simon and others in 1960 focused more on decision-making and types of decisions.
Development of a pure style model, which examined human information processing and problem-solving, was accomplished by Schroder, Driver and Streufert in 1967. That accomplishment is a cognitive style originally developed from Harvey, Hunt, and Schroder’s work of 1961. A research study conducted by Driver utilized a model of decision styles that was based on his earlier work on human information processing and cognitive psychology (Rowe & Boulgarides 1983).

Regarding measuring style, the Myers-Briggs Type Indicator is one of the early approaches. It has been used to determine personality types that were defined by Swiss psychiatrist Carl Jung. Jung’s approach assumed that people have different ways of perceiving things and that they use different sorts of judgment in arriving at conclusions concerning what has been perceived. Jung defines two ways of perceiving and two ways of judgment as follows perceiving either by sensing things directly or intuition based on unconscious associations, and judging either logical impersonal process or via the use of feeling or subjective values (Martin, 1997).

**Decision Style Models and Frameworks**

Several frameworks, that define decision styles have been proposed. This part of the review will concentrate on the dimensions of some of those frameworks.

Huysman (1970) proposed, under the terms “analytic and heuristic”, a signal dimension, which identified unique ways of reasoning. Analytical individuals reduce problems to a set of underlying relationships. These relationships, frequently in the form of an explicit model, are used to choose alternative courses of action. Heuristic decision makers were thought to emphasize pragmatic solutions, often identified by recalling a solution to an analogous problem. Common sense and intuition play an important role for the heuristic decision makers. Huysman found that the acceptance and usage of management science reports was influenced by cognitive style.
Field dependence and field independence was an idea developed by Witkin in 1967. Field independence is the ability to separate an object or phenomenon from its environment. Individuals showing high field independence were thought to prefer a problem-solving approach of emphasizing detail and basic relationships. Field independent individuals show less ability to separate objects from their environment. Field independent persons would prefer more global approaches to solving problems (Witkin, 1967.)

McKeeney and Keen suggested a model that emphasized modes of gathering information and evaluation. The information element has perceptive and receptive modes of information acquisition. The perceptive individual utilizes concepts such as relationships to search for filter data, whereas the receptive individual focuses more on detail. The evaluation part of McKeeney and Keen’s model identify decision makers as either intuitive or systematic. The levels of these two dimensions produce four characteristic decision styles called “systematic-perceptive”, “systematic-receptive,” “intuitive-perceptive,” and “intuitive-receptive” (McKeeney & Keen, 1974.)

The Myers-Briggs Type Indicator was developed to make C. G. Jung's personality type theory understandable and useful in people's lives (Myers & McCaulley, 1985). It has become one of the most popular and widely used psychometric instruments for assessing personality characteristics in non-psychiatric populations.

Applications have been made across a broad spectrum of human experience, including areas such as counseling and psychotherapy; education, learning styles, and cognitive styles; career counseling; management and leadership in organizations; and health related issues.

As has been mentioned, the Myers-Briggs Type Indicator (MBTI) personality inventory is firmly grounded in Jung's theory of psychological type, first presented in his book *Psychological Types* (1921-1971). Jung (1875-1961) was a Swiss psychiatrist whose book *Psychological Types* was an outgrowth of his efforts to understand individual differences among people.
Jung’s *Psychological Type* (1921/1971) was translated into English in 1921 (Martin, 1997).

Myers (1998) states that Jung focused on accurately describing the eight dominant functions he identified, but he also argues that people use the other functions in a kind of hierarchy of preferences. He used four terms to describe the order of use for an individual type, these terms being:

- The dominant function: the first and the most used mental process;
- The auxiliary function: the second in preference;
- The tertiary function: the third;
- The inferior function: the fourth and least preferred.

Briggs and Myers developed Jung’s idea of the auxiliary function and include its role in their concept and descriptions of types. The sixteen types indicated by the MBTI were the result of this development. Table 2.1 describes this development.

<table>
<thead>
<tr>
<th>Dominant function</th>
<th>Auxiliary function</th>
<th>MBTI type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introverted Sensing</td>
<td>With Extraverted Thinking</td>
<td>ISTJ</td>
</tr>
<tr>
<td>Introverted Sensing</td>
<td>With Extraverted Feeling</td>
<td>ISFJ</td>
</tr>
<tr>
<td>Extraverted Sensing</td>
<td>With Introverted Thinking</td>
<td>ESTP</td>
</tr>
<tr>
<td>Extraverted Sensing</td>
<td>With Introverted Feeling</td>
<td>ESFP</td>
</tr>
<tr>
<td>Introverted intuition</td>
<td>With Extraverted Thinking</td>
<td>INTJ</td>
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<tr>
<td>Introverted Intuition</td>
<td>With Extraverted Feeling</td>
<td>INFJ</td>
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<tr>
<td>Extraverted Intuition</td>
<td>With Introverted Thinking</td>
<td>ENTP</td>
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<td>Extraverted Intuition</td>
<td>With Introverted Feeling</td>
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<td>Introverted Thinking</td>
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<td>Introverted Thinking</td>
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<td>Extraverted Thinking</td>
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</table>
Early research used the function pairs of sensing-thinking (ST), sensing-feeling (SF), intuitive-thinking (NT) and intuitive-feeling (NF) as a useful framework. According to Killman and Thomas, K. W (1975), personality type is predictive of organizational preferences for problem-solving and decision-making. STs prefer an impersonal, realistic, and bureaucratic organization, whereas NFs prefer personal idealism and organic organization. NTs as planners prefer long-range strategic planning, whereas SF managers plan more for the short term with a focus on human relations. Mason and Mitroff (1973) determined that there is a preference for type of information. Sensors want factual raw data and the intuitives want stories. Thinkers want abstract information and feelers want artistry.

The term a “decision-making function” refers to one of the four functions as defined in Jungian typology. The term “decision-making style” refers to one of the eight combinations of one dominant and one auxiliary function (Anderson, 2000).

A model proposed by Mason and Mitroff uses the Jungian typology to classify decision styles. It focuses on information acquisition and modes of data processing. The information acquisition is composed of the sensation-oriented person and the intuitive person. The sensing person prefers structure and he or she is patient and precise. The intuitive individual perceive problem as a whole,
and does not generally focus on details. He or she dislikes routine, tends to rely on hunches, and prefers a loose structure.

The other aspects of this model centers on the approach used to evaluate. At one end of the spectrum the feeling person considers the individuals’ feelings and emotions and places a high priority on values. The thinking individuals tend to be impersonal and rely on analysis for making a decision, and attempt to generalize from a logical base. This is not so with the feeling persons, because they try to understand the personalities affected by the decision and the unique characteristics of their decisions. The combination of these dimensions form four styles, which are as follows:

1. Sensation-intuition.
2. Sensation-feeling.
3. Intuition-thinking.
4. Intuition-feeling (Mason & Mitroff, 1973.)

Decision style research by Driver and colleagues (Driver, 1979, 1983; Driver and Streufert, 1969; Driver and Mock, 1975; Driver, Brousseau, & Hunsaker., 1993) has revealed two key factors that account for differences in decision styles-- that is, how individuals vary when making decisions. The first factor is information use-- that is, the amount of information actually considered when making a decision. Information use varies from a maximizing mode in which all relevant data are examined to a satisfying mode where only enough data are used to reach a few good conclusions. The second factor is focus-- that is, the number of solutions considered when looking at a set of data. People who tend toward one "best" conclusion are termed uni-focus and those who employ multiple approaches are called multi-focus (Driver et al., 1993). Combining the two key factors provides the foundation for classifying five basic decision styles.
The decisive style is a satisfying and uni-focus style whereby a small amount of information is used to generate a "good enough" decision. Once a decision is made, it is final. There is no going back and reanalyzing data. This style favors speed, efficiency, and achievement of results. Although some people consider this style too rigid and simplified, it is action-oriented, strong, and reliable (Driver and Rowe, 1979). Individuals with decisive styles have the idea that being quick is good and being slow and hesitant is faulty.

The flexible style is a satisfying and multi-focus style. This style continually absorbs new data and generates new solutions as needed. Adaptability speed and efficiency are prized. It is a style that is strong in intuition, getting along well with others, and rolling with the punches. Yet critics find it shallow and "indecisive." People with such a style value speed, but more important, they dislike debate and confrontation (Driver et al., 1993).

The integrative style is a maximizing and multifocus style. This style, like the hierarchic one, uses a large amount of information, but unlike the hierarchic,
generates a number of possible solutions for implementation. Driver et al. (1993) describe this style as being highly inventive, empathic, and cooperative, yet to critics, it seems too complicated and "wishy-washy."

The systemic style, a hybrid of both the integrative and hierarchic qualities, is characterized by high information use. This style initially approaches a problem in an integrative fashion, using lots of information, sizing up the situation from different perspectives, and laying out alternatives for handling the problem. Then the style shifts into a more hierarchic mode and orders or evaluates the alternatives according to one or more criteria or values (Driver et al., 1993). The result is a prioritized set of alternatives. The systemic style likes to develop their own unique approaches to situations. They are often very hard for others to understand.

The decision style(s) of information users can be assessed by measuring their operating styles, as well as their role styles. Role style reflects how a person thinks he or she ought to behave. It is a style that one uses when conscious of the need to create a favorable impression. On the other hand, a person's operating style is the more "natural" of the styles and is displayed when making decisions on one's own or with very well known others. People shift between role and operating styles and vice versa (Driver et al., 1993).

2. Decision Style Model and Decision Style Inventory

According to the literature of decision-making, decision-making processes differ from one situation to another and from one person to another. Managers carry out decision-making using different processes (Nutt, 1990). For example, some managers are results-oriented and impersonal, relying on facts and figures to make decisions. Other managers are sensitive and responsive to the needs and feelings of others and make decisions cognizant of their impact on people. Still others are planners who rely on careful analysis before making decisions, while others are creative, innovative, and take risks, depending more on intuition
than on fact (Mech, 1993). “The great decisions of human life, as a rule, have far more to do with instincts and other mysterious unconscious factors than with conscious will and well-meaning reasonableness. The shoe that fits one person pinches another” (Jung in Johnson, 1979, p.3).

Talent, skills, the right experience, being energetic and being in the right place at the right time are some factors that contribute to being a successful manager. Rowe and Mason (1987) argue that while each of these factors can contribute to success, a hidden factor plays a role in success. Because it is hidden, we may tend to ignore it, even though it is such an important part of how humans think and act that it forms a fundamental base that accounts for everything that a person does. That factor is the person’s style of thinking, which contributes along with right mix of the other factors to achieving success, and which the authors call the decision style (Rowe & Mason, 1987).

Always decisions involve choices. Managers make choices differently because of differences in their ability to perceive and process information. Some managers have impeccable integrity, whereas others do not. Some individuals can think quickly, and others are slow in thinking, or methodical and thorough. Some are creative thinkers. Some prefer doing things rather than thinking about them. Decision style may be used to identify these different types of decision makers. Identifying these differences and knowing about an individual’s decision style help us to know how the individual thinks about situations, processes information, and makes decisions. Once we know the decision style we will be able to predict outcomes in terms of decision behavior (Rowe & Boulgarides, 1992).

According to Rowe and Mason (1987), decision style is primarily a cognitive process that combines the mental activities of perception, information processing or cognition, making a judgment, and coming to closure of the problem.

Rowe and Mason identify two aspects that describe how our mind works: its cognitive complexity and its value orientation. A person may have either a low
tolerance for ambiguity or a high tolerance for ambiguity. Values may be oriented either to human and social concerns or to task and technical concerns.

Many of the theoretical underpinnings of Rowe’s (1977) decision style model are consistent with cognitive style theory. Unlike other cognitive models, though, additional constructs are included that more fully describe the decision-maker over and above the individual’s mode of acquiring and evaluating information (Sands, 2001).

As is mentioned above, an individual’s decision style is based on two key aspects, as follows:

1. **Individual comfort with cognitive complexity:**
   
   Cognitive complexity is a construct that describes an individual's ability to recognize or draw inferences from various cues (Rowe, Mason, & Dickel, 1982). Dimensions of cognitive complexity include:
   
   a. The number and frequency of cues,
   b. the complexity or simplicity of cues,
   c. the manner in which cues are acquired,
   d. the ability to extract embedded information from cues,
   e. insights derived from cue patterns,
   f. and the reinforcement predicated on previous knowledge or experience.

   Each of these factors plays a role in the individual’s ability to understand, reason, and make judgments (Rowe & Bouglarides, 1992).

   Cognitive complexity is treated synonymously in the Decision Style Inventory with tolerance for ambiguity. A term is ambiguous if there are several possible meanings that can be applied. Tolerance for ambiguity is defined as being able to cope with a high degree of uncertainty (Geller, Tambor, Chase & Holtzman, 1993). An individual who has strong critical thinking skills will be able to tolerate ambiguity (Ennis, 1962). Rowe and Boulgarides (1992) state that the individual who lacks tolerance for ambiguity will have difficulty making complex decisions.

2. **Individual values orientation:**
Personal values are an integral part of every individual’s life and thought process (Rowe & Boulgarids, 1992). Rowe (1987) argues that values are a key factor in determining an individual’s decision style. He also states that values are oriented either to human and social concerns or to task and technical concerns. Values guide the decision maker in solving problems. England (1967) suggests that the function of values is to influence the following:

a. Perception of situations,
b. the process of choice,
c. interpersonal relationships,
d. perception of individual and organizational achievement and success,
e. limits for ethical behavior, and,
f. the acceptance of resistance to organizational pressures and goals.

Mech (1993) states that because library directors are not all alike, an understanding of directors’ decision styles and the influence of cognitive preferences on decisions may improve our understanding of library managers and management.

Figure 2.2 shows the decision style model. The vertical axis addresses cognitive complexity and the horizontal axis represents environmental concerns or value. The less cognitively complex individual tends to perceive the environment in terms of few or rigid rules of information processing and has a high need for structure. The individual possessing a high degree of cognitive complexity is able to integrate diverse cues and has a greater tolerance for ambiguity.

The horizontal dimension of the model represents the environment in which a person finds himself or herself and his or her response to it. A more focused person generally prefers a technical or task-oriented environment. On the other hand, an individual with more divergent interests will tend to prefer the more social or people-oriented environment.
Figure 2.2. Decision Style Model (Rowe & Mason 1987)

According to the model, brain dominance refers to an individual’s tendency to think and act according to the characteristics of one side of the brain rather than the other. The technically oriented individual is left-brain dominant—that is, a logical or analytical person. The right half of the model corresponds with those individuals who reason inductively and who think in broad or spatial terms and are gregarious and right brain dominant (Mech 1993).

The decision style captures three varying factors, as concepts, as follows:

1. The way the individual thinks about the problems;
2. The way the individual communicates with others; and
3. How the individual’s expectations of others materially affect his or her performance (Rowe & Mason, 1987).

The four decision styles were determined to be directive, analytical, conceptual, and behavioral. Rowe and Mason (1987) state that these four styles are the cornerstones of the language of style. They argue that a language of style must provide concepts that can be used to describe one’s mental predispositions to process information and to visualize and think about situations. It should also be able to describe problems facing managers, which they call decision situations, and the environment or context in which the decision is made.

Each of these styles has its own characteristics such as level of tolerance for ambiguity, level of communication, level of technical concerns, and so on. These styles and characteristics are described as follows:

**Directive.** Has a low tolerance for ambiguity and low cognitive complexity. He or she focuses on technical decisions. This style is often autocratic and has a high need for power. Because of the little information and few alternatives, speed and satisfactory solutions are typical of these individuals. In general they prefer structure and specific information, which is given verbally. They are focused and aggressive and their orientation is internal to the organization and is short-range, with tight controls. Although they are efficient, they need security and status. They have the drive required to achieve results, but they also want to dominate others.

**Analytic.** Has a much greater tolerance of ambiguity than the directive style individual. And also has a more cognitively complex personality that leads to the desire for more information and consideration of many alternatives. The analytical individual focuses on technical decisions and the need for control; therefore there is an autocratic bent. This style is typified by the ability to cope with new situations. As a result, this style enjoys problem-solving and strives for the maximum that can be achieved in a given situation. Position and ego are important characteristics. These individuals reach top posts in an organization or start their own. They are not rapid in their decision-making. They also enjoy...
variety and prefer written reports. They enjoy challenges and examine every detail in a situation.

**Conceptual.** Has both high cognitive complexity and a people orientation. It tends to use data from more than one resource and considers several alternatives. There is a trust in relationships between and shared goals with subordinates. Individuals within this style tend to be idealists who may emphasize ethics and values. They are in general creative and can readily understand complex relationships. Their focus is long-range with high organizational commitments. They are achievement-oriented and value praise, recognition, and independence. They prefer loose control to power and will frequently use participation. Typically, they are thinkers rather than doers.

**Behavioral.** Although low on the cognitive complexity scale, these managers have a deep concern for the organization and development of people. They tend to be supportive and are concerned with subordinates’ well-being. They provide counseling, are receptive to suggestions, communicate easily, and show warmth. They are empathic, persuasive, willing to compromise, and to accept loose control. With low data input, they tend toward short-range focus and use meetings for communicating. They avoid conflict, seek acceptance, and are very people-oriented, but sometimes insecure (Rowe, Boulgarides, & McGrath, 1984).

**Decision Style Patterns: Brain Sidedness and Orientations**

The left half and the right half of the decision style model correspond to differences in the left and right hemispheres of the brain. Based on the DSM, the left-brain people are the people who report 165 or higher score in directive and analytical decision styles, while the right-brain should be reported according to the combined scores between the conceptual and behavioral decision styles. The total scores between these two decision styles should be 135 or more.

The right hemisphere is the more creative and perceives things as a hole. The people who think using this side of brain have a comprehensive thinks of
timing and they can encompass many thoughts at the same time using parallel processing of information. They are also artistic, appreciate space, imagery, fantasy, and music.

The left hemisphere controls logical thought, analytic, and process information consecutively. It handles speech, pointing and smiling as well as the abstract logic needed for mathematics and verbal thinking. The right brain exhibits intuition, while the left brain thinkers are more rational (Rowe & Boulgarides 1992).

**Decision Style Inventory**

Decision Style Inventory was developed by Alan Rowe and Richard O. Mason in 1987. According to this model, and as is mentioned above, there are four decision styles: directive, analytical, conceptual and behavioral. Rowe’s theory of decision style combines cognitive complexity with an individual’s concerns for tasks or people, in order to create a holistic look at decision styles. Four elements of an individual’s decision style are: an individual’s (1) Perception and receptivity to stimuli, (2) ability to handle information and to reach a meaningful conclusion (3) intuition or creativity needed to find workable alternatives, and (4) the skills needed to make the decision.

The Decision Style Inventory aims at testing our preferences when approaching a decision situation. The Decision Style Inventory (see Appendix E) consists of twenty questions, each with four responses, which concern typical situations facing managers. The inventory is taken by grading the answers of questions 1 to 20. Grading is done by ranking each answer by 8, 4, 2 or 1. A ranking of 8 indicates the response that you most prefer, 4 indicates a response that you consider often, 2 indicates a response that you consider on occasion, and 1 indicates the response that you least prefer.

In the scoring approach, as we see above, the authors determine that through extensive extermination, they have found that doubling, rather than merely increasing by one, the score for each succeeding level of preference results in a
more accurate measurement than does ranking the responses 1 through 4 (Rowe & Mason, 1987).

Rowe and Boulgarides (1992) state that in creating the Decision Style Inventory they started with the basic assumption that the managers work with others in achieving desired results. In an organizational context, each manager reacts to four basic driving forces. These four forces are identified by the Basic Four Force Model, and are analogous to the 1951 work of Lewin in which he examined the reactionship between the individual and the group and the organization and the environment (Rowe, 1983). Figure 2.3 shows four basic driving forces.

![Basic Four Forces Model](image)

**Figure 2.3. Basic Four Forces Model. (Rowe & Boulgarides 1992)**

Environment, organization, task demands, and personal needs are the four forces that influence the thinking, behavior, and decisions managers make (Rowe & Boulgarides 1992).
The Expanded Four Force Model provides an understanding of decision makers’ behavior. Figure 2.4 shows the expanded version of the four forces model. In addition to the four driving forces, pre-potent need, which includes both positive and negative elements, is another force that influences the behavior of the decision maker. Emergent behavior or the decision maker’s response to these forces is directly related to the individual’s experience, skills, knowledge, energy, and ability of performance (Rowe & Boulgarides 1992).

More descriptions of these four forces are:
Environmental forces. These forces include new technology, government regulations, and competitive pressure, as well as the public at large. It is argued by Rowe and Boulgarides that all the stakeholders who have an interest in the organization activities must be considered, such as workers, stockholders, and customers. Environmental forces that affect the organization require a response from decision makers.

Organizational forces. This is about the interaction between people inside the organization. Rowe and Boulgarides (1992) argue that the interaction occurs at three levels: with superiors, with peers, and with subordinates.

Task demands. This force deals with the decision maker’s technical competence including skills, knowledge, energy and ability to perform the task. Task demands represent the requirements of the job that need to be met.

Personal needs. These needs are exhibited in many ways. If the individual’s needs are not met, it is small wonder that individual satisfaction and commitment do not meet expectations. Looking at this force from the decision-making perspective, Rowe and Boulgarides (1992) argue that satisfying personal needs is one of the main factors that may affect the individual’s improving his or her performance (Rowe & Boulgarides, 1992.)

3. Decision Style Inventory Related Studies

Mech (1993) conducted a study entitled “The Managerial Decision Styles of Academic Library Directors.” The aim of that study was to profile the managerial decision styles of academic library directors and examine the extent to which directors’ decision styles vary according to the type of institution.

The researcher states that in October 1990 grounded on Decision Style Theory Developed by Allan J. Rowe and Richard O. Mason (1987,) he utilized the DSI and a questionnaire were mailed to 600 library directors, including 150 directors from each of the American Association of University professors' institutional categories. These categories are: doctoral; comprehensive; baccalaureate; and two-year institutions.
The researcher received 370 usable responses, constituting a 62% return. He points out that during the analysis, the institutions were further classified using the Carnegie Classifications. He mentions that this was useful with baccalaureate institutions, which were separated into selective and less selective colleges.

According to Mech (2993), chi-square, t-test, personal product moment correlation coefficient, and analysis of variance programs from the SPSS statistical package were used to analyze the data. The level of statistical significance was .05.

Mech divided his study’s findings into two categories. First is individual characteristic. In this, the researcher found that 46 percent of the directors are women, women are least likely to be directors at comprehensive institutions (only 38 percent), women are more likely to be directors at baccalaureate institutions, particularly among the less selective liberal arts institutions, no significant age difference was found between men (50.4) and women (49.1) directors, and there are significant differences between men and women directors in their years of library experience and administrative experience. Males have significantly more years of library and administrative experience. On average male directors have 21.9 years of library experience and 16.9 of administrative experience compared with women directors’ average of 20.2 years of library experience and 13.1 years of administrative experience.

The second finding category represents the decision style profiles. Mech mentions that after combining the categories of very dominant and dominant, it was found that the behavioral decision style is the predominant decision mode among comprehensive (38 %), baccalaureate (53 %), and community college (50 percent) directors. Baccalaureate and community college directors have significantly higher behavioral scores than doctoral directors.

For comprehensive directors (36 %), the directive is the second most preferred style. Among baccalaureate directors (24 %), conceptual is the next most popular style; the analytical style is the second preferred style among community college directors (36%). Among doctoral directors the conceptual
style was found to be the most preferred style (38%), followed by the behavioral style (36%).

Baccalaureate and community college directors are the least likely to report a preference for the directive style. An analysis of variance reveals a significant difference in library directors’ behavioral scores. Also, it was found that directors with less administrative experience are more likely to have a people-oriented behavioral style than directors with more administrative experience. The findings indicate that the directors at private institutions are more likely to have significantly higher behavioral scores than directors at public institutions (Mech, 1993).

Regarding the age as a variable that influence the decision style, Mech found that as the library’s managers grow older, they may be inclined to logical thinking and less inclined to broad thinking, creativity and concern for people. Mech also found that no significant differences exist between men and women managers on any of the decision styles or orientations (Mech, 1993).

A study conducted in 1999 by Nancy H. Leonard, Richard W. Scholl, and Kellyan Berube Kowalski entitled “Information Processing Style and Decision Making” tried to test the interrelationship among four measures of this construct: the Myers-Briggs Type Indicator, the Group Embedded Figures Test, the Learning Styles Inventory, and the Decision Style Inventory. Measures that appeared to be conceptually linked through their underlying theories were compared. Results indicate that the various measures are not strongly interrelated and appear to be measuring different aspects of information processing and decision-making.

**Myers-Briggs Type Indicator.** The typologies of cognitive style and resulting scales that have been developed to operationally measure them that have enjoyed the most support in the literature are the Jungian dimensions of personality, measured by the Myers-Briggs Type Indicator. The MBTI was developed by Myers (1962) as an operationalization of Jung’s psychological theory. The MBTI measures personality on four dimensions, introversion-extraversion, sensing± intuition, thinking-feeling, and perceiving-
judging. The low end of each scale is anchored by extraversion (E), sensing (S), thinking (T) and judging (J) with the high end anchored by introversion (I), intuition (N), feeling (F) and perceiving (P).

**Group Embedded Figures Test.** Field dependence/field independence dimensions of cognitive style measured by Witkin's (1967) Embedded Figures Test.

**Learning Styles Inventory.** The acquisition and use of information for learning, as measured by Kolb's (1985) Learning Styles Inventory.

**The Decision Style Inventory.** Cognitive complexity combined with individual values, measured by Rowe and Boulgarides' (1992) Decision Style Inventory.

In the findings, the researchers argue that as support for the link between cognitive style and decision-making behavior increases, it is natural for managers to seek convenient and reliable measures of the construct. The research question addressed in this study was whether the dimensions measured with common measures of cognitive style were significantly different from each other.

The study findings indicate that cognitive style is a complex variable with multiple dimensions. Although many of the measures seem to overlap conceptually, it found no simple, strong interrelationships among them. There are a number of potential explanations for this. First, dimensions of cognitive style may not be simple linear continua. The second reason for lack of correspondence may lie in different levels of analysis. Content analysis of the various measures indicates that at least three levels surface in the models. The first is pure cognitive style, which is the way individuals process information. The second is decision-making style, which is indicative of individual preference for various decision processes. While decision style may be strongly influenced by cognitive style, it is also influenced by the needs, values and self concepts of different individuals. Rowe and Boulgarides (1992) address this issue by integrating issues of cognitive style with sources of motivation such as the need for power, the need for recognition, and the need for affiliation in the descriptions of their four decision-making styles. The third level is decision-making behavior, which is how individuals actually approach decision situations. While individuals
may have a dominant or preferred decision-making style, it is argued that their actual decision behaviors are influenced by the demands of the situation or the decision-making task. So while it can be argued that each of these different variables is related, other variables not addressed in this study most likely intervene when moving from one level to the next, and account for unexplained variance.

Another aspect of cognitive style that needs to be investigated is the difference between preference for cognitive style and cognitive skills and abilities. Myers and McCaulley (1985) argue for an interaction between preference and ability because people act on their preferences and then develop skills or abilities using those aspects of perception and judgment. However, while two individuals may be strongly intuitive in terms of preference, one may be clearly better at developing abstractions and complex theoretical models than the other.

A number of relationships are suggested by the results of this study. Because a relationship was demonstrated between concrete experimentation and feeling and between feeling and behavioral decision-making style, the relationship between concrete experimentation and behavioral decision-making style should be tested. The same applies to abstract conceptualization and thinking. Because this relationship was demonstrated, along with that between thinking and analytical decision-making style, the relationship between abstract conceptualization and analytical decision-making style should be tested. The relationships between learning “styles” versus the dimensions of the LSI and cognitive “style” versus the dimensions of the MBTI also warrant future research. The true test of the validity of these models and measures would be to validate them against actual decision-making behaviors. Each of the theorists of different models of cognitive style makes clear predictions about the way individuals are likely to approach actual decision situations; however, little has been done in the way of developing a typology of actual decision-making behaviors and measures of these variables (Leonard, 1999).
Beverly Elaine Benson (1986) in her dissertation entitled “Self-Reported Decision Styles for Chief Nurses and Assistant Chief Nurses in Veterans’ Administration Field Hospitals” aimed to answer the following research questions:

1. Are decision style patterns: entrepreneur, executive, supervisory and middle management, related to: gender? Age? Ethnic background? Level of education? Years of nursing experience? Years of experience in nursing service administration?

2. When making managerial decisions, which decision style is preferred among chief nurses and assistant chief nurses assigned to VA field hospitals?

3. When making managerial decisions, which backup decision style is preferred among chief nurses and assistant chief nurses assigned to VA field hospitals?

4. Which decision style pattern dominated the managerial decision-making process of the selected sample of chief nurses and assistant chief nurses?

5. When making managerial decisions, do chief nurses and assistant chief nurses reflect a preference for social or technical values?

The subjects under this investigation were male and female chief nurses and assistant chief nurses assigned to Veterans Administration field hospitals, which included six medical regions. The nursing service complexity level within the hospitals ranged from 1 to 4, with level 1 being the highest and level 4 being the lowest. The bed capacity ranged from 149 to over 900.

The 172 participants (50%) were randomly selected from the January 1985 Veterans Administration central office nursing service key personnel directory that listed 343 eligible participants. The randomly selected sample included 86 chief nurses from the chief nurse population of 158, and 86 assistant chief nurses from the assistant chief nurse population of 185. All nursing service administrators from the two groups had an equal chance to be selected, regardless of gender, age, ethnic background, medical region, level of nursing
service complexity, educational level, or experience. The number of responses returned was 131.

The data collection instrument contains two parts:

A. Demographic questions: According to the researcher, the solicited information included the following: gender, age, ethnic background, years of nursing experience, years in nursing administration, years of employment in the Veterans Administration as a registered nurse, level of basic nursing education, the highest level of formal education, and level of nursing service complexity and hospital bed size. Other variables, as the researcher also indicates, included hand dominance, medical region, and the subject’s primary area of clinical experience prior to entering nursing administration.

B. DSI: The second part was the Decision Style Inventory developed and revised by Alan J. Rowe in 1981 and 1983.

Regarding the procedure of the data collection, the researcher used the postal mail to distribute the questionnaire to the selected participants. In order to analyze the data collected in this study, t-retests were used to test the significance of differences between the means of the two sample groups in order to determine if there was a significant difference between the decision styles of the two population groups according to gender, ethnic background, or position. They were also used to examine whether there were significant differences between the same two groups in social or technical concerns according to gender, ethnic group, or position.

A one-way analysis of variance was used for computing any difference at the .5 level of significance between the decision style patterns in relation to level of education, years of nursing experience, years of nursing administration experience, and years of experience in veteran’s administration. The one-way analysis of variance was also used to compute any difference between social and ethical concerns of the sample group according to age, level of education, years of nursing experience, years of experience in nursing administration, or years of VA experience. The Fisher test was also used to determine where the differences were found between the means.
According to the results of this study, the researcher found that one variable from the demographic data—years of nursing experience in the Veterans Administration—was the only significant factor. Significant differences were found in the executive and middle management decision style patterns and social and technical values.

There was no difference for either group in their decision styles or their value preference. The dominant decision style was analytical and the backup decision style was conceptual. Their combined decision styles formed the executive decision style pattern, and their values were directed toward the technical aspect of their work-world (Benson, 1986).

To examine the performance characteristics of “decisive” decision makers in their use of accounting information in decision-making was the aim of a study conducted in 1984 as a dissertation by Clifford Justine Craft and entitled “An Examination of the Decisive Decision Styles in Tasks Using Accounting Information.”

According to the researcher the following Instruments were used:

- This research project focused on The Rowe Decision Style Inventory, in order to categorize the subjects and to select the “decisive” decision makers used in the simulation experiment described herein.
- MBTI, Driver’s IST Exercises and Witkin Embedded Figures Test: The performance measures and cognitive style attributes of the decisive subjects were also examined relative to the alternative cognitive styles identified by Rowe’s DSI along with a number of other decision style tests such as Driver’s IST Exercises, the Myers-Briggs Type Indicator, and the Witkin Embedded Figures Test.

Craft determined that the main reason for selecting MBTI in addition to Rowe’s and Driver’s tests is that it is the most widely used decision style test whose reliability and validity has been tested by numerous researchers.

The researcher found a strong relationship between the Myers-Briggs model and Rowe’s decision style model. In particular the researcher found that the analytic style resembles not only the Intuitive-Thinking (NT) type, but also the
Sensing-Thinking (SN) type. Another finding was that the eleven directors (who also took the MBTI) were categorized as follows: Six of them are Typed as Sensing-Thinking (ST) Type, three are typed as Sensing-Feeling (SF) Type, one is typed as an Intuitive-Thinking (NT) type, and one is typed as an Intuitive-Feeling (NF) Type (Craft, 1984.)

Goodyear (1987) through her dissertation entitled “A Descriptive Correlational Study of the Decision-Making Patterns of Nurse Practitioners in Primary Care,” tried to investigate the decision-making patterns of nurse practitioners and the relationship between this cognitive process and their personal characteristics and dimensions of employment.

The researcher used DSI and MBTI as data collection instruments. Regarding the MBTI Goodyear determined that she used the Abbreviated Version (Form AV) and she justified selecting that instrument “because it supports similar concepts of decision-making that are present in the dependent variables and has been demonstrated to be reliable and valid over years of testing and analysis” (Goodyear, 1987, p. 70). As the author mentioned, Coan (1979) indicated through empirical research findings that the MBTI scores have been related to creativity, academic achievement, vocational preferences, values, and needs.

The researcher states that the significant findings in the personality types were more numerous for the backup decision styles of the group. A total of four personality preferences, including extroverted, introverted, thinking, and sensing were found to be predictive of persons who use decision styles of either the directive or analytic pattern. The preferences for intuitive and feeling were predictive of the conceptual or behavioral patterns of the people/relational decision makers.

Regarding the personal characteristics and the relationship between them and the decision style used, the researcher found that the individual with fewer years of education scored highest in directive decision style. It was also found that the individual with less years of experience are directive (Goodyear, 1987).
The Variables that Influence Decision Style (summary)

According to the literature reviewed for this study, the decision style adapted by a manager may be influenced by a number of variables. These variables include but are not limited to:

1. Age: Mech (1993) found that as libraries’ managers grow older, they may be inclined to logical thinking and less inclined to broad thinking, creativity, and concern for people (Mech, 1993).

2. Gender: Mech (1993) found that no significant differences exist between men and women managers on any of the decision styles or orientations (Mech, 1993).

3. Administrative experience: Mech found that library directors with less administrative experience are more likely to have a people-oriented behavioral style than library directors with more administrative experience (Mech, 1993). According to the results of Benson’s study, years of nursing experience in the Veterans Administration was a significant factor that influences decision styles (Benson, 1986). Goodyear (1987) found that the individuals with less years of experience are directive.

4. Organization type: The findings of Mech’s study indicate that the directors at private institutions are more likely to have significantly higher behavioral scores than directors at public institutions (Mech, 1993). Ali (1989) argues that decision styles differ significantly by some variables, one of which is type of organization.

5. Ethnic background: Benson (1986) found that ethnic background does not influence individual decision style.

6. Level of education: Benson (1986) found that the individual’s level of education does not influence decision style. While Yousef (1998), through a study conducted in the United Arab Emirates, found that level of education, as a variable, does influence the decision style.
Goodyear (1987) found that individuals with fewest years of education scored highest in directive decision style.

7. Field of education: Ali (1989) argues that decision styles differ significantly by some variables, one of which is field of education.

8. Sector of enterprise: Ali (1989) argues that decision styles differ significantly by some variables, one of which is sector of enterprise.

9. Region of childhood: Ali (1989) argues that decision styles differ significantly by some variables, one of which is region of childhood.

10. Management function: Ali (1989) argues that decision styles differ significantly by some variables, one of which is management function.

11. Organizational Culture: Yousef (1998), through a study conducted in the UAE, found that organizational culture, as a variable, influences the decision style.

12. Level of technology used: Yousef (1998), through his study, found that the level of technology used in the organization influences the decision style.

13. Management level: Yousef (1998) also found that management level, as a variable, influences the decision style.

As mentioned in the introduction, this study will focus on exploring the managerial decision styles of Florida’s state university libraries’ managers and the relationship between these styles and the following variables: gender, age, ethnicity or race, educational level, educational major, administrative experience, and current position.

The reasons for choosing these particular variables to be studied, in regard to the relationship to the decision styles used by the library managers, are the existence of the variety of these variables among any population. In addition, as mentioned before, there is only one study conducted by Mech (1993) regarding the profiling of libraries’ directors decision styles and the relationship between these styles and some demographic variables such as age, gender, and administrative experience. Other variables were not included in that study--except the type of institution; therefore, the researcher here will try to prove or
disapprove Mech study’s findings and to go beyond the Mech study limitations by exploring the relationship between the managerial decision styles of Florida’s state university libraries’ managers and their level of education, educational major, ethnicity, and managerial position.

Regarding other variables such as organization type and level of technology used in the organization, the managers being studied are employees at main university libraries, which assumes that these libraries have. The researcher also assumes that Florida’s state university libraries are using a high level of technology and assumes that the level of technology used in these libraries is similar.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

This study is an exploratory study. Babbie (2000) argues that exploratory studies are appropriate for more persistent phenomena and are most typically done for three purposes:

1. To satisfy the researcher’s curiosity and desire for better understanding;
2. To test the feasibility of undertaking more extensive study; and
3. To develop the methods to be used in any subsequent study.

The purposes of this study were to explore the managerial decision styles of the managers of Florida’s state university libraries and to explore the relation between the variety of managers’ decision styles and a number of demographic variables. It was designed to:

1. Explore the managers’ of Florida’s state university libraries managerial styles, and
2. Explore the relationship between these styles and the following seven variables: gender, age, ethnicity, educational level, educational major, administrative experience, and current position.

To explore these purposes the following questions were posed:

1. What are the managerial decision styles of the managers (directors, associate directors, assistant directors, and the heads of departments) of Florida’s state university libraries?
2. Is there a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender, age,
ethnicity, level of education, educational major, administrative experience, and current positions?

To answer the second research question the following hypotheses and null hypotheses were formulated:

Hypotheses

**Age.** H1. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their age. Older managers are more directive and analytical than younger managers, while younger managers are more behavioral and conceptual. This hypothesis is based on Mech’s (1993) findings.

**Educational level.** H2. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their level of education. The manager who has a lower degree is more directive than the one who has a Ph.D. This hypothesis is based on Goodyear’s finding (1987).

**Educational major.** H3. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their educational major. The manager who holds all or one of his or her degrees in Library and Information Science is more conceptual, while the manager who has his or her degree in another major is more directive.

**Administrative experience.** H4. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their administrative experience. The managers with less administrative experience are more likely to be behavioral than managers with more administrative experience. This hypothesis is based on Mech’s (1993) findings.

**Current position.** H5. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their current positions. Managers with the highest positions are more directive, while heads of departments are more analytical.
**Gender.** H6. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender. This hypothesis is based on Mech’s (1993) findings.

**Ethnicity.** H7. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their ethnicity. This hypothesis is based on Benson’s (1986) findings.

The most suitable design for this study is the survey research method. As a research technique in the social sciences, survey research has considerable credibility, demonstrated by its widespread acceptance and use in academic institutions. Survey research involves soliciting self-reported verbal information from people. The ultimate goal of survey research is to allow researchers to generalize about a large population by studying only a small portion of the population. (Rea & Parker, 1992).

Survey research has a number of advantages (Busha & Harter, 1980; Folz, 1996; Flower, 1993; Powell, 1991):

- It can measure many variables, thus allowing statistical analysis of multiple and complex relationships.
- A survey is less costly.
- Specific management problems can be investigated.
- Research hypotheses can be tested.
- Results are available quickly.

Survey research has been used extensively in the social and behavioral sciences. Many studies in librarianship have also relied upon the survey method. These surveys have allowed researchers to obtain data about the attitudes and opinions of librarians, and utilizations of libraries’ collections and services (Busha, & Harter, 1980).

**Definition of Research Variables**

A. Dependent Variables
In this study, there were four dependent variables:

The first, second, third, and fourth dependent variables were the four decision styles determined by DSM: directive, analytical, conceptual, and behavioral.

B. Independent variables
There were seven independent variables in this study:

1. Age.
2. Gender.
3. Ethnicity.
4. Level of education-refers to the highest degree achieved by the managers.
5. Educational major, as defined in this study, is the field of the last degree achieved by the managers, either library and information science or other. Other refers to any another academic field.
6. Administrative experience-refers to any administrative experience that has been gained from the current position or previous positions of the managers.
7. Current position-refers to one of the following positions: directors, associate directors, assistant directors, and the heads of departments.

Data Collection Instruments

This study employed a survey questionnaire. There are advantages and disadvantages to survey-based research. Busha and Harter (1980) list a number of advantages and disadvantages for surveys:

1. Provides an opportunity for respondents to give frank answers.
2. Can be constructed so the quantitative data are relatively easy to collect and analyze.
3. Can be designed to gather background information about respondents, as well as original hard-to-obtain data.
4. Facilitates the collection of a huge amount of data in a short period of time.
5. Through the preparation of a formal instrument, researchers are encouraged to define clearly the research problem, the implications of the problem, and the nature of the needed research data.

6. Allows the collection, in exploratory studies, of insightful information about a relatively unexplored problem area or subject.

The researcher believes that these advantages helped his study in a number of ways such as the following:

- Since there is no face-to-face contact with the participants, the chance of gaining accurate and frank answers is better.
- In part two of the questionnaire (demographic questions), the researcher found himself free to choose the easiest way to formulate questions, to be answered and to be measured. Two types of questions were applied: nominal and ratio.
- The questionnaire of this study will allow the researcher to collect the desired data.
- During the designing of the second part of the questionnaire, the researcher decided to add more variables (gender and age), which are important and need to be explored as variables affecting the managerial decision styles.

Some of the disadvantages of survey questionnaire mentioned by Busha and Harter (1980) are as follows:

1. The questionnaire precludes personal contact with respondents, perhaps causing the researcher to gain insufficient knowledge about participants in a study.
2. Does not allow the respondents to qualify ambiguous questions.
3. Cannot be designed to uncover causes or reasons for respondents’ actions, attitudes, or beliefs.

The study, as mentioned above, employed a survey questionnaire. The questionnaire included two parts:

**Part I.** The Decision Style Inventory (DSI), developed by A. J. Rowe and R. O Mason, aims at testing our preferences when approaching a decision situation.
The Decision Style Inventory, see (Appendix E) consists of twenty questions, each with four responses, which concern typical situations facing directors.

According to Rowe and Mason, “the DSI, with fewer and more managerially oriented questions, also measures style on the basis of its own theory, and it also correlates highly and consistently with Jung’s concepts as measured by the MBTI” (Rowe and Mason, 1987. p. 158). Mech (1993) conducted a study to profile the managerial decision styles of academic library directors. He grounded his research on Rowe and Mason’s model of decision style. Mech’s study is the only study in library science that applied the Managerial Decision Style Model and its inventory. More detail about this study was discussed in Chapter 2.

In addition, the researcher decided to use Rowe and Mason’s theory of decision style because of the strong relationship between this model and the Myers-Briggs Type indicator, which is the most widely used decision style test whose reliability and validity has been tested by numerous researchers. Craft (1984) found a strong relationship between the Myers-Briggs model and Rowe’s decision style model. In particular, Craft found that the analytic style resembles not only the Intuitive-Thinking (NT) type, but also the Sensing-Thinking (SN) type. Another of Craft’s findings was that the eleven directors (who also took the MBTI) were categorized as follows: six of them are typed as Sensing-Thinking (ST) Type, three are typed as Sensing-Feeling (SF) Type, one is typed as an Intuitive-Thinking (NT) type, and one is typed as an Intuitive-Feeling (NF) Type.

This relationship was also supported by Goodyear (1987). She found through her dissertation entitled “A Descriptive Correlational Study of the Decision-Making Patterns of Nurse Practitioners in Primary Care,” that a total of four personality preferences, including extroverted, introverted, thinking, and sensing were found to be predictive of persons who use decision styles of either the directive or analytic pattern. The preferences for intuitive and feeling were predictive of the conceptual or behavioral patterns of the people/relational decision makers (Goodyear, 1987).
How to Measure

The degree to which each of the four styles is used by each individual can be determined from the score on the decision style inventory. There are four levels of intensity for each category. These levels are as follows:

1. Last preferred: This shows that the individual will rarely use the style, but when required could do so. For instance, under stress, a highly analytical person shifts to a directive style.

2. Back-up: This level of intensity shows that individual will use the style occasionally and reflects the typical score on the decision style inventory.

3. Dominant: This level indicates that the individual will frequently use this style in preference to the other styles. However, an individual may have more than one dominant style and thus can readily shift from one to another.

4. Very dominant: This is the highest level of intensity and describes a compulsive use of a given style. The intensity becomes the focus of the individual and will override other styles that have less intensity. Occasionally, individuals have more than one very dominant style (Rowe & Boulgarides 1992).

Rowe and Boulgarides (1992) state that the level of intensity is useful for interpreting the meaning of the scores on the decision style inventory. They also present an example: a person with a score in directive of 55, in analytic of 95, in conceptual of 80, and in behavioral of 70 would have the following levels of intensity:

- Directive (55): Least preferred;
- Analytical (95): Back-up;
- Conceptual (80): Back-up;
- Behavioral (70): Dominant.

Table 3.1 shows the level of intensity for each individual’s style based on the scores attained on the decision style inventory.
Table 3.1. Decision Style Intensity Levels

<table>
<thead>
<tr>
<th>Style</th>
<th>Least preferred</th>
<th>Back-up</th>
<th>Dominant</th>
<th>Very dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>Below 68</td>
<td>68 to 82</td>
<td>83 to 90</td>
<td>Over 90</td>
</tr>
<tr>
<td>Analytic</td>
<td>Below 83</td>
<td>83 to 97</td>
<td>98 to 104</td>
<td>Over 104</td>
</tr>
<tr>
<td>Conceptual</td>
<td>Below 73</td>
<td>73 to 87</td>
<td>88 to 94</td>
<td>Over 94</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Below 48</td>
<td>48 to 62</td>
<td>63 to 70</td>
<td>Over 70</td>
</tr>
</tbody>
</table>

The instructions for taking the Decision Style Inventory is provided in Appendix (D), and Appendix (E) shows the Decision Style Inventory.

Figure 3.1: Individual Scoring Matrix (Rowe & Boulgarides 1992)
By looking at the layout of the Decision Style Inventory, the following steps should
be performed to score the DSI:

1. Total the points in each of the four columns I, II, III, and IV.
2. Total the sum of these four numbers. The sum of the four columns
   should be 300 points.
3. Place the scores in the appropriate box for I, II, III, or IV in Figure 3.1

**Decision Style Patterns**

The left half and the right half of the decision style model correspond to
differences in the left and right hemispheres of the brain. Based on the DSM, the
left-brain people are the people who report 165 or higher score in directive and
analytical decision styles, while the right- brain should be reported according to
the combined scores between the conceptual and behavioral decision styles. The
total scores between these two decision styles should be 135 or more

The right hemisphere is the more creative and perceives things as a
whole. The people who think using this side of brain have a comprehensive
sense of timing and they can encompass many thoughts at the same time using
parallel processing of information. They are also more artistic, appreciate space,
imagery, fantasy, and music.

The left hemisphere controls logical and analytic thought and processes
information consecutively. It handles speech, pointing and smiling as well as the
abstract logic needed for mathematics and verbal thinking. Right brain thinkers
exhibit intuition, while left-brain thinkers are more rational (Rowe & Boulgarides

Decision Style Inventory also measures an individual’s preferences for
idea or action. Idea oriented people are more concerned with thinking, analysis,
judgment, innovation, creativity, art, and writing. On the other hand, action-
oriented people are concerned with achieving results. They work well with others
and find occupations that require direct involvement, achieving results, and interacting with the public (Rowe and Mason, 1987).

Regarding the measurement of the style patterns, which is the measurement of brain sides and orientations that appeared in the Decision Style Model, the left-brain individual should achieve 165 or higher in the analytical and directive columns while the right-brain individual should achieve 135 or higher in the conceptual and behavioral columns. Table 3.2 shows more details about the basic style patterns:

Table 3.2. Basic Style Patterns

<table>
<thead>
<tr>
<th>Patterns</th>
<th>Styles</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left brain</td>
<td>Directive &amp; analytical</td>
<td>165 or higher</td>
</tr>
<tr>
<td>Right brain</td>
<td>Conceptual &amp; behavioral</td>
<td>135 or higher</td>
</tr>
<tr>
<td>Idea orientation</td>
<td>Analytical &amp; conceptual</td>
<td>170 or higher</td>
</tr>
<tr>
<td>Action orientation</td>
<td>Directive &amp; behavioral</td>
<td>130 or higher</td>
</tr>
</tbody>
</table>

Basic Style Patterns (Rowe & Mason 1987)
Reliability and Validity OF The DIS

Testing for the validity and reliability of the DSI has a long history, which began in 1977 with Rowe and others examining leadership characteristics of military officers. The study included 59 officers who demonstrated decision styles in the military (Goodyear, 1987).

Rowe and Mason (1987) point out that a number of statistical tests were used to determine the validity and reliability of the Decision Style Inventory:

1. Split-half reliability testing using nine groups from different organizations.
2. Test/retest reliability using different groups.
3. Item analysis of the instrument.
4. Correlation with other test instruments, notably the Myers-Briggs Type Indicator.
5. Face validity based on personal interviews and observations in longitudinal studies in organizations.
6. Comparisons of performance in various occupations with style patterns.

The results have proven highly significant. For example, a strong positive correlation was found with the Myers-Briggs, as well as with other test instruments, such as the Wilkens Imbedded Figures Test, The Kolb Learning Style Inventory, and the Hermann Brain Dominance Instrument.

In addition, according to Rowe and Mason (1987), upon the administration of this inventory to more than 10,000 individuals in different professions, including presidents of companies, board chairs, corporate planners, architects, chiefs of police, army generals, nurses, teachers, and so on, the inventory was determined to have “over a 90% face validity and 70% test-retest reliability (Rowe & Mason, 1987).” Also, ninety percent of the people who took the inventory agreed with its findings. These statistical measures indicate that the DSI is a valid test instrument. Regarding the relationship between the styles and instrument questions, the score of each style is the total of the responses to the twenty
individual items in each column. Rowe and Mason determined that in order to examine how individual items contributed to the determination of the style, each of the items was correlated with the total style score. The correlation coefficients indicate the extent to which a particular item contributed to the total score (Rowe & Mason, 1987).

One of the methods used to estimate reliability was the intercorrelation between split halves of each style. For this analysis, the items were split into two halves of ten items each, with the odd-numbered items in one half and the even-numbered items in the other half. Total scores were then calculated for each half of the style, one from each of the two sets of ten items. Each style was then correlated for test length using the Spearman-Brown formula. This analysis provided an indication of the internal consistency of each of the styles. The correlation coefficients ranged from .5 to .7 for the split-half test (Rowe & Mason, 1987).

Part II. A section eliciting demographic information (Q21 to Q26). (See Appendix F.) These questions were designed to obtain descriptive data such as age, gender, ethnicity, level of education, educational major, administrative experience, and current positions of the managers.

Population

The researcher used the official homepages of each of the libraries to collect the participants’ contact information such as their names, e-mail addresses, postal mail addresses, phones numbers, and so on. The proposed population of this study, according to the libraries’ official home pages, consisted of 114 subjects. The total number consisted of the following breakdown: 13 directors, 13 associate directors, 11 assistant directors, and 77 department heads. Table 3.3 describes the population in detail.
Table 3.3.
Population

<table>
<thead>
<tr>
<th>University</th>
<th>URL</th>
<th>Location</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida A&amp;M University</td>
<td><a href="http://www.famu.edu/acad/coleman/index.html">http://www.famu.edu/acad/coleman/index.html</a></td>
<td>Tallahassee</td>
<td>12</td>
</tr>
<tr>
<td>Florida Golf Coast University</td>
<td><a href="http://library.fgcu.edu/OnlineResources/esources.htm">http://library.fgcu.edu/OnlineResources/esources.htm</a></td>
<td>Ft. Myers</td>
<td>6</td>
</tr>
<tr>
<td>Florida Atlantic University</td>
<td><a href="http://www.fau.edu/library/">http://www.fau.edu/library/</a></td>
<td>Boca Raton</td>
<td>12</td>
</tr>
<tr>
<td>Florida International University-University Park</td>
<td><a href="http://library.fiu.edu/">http://library.fiu.edu/</a></td>
<td>Miami</td>
<td>11</td>
</tr>
<tr>
<td>Florida State University</td>
<td><a href="http://www.fsu.edu/library/">http://www.fsu.edu/library/</a></td>
<td>Tallahassee</td>
<td>12</td>
</tr>
<tr>
<td>University Of West Florida</td>
<td><a href="http://library.uwf.edu">http://library.uwf.edu</a></td>
<td>Pensacola</td>
<td>9</td>
</tr>
<tr>
<td>University of Florida</td>
<td><a href="http://www.uflib.ufl.edu/">http://www.uflib.ufl.edu/</a></td>
<td>Gainesville</td>
<td>16</td>
</tr>
<tr>
<td>University of North Florida</td>
<td><a href="http://www.unf.edu/library/">http://www.unf.edu/library/</a></td>
<td>Jacksonville</td>
<td>12</td>
</tr>
<tr>
<td>University of South Florida</td>
<td><a href="http://www.lib.usf.edu/">http://www.lib.usf.edu/</a></td>
<td>Tampa</td>
<td>12</td>
</tr>
<tr>
<td>University of Central Florida</td>
<td><a href="http://library.ucf.edu/">http://library.ucf.edu/</a></td>
<td>Orlando</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>114</strong></td>
</tr>
</tbody>
</table>

It is assumed that these participants are decision-makers. These decision makers are employed in Florida’s state university main libraries. Consequently, the total proposed population of this study consisted of 114 decision makers. These decision-makers were employed in Florida’s state university main libraries. The total number consists of the following breakdown: 13 directors, 13 associate
directors, 11 Assistant Directors, and 77 Department Heads. Table 3.4 shows the study population in detail:

Table 3.4.
The Study Population

<table>
<thead>
<tr>
<th>University</th>
<th>Director</th>
<th>Associate Director</th>
<th>Assistant Director</th>
<th>Department Heads</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida A&amp;M University- FAMU</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Florida Golf Coast University- FGCU</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Florida Atlantic University- FAU</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Florida International University- FIU-University Park</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Florida State University- FSU</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>University Of West Florida- UWF</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>University of Florida- UF</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>University of North Florida -UNF</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>University of South Florida- USF</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>University of Central Florida- UCF</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
<td><strong>13</strong></td>
<td><strong>11</strong></td>
<td><strong>77</strong></td>
<td><strong>114</strong></td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td><strong>11.4%</strong></td>
<td><strong>11.4%</strong></td>
<td><strong>9.6%</strong></td>
<td><strong>67.6%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Upon reviewing the study population table (3.4), one can see that there are three directors at the University of Florida’s main library. These directors are denoted by the titles director of libraries, director of development, and director of the Digital Library Center. According to the organization chart of that library, the director of development and the director of the Digital Library Center are under the supervision of the director of libraries. In the case of Florida Atlantic University’s main library, there are two directors, the director of libraries and the director of development.

After sending the first messages via e-mail to each participant and after visiting these libraries, the researcher found some changes in the population. These changes were applicable to all types of the population (directors, associate directors, Assistant Directors, and department heads). These changes included:

1. Retirements and no replacements.
2. Leaving the positions and no replacements.
3. Leaving the position for a higher position.
4. Not appropriate participants. Two department heads told the researcher that they were not appropriate participants for the study because they were not decision-makers and did not represent any of the participant types.
5. Adding a number of participants.

The changes were made according to the e-mail responses received from some of the proposed participants as well as directly from the administration offices of these libraries.

Table 3.5 shows the proposed study population according to their positions, the changes that were made to the population, and the revised number of participants after changes in detail.
Table 3.5.
The Revised Study Population

<table>
<thead>
<tr>
<th>Position</th>
<th>Proposed population</th>
<th>Changes</th>
<th>Actual population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>13</td>
<td>One director retired. The assistant director at the same library took this position.</td>
<td>13</td>
<td>11.9%</td>
</tr>
<tr>
<td>Associate director</td>
<td>13</td>
<td>Two associate directors left the positions and no replacements were made. One associate director was added to one library.</td>
<td>12</td>
<td>10.0%</td>
</tr>
<tr>
<td>Assistant directors</td>
<td>11</td>
<td>One assistant director retired and was not replaced. One assistant director works as secretary for the library’s director. One assistant director took a retired director’s position in a library.</td>
<td>8</td>
<td>7.3%</td>
</tr>
</tbody>
</table>
Table 3.5. Continued.

The Revised Study Population

| Department heads | 77 | Two department heads retired and were not replaced. Three department heads left the positions and no replacements were made. According to a suggestion from a library director, six department heads were added to the population. Two were not appropriate participants for this study. | 76 | 69.7% |

| Total | 114 | 114-13+8= 111 | 109 | 100% |

Data Collection Procedures

One of the methods used in this study to collect the data was the drop-off. In order to increase the response rate, this method was applied for the distance-reachable participants. It is a recommended, flexible method for distributing surveys that promises a high response rate. In a drop-off survey method, questionnaires must be delivered personally to members of the population and then either collected or mailed back. This flexibility can help increase the
response rate by allowing communication of the survey’s importance to intended respondents (Salant and Dillman, 1994).

These participants were given the option of completing and submitting the questionnaire electronically. The “drop-off” cover letter was used. The cover letter of the questionnaire included the optional way to complete the questionnaire electronically and the questionnaire site or link was provided (see Appendix C). For this study, participants had three options to complete and return the questionnaire. These options were to:

1. Complete the questionnaire on their own and the researcher would return back and collect them.
2. Complete the questionnaire on their own and return it in a stamped envelope provided by the researcher.
3. Complete the questionnaire electronically.

The second mode of collecting the data was the Web-based questionnaire. The cover letter of the Web-based questionnaire was sent to the participants via e-mail (see Appendix B). Kaye & Johnson (1999) argue that the Web and other new electronic technologies might soon become prime vehicles due to convenient, verifiable, low-cost delivery and return systems as well as easy access and feedback mechanisms.

Flexibility and ease of use are the main advantages of the electronic survey. Minimizing common traditional administration problems, such as the high cost and time consumption in implementing a survey, is another advantage (Schutt, 2001).

Data Analysis

To explore the managerial decision styles of Florida’s state university libraries’ managers and to determine the relationship between the variables of interest, the following statistical analyses were applied:
1. To explore the managerial decision styles of Florida’s state university libraries’ managers, a descriptive analysis (mean and percentage) was computed.

2. In addition, decision styles’ mean scores in relation to ethnicity, level of education, educational major, and the director’s current position were reported.

3. The t-test for quality of means was employed to test the significant differences between the male managers and female managers.

4. A Person Product Moment Correlation (PPMC) between the variables of interest in this study was computed. More specifically, correlation was to determine and report the relationships between the decision styles and subjects’ age and administration experience. In addition the subjects’ age were divided into two groups, according to the median, to ensure the result. The t-test was also used, after dividing the subjects’ administrative years of experience into two groups according to the median.

**Limitations**

The study focused on exploring the managerial decision styles of the directors, associate directors, assistant directors and department heads working in Florida’s state university libraries. Other employees in these libraries were not included. Nor were other types of libraries in Florida.

In addition, the study was limited to exploration of the managerial decision styles of the directors, associate directors, assistant directors and department heads working in Florida’s state university main libraries. The branch libraries of Florida’s state university library system were excluded. This limitation was based on two assumptions:

1. The main university libraries contain most of the overall collection, serve more patrons, and make more decisions and more important decisions; and
2. The branch libraries are under the supervision of the main library.
CHAPTER FOUR
ANALYSIS AND INTERPRETATION OF THE DATA

Introduction

As stated in Chapter 1, the purposes of this study were to explore the managerial decision styles of the managers of Florida’s state university libraries and to determine the relationship between the variety of managers’ decision styles and the following seven variables: gender, age, ethnicity, educational level, educational major, administrative experience, and current position.

This chapter is divided into four main sections. The first presents the response rate. The second presents a descriptive analysis of the respondents' demographic data. The third section presents a general descriptive analysis that profiles all respondents' decision style and decision style pattern. Profiling the decision style and decision pattern according to the variety of the participants' demographic information is presented in the “Appendixes” section (see Appendix G) for a detailed descriptive analysis of the respondents' decision style and (Appendix H) for a detailed descriptive analysis of the respondents' decision style patterns. The fourth section, however, presents statistically the hypotheses test findings.

Response Rate

Regarding the population and as mentioned in Chapter 3, the researcher found, after sending the first messages via e-mail to each participant and after visiting these libraries, that there were to be some changes in the population.
These changes were made according to the e-mail responses received from some of the proposed participants as well as directly from the administration offices of these libraries.

These changes were applied to the population (directors, associate directors, assistant directors, and department heads). These changes are as follows:

1. Retirements and no replacements;
2. Leaving the positions and no replacements;
3. Leaving the position for a higher position;
4. Not appropriate participants. Two department heads told the researcher that they were not appropriate participants for the study because they were not decision-makers and did not represent any of the participant types; and
5. Adding a number of participants.

After having made these changes, the population of this study consisted of 109 subjects. The total number consists of the following breakdown: 13 directors, 12 associate directors, 8 assistant directors, and 76 department heads.

More detail about the population and these changes were discussed in the population section of chapter 3.

**The Response Rate**

As is mentioned above, the actual population of this study consisted of 109 decision-makers. These decision-makers are employed in Florida’s state university main libraries. The total number consisted of the following breakdown: 13 directors, 12 associate directors, 8 assistant directors, and 76 department heads. Ninety (which represents 83.0%) surveys were completed by the participants and were sent back to the researcher. A detailed summary of the response rate will be discussed in the next page.

Out of the total number (109), there were two individuals who did not participate; therefore these two individuals did not receive the survey. These two individuals were unwilling to participate. Therefore 107 participants represent the actual number of the participants who received the survey.
Data collection from September 9, 2003 to October 1, 2003. The questionnaires were distributed to all 107 participants. For the Web survey, the researcher sent two follow-up messages to the participants and one follow-up message to the people who received the surveys by the drop-off mode. Ninety surveys were returned from all ten libraries, which represents 83.0%. Five of them were unusable and eighty-five were usable. Table 4.1 represents the response rate in detail.

Table 4.1
Response Rate According to the Data Collecting Method Used.

<table>
<thead>
<tr>
<th>Data collection procedures</th>
<th>Number of participants</th>
<th>Returned surveys</th>
<th>Unusable</th>
<th>Usable</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop-off</td>
<td>77</td>
<td>72</td>
<td>2</td>
<td>70</td>
<td>94%</td>
</tr>
<tr>
<td>Web survey</td>
<td>30</td>
<td>18</td>
<td>3</td>
<td>15</td>
<td>60%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>107</td>
<td>90</td>
<td>5</td>
<td>85</td>
<td>84.1%</td>
</tr>
</tbody>
</table>

The returned surveys were received from all types of participants (directors, associate directors, assistant directors, and department heads); therefore this survey is considered to be a representative sample of the population of this study. Table 4.2 describes in detail the response rate according to the participants’ positions.
Table 4.2
Response Rate and Participants’ Positions

<table>
<thead>
<tr>
<th>Positions</th>
<th>Number of participants</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>13</td>
<td>9</td>
<td>60.2%</td>
</tr>
<tr>
<td>Associate director</td>
<td>12</td>
<td>12</td>
<td>100.0%</td>
</tr>
<tr>
<td>Director assistant</td>
<td>8</td>
<td>6</td>
<td>75.0%</td>
</tr>
<tr>
<td>Department heads</td>
<td>73</td>
<td>63</td>
<td>86.3%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>107</td>
<td>90</td>
<td>84.1%</td>
</tr>
</tbody>
</table>

Descriptive Statistics of the Respondents

In this section a descriptive analysis was applied to analyze the respondents’ demographic information such as gender, age, ethnicity, academic degree, academic major, positions, and years of experience.

Respondents’ Gender

The examination of the data showed that of the eighty-five valid responses, 30 managers (35.0%) were male and 65.0% of the responders (n=55) were female, as shown in figure 4.1.
Respondents’ Ages

It was found that the minimum age of the respondents was 30, the maximum age was 64, and the mean was 51.04. In order to present this result in more detail, the participants were divided into age groups. Table 4.3 shows that most respondents were in the age range of 50-59, followed by the age range of 40-49. More detail about the result is shown in Table 4.3.

Table 4.3
Participants’ Age (group)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-39</td>
<td>11</td>
<td>12.9%</td>
</tr>
<tr>
<td>40-49</td>
<td>19</td>
<td>22.4%</td>
</tr>
<tr>
<td>50-59</td>
<td>45</td>
<td>52.9%</td>
</tr>
<tr>
<td>60 and above</td>
<td>10</td>
<td>11.8%</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>100%</td>
</tr>
</tbody>
</table>
Respondents’ Ethnicity

Table 4.4 shows that 85.9% of the respondents were white, 2.4% were Hispanic or Latino, 9.4% were black or African-American, and 2.4% were Asian.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (not Hispanic or Latino origin)</td>
<td>73</td>
<td>85.8%</td>
</tr>
<tr>
<td>Black or African-American</td>
<td>8</td>
<td>9.4%</td>
</tr>
<tr>
<td>Asian or Asian-American</td>
<td>2</td>
<td>2.4%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>2</td>
<td>2.4%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Respondents’ Highest Degree

Table 4.5 describes in number the respondents’ highest academic degree. It shows that 4.7% of the participants held a B.A./B.S., 78.8% held an M.A./M.S., 11.8% held a Ph.D., and 4.7% held other degrees.
Table 4.5.
Frequency Distribution by highest Degree

<table>
<thead>
<tr>
<th>Degree</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A./B.S.</td>
<td>4</td>
<td>4.7%</td>
</tr>
<tr>
<td>M.A./M.S.</td>
<td>67</td>
<td>78.8%</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>10</td>
<td>11.8%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>4.7%</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>100%</td>
</tr>
</tbody>
</table>

Respondents’ Majors

The largest number of the respondents held their degree in Library and/or Information Science. The majority, 71 individuals out of the 85 respondents, were in Library and or Information Science, which represents 83.5%, while 14 respondents, which represents 16.5%, achieved their highest degree in other majors. Figure 4.2 shows the respondents’ majors and percentage.

Figure 4.2. Respondents’ major
Respondents’ Positions

In this study the managers were defined as director, associate director, assistant director, and department head in the libraries under study. The frequency distribution of respondents according to their positions shows that 9 (10.6%) of the respondents were directors, 12 (14.1%) were associate directors, 6 (7.1%) were assistant directors, and 58 (68.2%) were department heads.

Respondents’ Experience

It was found that the minimum number of years of experience of the respondents was 2 years, the maximum number of years of experience were 32, and the mean was 16.6. To show this result in more detail, the respondents’ years of experience were divided into groups. Table 4.6 shows the results.

<table>
<thead>
<tr>
<th>Years of Experience groups</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between 1 – 5</td>
<td>11</td>
<td>12.9%</td>
</tr>
<tr>
<td>Between 6 – 10</td>
<td>15</td>
<td>17.6%</td>
</tr>
<tr>
<td>Between 11- 15</td>
<td>13</td>
<td>15.3%</td>
</tr>
<tr>
<td>Between 16 – 20</td>
<td>14</td>
<td>16.5%</td>
</tr>
<tr>
<td>Between 21- 25</td>
<td>20</td>
<td>23.5%</td>
</tr>
<tr>
<td>Between 26 – 30</td>
<td>10</td>
<td>11.8%</td>
</tr>
<tr>
<td>Over 30</td>
<td>2</td>
<td>2.4%</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>100%</td>
</tr>
</tbody>
</table>
Descriptive Statistics of All Respondents’ Managerial Decision Style and Decision Style Patterns

A descriptive analysis was applied to analyze and describe in detail the respondents’ managerial decision style and the decision style pattern.

The Managerial Decision Style for All Respondents

Table 4.8 shows that the majority of the respondents 49.4% ($n = 42$) scored within the least preferred level of intensity for the directive decision style. It was also found that biggest number of the respondents $n = 23$ (27.0%) scored at the dominant level of intensity for the behavioral decision style and $n = 17$ (20.0%) scored at the very dominant level of intensity for the same decision style. That means the majority of respondents scored within dominant and very dominant for the behavioral decision styles followed by 28 respondents scored at the dominate level and very dominant level of intensity for the conceptual decision style. Table 4.7 shows the results in details.

Table 4.7
Decision Style Profile for All Respondents (frequency and percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back-Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>$n = 42$ (49.4%)</td>
<td>$n = 29$ (34.1%)</td>
<td>$n = 12$ (14.1%)</td>
<td>$n = 2$ (2.4%)</td>
<td>$N = 85$ (100.0%)</td>
</tr>
<tr>
<td>Analytical</td>
<td>$n = 23$ (27.1%)</td>
<td>$n = 35$ (41.1%)</td>
<td>$n = 10$ (11.8%)</td>
<td>$n = 17$ (20.0%)</td>
<td>$N = 85$ (100.0%)</td>
</tr>
<tr>
<td>Conceptual</td>
<td>$n = 26$ (30.6%)</td>
<td>$n = 31$ (36.5%)</td>
<td>$n = 12$ (14.1%)</td>
<td>$n = 16$ (18.8%)</td>
<td>$N = 85$ (100.0%)</td>
</tr>
</tbody>
</table>
Table 4.7. Continued.

Decision Style Profile for All Respondents (frequency and percentage)

<table>
<thead>
<tr>
<th></th>
<th>Behavioral</th>
<th>Directive</th>
<th>Analytical</th>
<th>Conceptual</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n 19</td>
<td>n 26</td>
<td>n 23</td>
<td>n 17</td>
<td>N 85</td>
</tr>
<tr>
<td></td>
<td>(22.4%)</td>
<td>(30.6%)</td>
<td>(27.0%)</td>
<td>(20.0%)</td>
<td>(100.0%)</td>
</tr>
</tbody>
</table>

Level of Intensity


The Results and Number of Respondents’ Feedback

During the data collection, the researcher informed the respondents, through the survey cover letter (see Appendixes B & C), about the possibility of sending them the result of their decision styles after getting back the completed surveys from the respondents. The respondents were asked to write their name on the returned completed survey, so the researcher could recognize which survey belonged to whom. The respondents who used the Web-based survey they were asked to send the researcher an e-mail message to inform him that he or she was interested in receiving the result.

Eleven respondents were interested in reviewing the results, so the results were sent to them via e-mail in addition to a description of the four managerial decision styles. The respondents were asked to send their feedback about the results. These respondents were given four choices to determine to what extent they agreed with the results. These choices were as follows: strongly agree, agree, disagree, or strongly disagree.

Eight of these respondents gave their feedback about the results. Seven of them were “strongly agree” and one was “agree.”
The Managerial Decision Style Patterns (Brain Sides and Orientations) for All Respondents

Regarding the decision style pattern, it was found that 67.1% \((n = 57)\) of the respondents were right-brain dominant (combined scores of directive and analytical), while 32.9% \((n = 28)\) are left brain side (combined scores of conceptual and behavioral). Figure 4.3 describes this result.

![Brain Side Pie Chart]

Figure 4.3 Decision Style Patterns: Brain Sides (All Respondents)

According to figure 4.4, 47% \((n = 40)\) of the respondents were action orientated (combined scores of directive and behavioral) while 53% \((n = 45)\) were ideal-orientated (combined scores of analytical and conceptual). Figure 4.4 shows this result.
Figure 4.4 Decision Style Patterns: Orientations (All Respondents)

Hypotheses Test Results

In order to answer the second research question presented in chapter one, the following hypotheses were tested:

**Hypotheses**

**Age**

**H1.** There is a relationship between the managerial decision styles of Florida's state university libraries' managers and their age. Older managers are more directive and analytical than younger managers, while younger managers are more behavioral and conceptual.

In order to test this hypothesis a Person Product Moment Correlation (PPMC) between the respondents’ age and the decision style pattern (brain sides) was applied. Since the left side brain represents the combined scores of directive and analytical styles and according to table 4. 8. it is found that there is no significant relationship, \( P = .922 \), between the respondents age and the decision style patterns adopted, therefore this hypothesis was rejected.
It was also found, from the results showed in table 4.8 and table 4.9, that there was no relationship between the respondents' age and any of the four decision styles and between the respondents' age and any of the decision style patterns.

Table 4.8
PPMC Between Age and Decision Style Patterns

<table>
<thead>
<tr>
<th></th>
<th>Brain sides</th>
<th>Orientations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Left (1)</td>
<td>Right (2)</td>
</tr>
<tr>
<td>Age</td>
<td>.011 (p = .922)</td>
<td>-.007 (p = .953)</td>
</tr>
</tbody>
</table>

1 Left (Brain Sidedness. left side) = combined scores of directive and analytical. 165 or higher
2 Right (Brain Sidedness. right side) = combined scores of conceptual and behavioral. 135 or higher
3 Orientations (Idea) = combined scores analytical and conceptual. 170 or higher.
4 Orientations (Action) = combined scores directive and behavioral. 130 or higher

Table 4.9
PPMC Between Age and Decision Styles

<table>
<thead>
<tr>
<th>Variables</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive Decision Style</td>
<td>.07</td>
<td>.51</td>
</tr>
<tr>
<td>Analytical Decision Style</td>
<td>.04</td>
<td>.68</td>
</tr>
<tr>
<td>Conceptual Decision Style</td>
<td>.08</td>
<td>.43</td>
</tr>
<tr>
<td>Behavioral Decision Style</td>
<td>.00</td>
<td>.99</td>
</tr>
</tbody>
</table>
Moreover, the age was divided into two groups according to the median. The median was 53; therefore the respondents were divided into two groups: 44 subjects were above the median and 41 below the median. After the division a t-test was run to explore any significant relationship between the age groups and the decision style patterns. The researcher, according to the result of this analysis, reached the same result, which is no relationship between the respondents’ age and any of the decision style patterns. Table 4.10 shows the result.

Table 4.10.
T-test between the age groups and the decision style patterns

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Side</td>
<td>83</td>
<td>.216</td>
<td>.829</td>
</tr>
<tr>
<td>Right Side</td>
<td>83</td>
<td>-.151</td>
<td>.880</td>
</tr>
<tr>
<td>Idea Orientation</td>
<td>83</td>
<td>-1.025</td>
<td>.307</td>
</tr>
<tr>
<td>Action Orientation</td>
<td>83</td>
<td>1.200</td>
<td>.234</td>
</tr>
</tbody>
</table>

Also a t-test was run to explore any significant relationship between the age groups and the four decision styles. The researcher, according to the result of this analysis, reached the same result, which is no relationship between the respondents’ age and any of the four decision styles and that was expected because as it was mentioned above that there was no significant relationship between the age groups and the four decision styles using the correlations. Table 4.11 shows the result.
Table 4.11
Age Group In Relation to The Decision Style as Measured By T-Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive Decision Style</td>
<td>83</td>
<td>1.21</td>
<td>.230</td>
</tr>
<tr>
<td>Analytical Decision Style</td>
<td>83</td>
<td>-.625</td>
<td>.534</td>
</tr>
<tr>
<td>Conceptual Decision Style</td>
<td>83</td>
<td>-.293</td>
<td>.770</td>
</tr>
<tr>
<td>Behavioral Decision Style</td>
<td>83</td>
<td>.322</td>
<td>.748</td>
</tr>
</tbody>
</table>

Educational level:
H2. There is a relationship between the managerial decision styles of Florida's state university libraries' managers and their level of education. The manager who has a lower degree is more directive than the one who has a PhD.

To test this hypothesis, a descriptive analysis was applied. It was found that the respondents who hold a Ph.D. scored in (back-up) level of intensity on directive decision style and the respondents who hold B.A./B.S. degree also scored in (back-up) level of intensity on directive decision style and the respondents who has M.A/M.S. scored in (least-preferred) level of intensity of this style; therefore this hypothesis is rejected by the analysis. Table 4.12 shows the results in more detail. As is mentioned above that a descriptive analysis (mean and standard deviation) was used. That was because the nature of the highest-level of educational highest-level groups prevented the researcher from using ANOVA to test the significant relationships and differences between these groups. That happened with more than one variable, so a descriptive analysis was applied for each of these variables to at least determine the differences between these groups and the on the adoption of a particular decision style or pattern.
Table 4.12
DSI Means (and standard deviations) Among the Respondents' Educational Levels.

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>B.A/B.S. ((n=4))</th>
<th>M.A./M.S. ((n=67))</th>
<th>Ph.D./Ed.D ((n=10))</th>
<th>Other ((n=4))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>80 ((12.38))</td>
<td>66 ((10.91))</td>
<td>73 ((12.60))</td>
<td>69 ((10.6))</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Least-Preferred</td>
<td>Back-up</td>
<td>Back-up</td>
</tr>
<tr>
<td>Analytical</td>
<td>88 ((7.45))</td>
<td>90 ((16.4))</td>
<td>86 ((18.32))</td>
<td>98 ((23.45))</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Dominant</td>
</tr>
<tr>
<td>Conceptual</td>
<td>72 ((10.61))</td>
<td>82 ((13.99))</td>
<td>79 ((12.67))</td>
<td>71 ((15.75))</td>
</tr>
<tr>
<td></td>
<td>Least-preferred</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Least-preferred</td>
</tr>
<tr>
<td>Behavioral</td>
<td>60 ((10.43))</td>
<td>60 ((15.92))</td>
<td>63 ((17.20))</td>
<td>63 ((24.09))</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Dominant</td>
</tr>
</tbody>
</table>

Level of Intensity
Educational major:

H3. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their educational major. The manager who holds his or her degree or one of his or her degrees in Library and Information Science is more conceptual, while the manager who has his or her degree in another major is more directive.

To test this hypothesis, a descriptive analysis was applied. By considering the mean of each style within each group it was found that $M = 81$ and $SD = 14.10$ for the respondents who hold their degree or one of their degrees in Library and Information Science in conceptual decision style scores, while $M = 78$ and $SD = 13.41$ for the respondents who has his or her degree in another major in conceptual style scores. It was also found that $M= 72$ and $SD =13.49$ for the respondents who had their degree in another major in directive style scores while $M= 67$ and $SD= 11.0$ for the respondents who had their degree or one of their degrees in Library and Information Science in directive decision style scores; therefore this analysis rejected the hypothesis in one part and supports the hypothesis in the other part.

This hypothesis rejected the part that proposed that the manager who holds his or her degree or one of his or her degrees in Library and Information Science is more conceptual and it is supported, by the analysis, in the part that proposed that the manager who has his or her degree in another major is more directive. The result in table 4.13 shows that both groups are in the back-up level of intensity according to the mean scores in conceptual decision style scores, but it shows also that the directive decision style is the least preferred style for the manager who holds his or her degree or one of his or her degrees in Library and Information Science while it is back-up style for the manager who has his or her degree in another major.
Table 4.13
DSI Means (and standard deviations) Among the Respondents’ Educational Majors.

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>LIS (n=71)</th>
<th>Other (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>67 (11.0)</td>
<td>72 (13.49)</td>
</tr>
<tr>
<td></td>
<td>Least-preferred</td>
<td>Back-up</td>
</tr>
<tr>
<td>Analytical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>91 (17.0)</td>
<td>87 (12.17)</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
</tr>
<tr>
<td>Conceptual</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>81 (14.10)</td>
<td>78 (13.41)</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
</tr>
<tr>
<td>Behavioral</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61 (16.40)</td>
<td>63 (14.55)</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Dominant</td>
</tr>
</tbody>
</table>

Level of Intensity

Administrative experience:

H4. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their administrative experience. The managers with less administrative experience are more likely to be behavioral than are managers with more administrative experience.

In order to test this hypothesis PPMC between the respondents’ administrative year of experience and the decision styles was applied. According to the result shown in table 4.14. a significant relationship between the
respondents’ administrative years of experience and the scores in behavioral decision style. This relationship is negative $r = -.25$ and $p = .02$. Based on this result it is found that managers with more years of administrative experience scored less than managers with less administrative experience on behavioral decision style; therefore this analysis supports the hypothesis.

Table 4.14
PPMC Between Years of Experience and Decision Styles

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive Decision Style</td>
<td>-.08</td>
<td>.42</td>
</tr>
<tr>
<td>Analytical Decision Style</td>
<td>.14</td>
<td>.19</td>
</tr>
<tr>
<td>Conceptual Decision Style</td>
<td>.07</td>
<td>.48</td>
</tr>
<tr>
<td>Behavioral Decision Style</td>
<td>-.25</td>
<td>.02</td>
</tr>
</tbody>
</table>

To ensure this result, the respondents’ years of experience were divided into two groups according to the median. The median was 18; therefore the respondents were divided into two groups: above the median $n= 43$ and below the median $n=42$. After dividing the respondents’ years of experience into two groups, a t-test was run to explore any significant relationship. The researcher, according to the result of this analysis, reached the same result, which is a significant relationship between the respondents’ administrative years of experience and the scores in behavioral decision style. Table 4.15 shows the results.
### Table 4.15

Years of Experience Groups In Relation to The Decision Style as Measured By T-Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive Decision Style</td>
<td>83</td>
<td>.577</td>
<td>.565</td>
</tr>
<tr>
<td>Analytical Decision Style</td>
<td>83</td>
<td>1.79</td>
<td>.076</td>
</tr>
<tr>
<td>Conceptual Decision Style</td>
<td>83</td>
<td>.016</td>
<td>.988</td>
</tr>
<tr>
<td>Behavioral Decision Style</td>
<td>83</td>
<td>-2.219</td>
<td>.030</td>
</tr>
</tbody>
</table>

**Current position:**

**H5.** There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their current positions. Managers with the highest positions are more directive, while heads of departments are more analytical.

To test this hypothesis a descriptive analysis was applied. It was found that the respondents in director and department heads positions scored within least-preferred level of intensity on directive style while the respondents in associate director and director assistant positions scored within the back-up level of intensity on the same decision style. It was also found that the respondents in all positions scored within back-up level of intensity on analytical decision style; therefore the analysis does not support this hypothesis. Table 4.16 shows the results in more detail. As is mentioned above that a descriptive analysis (mean and standard deviation) was used. That was because the nature of the highest-level of educational highest-level groups prevented the researcher from using ANOVA to test the significant relationships and differences between these groups. That happened with more than one variable, so a descriptive analysis was applied for each of these variables to at least determine the differences between these groups and the on the adoption of a particular decision style or pattern.
Table 4.16

DSI Means (and standard deviations) Among the Respondents’ positions

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Director (n=9)</th>
<th>Associate Director (n=12)</th>
<th>Director Assistant (n=6)</th>
<th>Department Head (n=58)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>68 (9.43)</td>
<td>71 (11.24)</td>
<td>73 (8.32)</td>
<td>67 (11.99)</td>
</tr>
<tr>
<td></td>
<td>Least-Preferred</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Least-Preferred</td>
</tr>
<tr>
<td>Analytical</td>
<td>91 (12.60)</td>
<td>89 (18.31)</td>
<td>94 (10.47)</td>
<td>90 (17.75)</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
</tr>
<tr>
<td>Conceptual</td>
<td>81 (13.13)</td>
<td>81 (12.91)</td>
<td>84 (18.61)</td>
<td>81 (16.05)</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
</tr>
<tr>
<td>Behavioral</td>
<td>59 (18.45)</td>
<td>57 (12.72)</td>
<td>54 (19.33)</td>
<td>62 (16.05)</td>
</tr>
<tr>
<td></td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
<td>Back-up</td>
</tr>
</tbody>
</table>

Level of Intensity


Gender:

H 6. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender.

The t-test for quality of means was employed to test the significant differences between the male managers and female managers. It was found that
male members scored higher scores in the following three decision styles as follows: (in directive decision style $M= 68.5 \ SD = 11.00$, in analytical decision style $M= 91.16 \ SD = 15.00$, in conceptual decision style $M= 83.10 \ SD = 11.14$), compared to female mean scores in the same decision styles (in directive decision style $M= 67.70 \ SD = 11.80$, in analytical decision style $M= 89.36 \ SD = 17.04$, in conceptual decision style $M= 80.00 \ SD = 15.30$).

The difference in the scores achieved was in the behavioral decision style scores between these two groups. Male members scored less ($M= 56.20 \ SD = 16.80$) than female members ($M= 63.20 \ SD = 15.22$) in behavioral decision style. This difference was not statistically significant, however, since the $P$ values failed to reach an alpha of .0.05 or less; therefore this result supports the hypothesis. Table 4.17 demonstrates the t-test results.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$df$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive Decision Style</td>
<td>83</td>
<td>.311</td>
<td>.757</td>
</tr>
<tr>
<td>Analytical Decision Style</td>
<td>83</td>
<td>.486</td>
<td>.628</td>
</tr>
<tr>
<td>Conceptual Decision Style</td>
<td>83</td>
<td>1.036</td>
<td>.303</td>
</tr>
<tr>
<td>Behavioral Decision Style</td>
<td>83</td>
<td>-1.955</td>
<td>.054</td>
</tr>
</tbody>
</table>

**Ethnicity**

**H 7.** There is no relationship between the managerial decision styles of Florida's state university libraries' managers and their ethnicity.

It is shown in Table 4.18 and according to the mean scores that the directive decision style is the least preferred decision style for Asian (Asian-American) and Hispanic managers, while it is the back-up style for the for white and black (African-American) managers. Regarding the analytical
decision style, it is found that this style is the back-up style for white, Asian (Asian- American), and Hispanic, while it is the dominant decision style for the black (African- American) managers.

The least preferred decision style for the black (African- American) managers is the conceptual decision style in addition to the directive decision style as mentioned above. On the other hand, the conceptual decision style is the back-up style for white managers, dominant for the Asian (Asian- American) managers, and the very dominant decision style for the Hispanic managers. White and Hispanic managers scored in the back-up level of intensity for the behavioral decision style, while it was the dominant style for the black (African- American) and Asian (Asian- American) managers.

It seems, from this variety of levels of intensity among the four decision styles reported by the respondents, that the ethnicity plays a role in the adoption of a particular decision style; therefore this result rejected the hypothesis.

Table. 4.18
DSI Means (and standard deviations) Among the Respondents’ Ethnicity

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>White (n=73)</th>
<th>Black (African American) (n=8)</th>
<th>Asian (Asian American) (n=2)</th>
<th>Hispanic (n=2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>68 (11.86)</td>
<td>71 (9.1) Back-up</td>
<td>67 (5.0) Least-preferred</td>
<td>59 (.70) Least-preferred</td>
</tr>
<tr>
<td>Analytical</td>
<td>89 (16.25)</td>
<td>98 (15.67) Dominant</td>
<td>85 (2.82) Back-up</td>
<td>91 (30.40) Back-up</td>
</tr>
</tbody>
</table>
Table 4.18. Continued.

DSI Means (and standard deviations) Among the Respondents’ Ethnicity

<table>
<thead>
<tr>
<th>Conceptual</th>
<th>82</th>
<th>66</th>
<th>93</th>
<th>99</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(13.15)</td>
<td>(8.71)</td>
<td>(16.97)</td>
<td>(14.14)</td>
</tr>
<tr>
<td>Back-up</td>
<td>Least-preferred</td>
<td>Dominant</td>
<td>Very dominant</td>
<td></td>
</tr>
<tr>
<td>Behavioral</td>
<td>60</td>
<td>66</td>
<td>69</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>(16.72)</td>
<td>(8.31)</td>
<td>(12.02)</td>
<td>(16.97)</td>
</tr>
<tr>
<td>Back-up</td>
<td>Dominant</td>
<td>Dominant</td>
<td>Back-up</td>
<td></td>
</tr>
</tbody>
</table>

Level of Intensity
CHAPTER FIVE
FINDINGS AND DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

Introduction

This chapter is divided into four main sections. The first section is designed to represent the study purposes, questions, hypotheses, data collection instrument, and data collection procedures as well as population and response rate in brief. The second section is designed to present the findings and the discussion. The third section presents the conclusion and the forth section presents the recommendations.

Purposes, Questions, Data Collection, and the Hypotheses of the Study

This study focused on an exploration of the managerial decision styles of the managers of Florida’s state university main libraries as well as a determination of the relationships between the variety of managers’ decision styles and a several pieces of demographic information.

There were two purposes for this study. The primary purpose was to explore the managerial decision styles of the managers of Florida’s state university main libraries. The secondary purpose was to determine the relationships between the variety of managers’ decision styles and the following seven variables: gender, age, ethnicity, educational level, educational major, administrative experience, and current position.

The study investigated two central questions:
1. What are the managerial decision styles of the managers (directors, associate directors, assistant directors, and the heads of departments) of Florida’s state university libraries?
2. Is there a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender, age, ethnicity, level of education, educational major, administrative experience, and current positions?

To answer the second research question the following hypotheses were statistically tested:

**Hypotheses**

**Age:**

**H1.** There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their age. Older managers are more directive and analytical than younger managers, while younger managers are more behavioral and conceptual.

**Educational level:**

**H2.** There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their level of education. The manager who has lower degree is more directive than the one who has PhD.

**Educational major:**

**H3.** There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their educational major. The manager who holds his or her degree or one of his or her degrees in Library and Information Science is more conceptual, while the manager who has his or her degree in another major is more directive.

**Administrative experience:**

**H4.** There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their administrative experience. The managers with less administrative experience are more likely to be behavioral than managers with more administrative experience.
Current position:

H5. There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their current positions. Managers with the highest positions are more directive, while heads of departments are more analytical.

Gender

H6. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender.

Ethnicity

H7. There is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their ethnicity.

Population and Response Rate

To obtain the necessary information to answer these two questions, this study utilized a survey questionnaire. The survey questionnaire consisted of two parts: a Decision Style Inventory (20 questions), and 7 questions designed to obtain demographic information. After the questionnaire was designed and revised, it was distributed, using drop-off and Web-survey, to 107 managers of Florida’s state university main libraries. The population of this study consisted of 109 managers. All these managers were employees at Florida’s state university main libraries.

Ninety surveys were returned from all ten libraries, which represents 83.0%. Five of them were unusable and eighty-five were usable. The returned surveys were received from all participant types (directors, associate directors, assistant directors, and department heads); therefore this number of returned and usable surveys was considered to be a representative sample of the population of this study.
Findings and Discussion

This section consists of four sub-sections. The first sub-section presents general findings. The second sub-section presents the findings of the variety of the respondents’ demographic information. The third sub-section is designed to present and discuss the findings of the responders’ managerial decision styles and decision style patterns, which is the answer of the first research question of this study. The fourth sub-section is designed to present and discuss the findings of the hypotheses tests, which is the answer of the second question of this study.

General Findings and Discussion

During the work of this dissertation the researcher found some issues that were important and should be mentioned. **Decision style model was an appropriate model!** As was mentioned in Chapter 4, during the data collection, the researcher informed the respondents through the survey cover letter (see Appendixes B & C) about the possibility of sending them the results of their decision styles after they had submitted completed survey. The respondents were asked to write their name on the returned completed survey, so the researcher could recognize which survey belonged to whom. The respondents who used the Web-based survey were asked to send the researcher an e-mail message to inform him that he or she was interested in receiving the results.

Eleven respondents were interested in reviewing the results, so the results were sent to them via e-mail in addition to a description of the four managerial decision styles; they were asked to provide their feedback about the results. They were given four choices to pick from to indicate to what extent they agreed with the results. These choices were as follow: strongly agree, agree, disagree, or strongly disagree.

Eight of these respondents gave their feedback about the results. Seven of them were “strongly agree”; one was an unmodified “agree.”

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It is indicated, from these results, that the Decision Style Model was an effective model for exploring the library managers’ managerial styles; therefore, it is accurate here to say that it was found that the Decision Style Model was an appropriate model for the exploration of Florida’s state university libraries’ managers’ managerial decision styles.

Drop-off as a data collection procedure. Drop-off as a data collection method was used to collect the data from the reachable participants. It was found that this method is still the most effective mode of the data collection. In this study the researcher was able to collect in less than a month 72 (93.5%) completed surveys out of the 77 surveys that were delivered in person. Some respondents, such as the respondents of University of West Florida’ main library, completed the survey on the same day and the researcher was able to collect them remarkably quickly within two hours. That library response rate was 100%.

Respondents’ Demographic Information: Findings and Discussion

**Gender.** Based on the data collected, there was found to be a difference in the frequencies of male to female among Florida’s state university main libraries managers. The majority (65.0%) \( n=55 \) of the managers were female, compared with (35.0%) \( n=30 \) male managers (see figure 4.1.). This result may give us an indication that females tend to work in university library management more than male.

**Age and administrative experience.** Most of these managers were in the range of 50-59 years \( n=45 \) (53.0%), followed by the range of 40-49 (22.4%) \( n=19 \), then followed by the range of 30-39 \( n=11 \) 12.8%. Finally 10 managers (11.8) were over 60 years old (see Table.4.3). Accordingly, this finding gives the researcher an indication of a high range of administrative experience of the majority of the managers. The findings support this fact. It was found that the mean of administrative years of experience was 16.61 and the majority of the managers had more than 20 years of administrative experience. To clarify that, 20 (23.5%) managers were in the range of 21-25 years of administrative
experience, followed by 15 (17.6%) managers in the range of 6-10 years, 16% (n= 14) in the range of 16-20 years, 13 managers (15.3%) in the range of 13 years. Eleven managers (12.9%) had 1-5 years of administrative experience, followed by 10 managers (11.8%) in the range of 26-30 years of administrative experience, and finally by 2 managers (2.4%) whom have more than 30 years of administrative experience (see Table 4.6.) On reviewing these results, it was concluded that 59 managers had more than 10 years of administrative experience.

Since the population consisted of personnel at relatively high level of administration, (directors, associate directors, assistant directors, and heads of departments) these were not unexpected results.

Ethnicity. The races of these managers as reported are white, black or African-American, Asian or Asian-American, and Hispanic or Latino. The largest number of the managers were white n= 73 (85.8%), followed by black or African-American 9.4% (n=8), and then the rest of the percentage 100% were distributed equally between Asian or Asian-American n=2 (2.4%) and Hispanic or Latino races 2.4% (n=2) (see Table 4.4). No American Indians or Alaska Natives were reported, nor were other races.

Degree and major. In terms of the highest academic degree the Florida’s state university libraries’ managers achieved, it was found that sixty-seven managers (78.8%) had M.A./M.S. degrees, followed by ten Ph.D.s, and then by the B.A./B.S, which is only four managers (see Table 4.5). Other degrees were also reported, such as M.L.S. with postgraduate certificate and Specialist.

The largest number of the respondents held their degree in Library or Information Science or both. The majority, 71 individuals out of the 85 respondents, gained their degree in Library and or Information Science, which represents 83.5%, while 14 respondents, which represents 16.5%, achieved their highest degree in other majors (see Figure 4.2.). Other majors reported included but were not limited to public administration, M.B.A. (Master of business administration), history, and geography. According to these results, there is an
indication that the majority of the Florida’s state university main libraries’ managers have a graduate degree in library and information science field.

The researcher used to work at King Abdulaziz University main library for more than ten years and he believes that the combination of holding a graduate degree in Library and Information Science and a high number of years of experience in an administrative position is a key element in the success of library managers.

The Responders’ Managerial Decision Styles and Decision Style Patterns

In the beginning of this sub-section the findings from profiling all the respondents’ managerial decision styles are presented. The respondents’ managerial decision styles and their decision style patterns are included in this sub-section according to the following variables: respondents’ age group, respondents’ gender, respondents’ levels of education, respondents’ ethnicities or races, respondents’ major, respondents’ group of years of experience, and respondents’ administrative positions.

A. Florida’s State University Libraries’ Managers’ Managerial Decision Styles: Findings and Discussion

This part of the chapter presents the answer to the first question of this research study. The question was: What are the managerial decision styles of the managers (directors, associate directors, assistant directors, and the heads of departments) of Florida’s state university libraries?

To present the findings and the answer to this research question, Florida’s state university libraries’ managers managerial decision style will be discussed based on the scores reported by the respondents for each one of the four decision styles (directive, analytical, conceptual, and behavioral) and according to the level of intensity (see Table 3.1 for the level of intensity).
1. **Directive Decision Style:**

The biggest number, forty-two respondents, of Florida’s state university libraries’ managers scored in the least-preferred level of intensity for this style (see Table 4.8). According to Rowe & Boulgarides (1992), in general these types of managers use this particular decision style rarely, but when required could do so. For instance, under stress, a highly analytical person will shift to a directive style. Twenty-nine respondents, in this study, reported that they use this style occasionally. It was also found that twelve respondents use this style frequently, while two participants use this style compulsively. It is indicated, and is generally true, according to Rowe, Boulgarides, & McGrath (1984), that most managers rarely focus on technical decisions. They are, in general, not autocratic and do not have a high need for power. Because of scant information and few alternatives, speed and satisfactory solutions are typical of these individuals. In general they seldom prefer structure and specific information, which is given verbally.

Regarding the directors, it was found that four (44.4%) directors reported the least preferred level of intensity of this style, while four (44.4%) also considered this style as a back-up style, and one director (11.2%) uses this style frequently, as shown by scoring in this style at the dominant level of intensity. No director reported this style as a very dominant style (see table G.17.)

Also no associate directors reported this style as a very dominant style, while five (41.7%) of them were in the least-preferred level of intensity of this style. Three associate directors (25.0%) use this style frequently, while four (33.3%) use it as a back-up style (see table G.18.).

Again, no director assistant reported this style as a very dominant style. One director assistant (16.7%) only considered this style as a dominant style, while three (50.0%) director assistants reported this style as a back-up style and two (33.3%) scored in the least-preferred level of intensity for this style (see table G.19.)
The department heads in this study reported their scores in all levels of intensity. Only two department heads only (3.4%) use this style compulsively and seven (12.1%) use it frequently. Eighteen department heads (31.0%) considered this style as a back-up style, while thirty one (53.4%) scored in the least-preferred level of intensity for this style (see Table G.20.)

2. **Analytical Decision Style:** It was found that twenty-three of Florida's state university libraries' managers rarely use this decision style, while thirty-five managers use it occasionally (see Table 4.8). It was also found that ten respondents use this decision style often and seventeen respondents use it compulsively. According to Rowe, Boulgarides, & McGrath (1984), the managers who scored in the dominant and very dominant levels of intensity in this style have a much greater tolerance of ambiguity than the directive style individual. They also have a more cognitively complex personality that leads to the desire for more information and consideration of many alternatives. These managers focus on technical decisions and the need for control; therefore there is an autocratic bent.

It was found that one director (11.2%) reported the least preferred level of intensity of this style, while four (44.4%) considered this style as a back-up style, and one director (11.2%) used this style frequently as was shown at the dominant level of intensity. One director (11.2%) uses this style compulsively, shown by scoring in this style at the very dominant level of intensity (see Table G.17.)

As far as associate directors, four of them (p=33.3) reported this style as a very dominant style, while four associate directors (33.3%) use this style rarely, scoring in the least-preferred level of intensity of this style. Four associate directors (33.3%) use this style as a back-up style (see Table G.18.)

Again, only one director assistant (16.7%) reported this style as a very dominant style. As well, only one director (16.7%) considered this style
to be a dominant style, while three (50.0%) director assistants reported this style as a back-up style and one (33.3%) scored in the least-preferred level of intensity for this style (see Table G.19.)

Among the department heads, it was found that ten department heads (17.2%) use this style compulsively and seven (12.1%) use it frequently. Twenty-four department heads (41.4%) considered this style as a back-up style, while seventeen of them (29.3%) scored in the least-preferred level of intensity for this style (see Table G.20.)

3. **Conceptual Decision Style:** In this particular managerial decision style, it was found that twenty-six of Florida's state university libraries' managers scored in the least-preferred level of intensity, while thirty-one use this style occasionally. Twenty-eight managers reported that they use this style often and compulsively (see Table 4.8). These managers, according to Rowe, Boulgarides, & McGrath (1984), have both high cognitive complexity and a people orientation. They tend to use data from more than one resource and consider several alternatives. Individuals within this style tend to be idealists who may emphasize ethics and values. They are in general creative and can readily understand complex relationships. Their focus is long-range, with high organizational commitments. They are achievement-oriented and value praise, recognition, and independence. They prefer loose control to power and they frequently use participation. Typically, they are thinkers rather than doers.

It was found that three directors (33.3%) reported the least-preferred level of intensity of this style, while two (44.4%) considered this style as a back-up style, and one director (11.2%) uses this style compulsively, by scoring in this style at the very dominant level of intensity. One director (11.2%) uses this style frequently, scoring in this style at the dominant level of intensity (see table H.17.) Regarding the associate directors, one of them (p=8.3) reported this style as a very dominant style, while five associate directors (41.7%) use this style rarely, scoring in the least-preferred level of intensity. Also five
associate directors (41.7%) use this style as a back-up style (see Table H.18.)

One assistant director (16.7%) reported this style as a dominant style. Two assistant directors (33.3%) only considered this style as a very dominant style, while three (50.0%) director assistants scored in the least-preferred level of intensity for this style. No assistant director reported this style as a back-up style (see Table H.19.)

Among the department heads, it was found that twelve department heads (20.7%) use this style compulsively and seven (12.1%) use it frequently. Twenty-four department heads (41.4%) considered this style as a back-up style, while fifteen of them (29.3%) scored in the least-preferred level of intensity for this style (see Table G.20.)

4. **Behavioral Decision style:** The majority of Florida’s state university libraries’ managers, \( n = 40 \), used the behavioral decision style compulsively and frequently, scoring in dominant and very dominant levels of intensity for this style (see Table 4.8). This finding supports Mech’s (1993) findings. Mech (1993) found that the behavioral decision style was the predominant decision mode among the library directors under his study. The managers who use this style compulsively and frequently, according to Rowe, Boulgarides, & McGrath (1984) have a deep concern for the organization and development of people. They tend to be supportive and are concerned with subordinates’ well-being. They provide counseling, are receptive to suggestions, communicate easily, and show warmth. They are empathic and persuasive and are willing to compromise and to accept loose control. With low data input, they tend toward short-range focus and use meetings for communicating. They avoid conflict, seek acceptance, and are very people-oriented, but sometimes insecure. Nineteen respondents considered this decision style as the least preferred decision style and twenty-six respondents use this particular decision style occasionally, which is as a back-up decision style, while nineteen managers use it rarely.
It was found that four directors (44.4%) reported the least preferred level of intensity of this style, while one director (44.4%) considered this style as a back-up style. Two directors (22.2%) use this style frequently, scoring in this style at the dominant level of intensity, and two directors (22.2%) use this style compulsively, scoring in this style at the very dominant level of intensity (see Table G.17.)

With associate directors, no one reported this style as a very dominant style, while three of them (25.0%) use this style rarely, scoring in the least-preferred level of intensity of this style. Two associate directors (16.7%) use this style as a back-up style and seven associate directors use this style frequently (see Table G.18.)

It was also found that no director assistant reported this style as a back-up style. One director assistant (16.7%) reported this style as a very dominant style. Only one director (16.7%) considered this style as a dominant style, while four (66.7%) director assistants scored in the least-preferred level of intensity for this style (see Table G.20.)

Among the department heads, it was found that fourteen department heads (24.1%) use this style compulsively and thirteen (22.4%) use it frequently. Twenty three department heads (39.7%) considered this style as a back-up style, while eight of them (13.8%) scored in the least-preferred level of intensity for this style (see Table G.17.)

B. Florida’s State University Libraries’ Managers’ Decision Styles Patterns: Findings and Discussion

The findings about the managers’ decision style patterns will be presented and discussed based, in this section, on the scores reported by the respondents for each patterns and according to the measurement of the basic style patterns (see Table 3.2 for the basic style patterns).
Brain Sidedness

As was mentioned earlier, the left half and the right half of the decision style model correspond to differences in the left and right hemispheres of the brain. Based on the DSM, the left-brain people are the people who report a score of 165 or higher in directive and analytical decision styles, while the right brain should be reported according to the combined scores between the conceptual and behavioral decision styles. The total scores between these two decision styles should be 135 or more (see Table 3.2).

Respondents and Right Side of the Brain

Fifty-seven managers reported that they are right-brain dominant rather than left-brain dominant (see Figure 4.3). The right hemisphere is the more creative and perceives things as a whole. The people who think using this side of the brain have a comprehensive sense of timing and they can encompass many thoughts at the same time using parallel processing of information. They are also more artistic; and appreciate space, imagery, fantasy, and music (Rowe & Boulgarides 1992).

Respondents and Left Side of the Brain

The rest of the respondents (twenty-eight) were left-brain (see Figure 4.3). According to Rowe & Boulgarides (1992), the left hemisphere controls logical thought, is analytic, and process information consecutively. It handles speech, pointing, and smiling as well as the abstract logic needed for mathematics and verbal thinking.

It was found that five directors (55.6%) were right-brain dominant, while four directors (44%) were left-brain dominate. Six associate directors were right side of the brain and the other six associate directors used the left side of the brain. Also it was found that (50.0%) of the director assistants are right-brain dominant and 50% are left-brain dominant. Most of the department heads $n=43$ (74.1%) of Florida’s state university main libraries were found to be right-brain dominant, while 25.9% ($n=15$) were left-brain dominant.

By looking at these results, it is concluded that the distribution of percentages, among these groups, of determining the brain sides, as decision
style patterns, are close to each other except in the case of the department heads. Even though inside the group it was concluded that the percentages are the same in the associate directors and director assistants, and close to each other in the directors, there is a big difference in the percentages in the case of the department heads. That may refer to the differences of the distribution of the respondents among these groups. To clarify this, in this study the respondents organized according to their positions were: nine directors, twelve associate directors, and six assistant directors, while there were fifty-eight department heads. The difference between the first three position groups and the last group prevented the researcher from applying any statistical techniques that may help to explore any significant relationship between these types of group and the brain sidedness.

**Orientation**

The findings will be presented and discussed based on the scores reported by the respondents for each pattern or orientation.

Based on the DSM, the “idea orientation” people are the people who report a score of 170 or higher in analytical and conceptual decision styles, while the action orientation should be reported according to the combined scores between the directive and behavioral decision styles. The total scores of these two decision styles should be 130 or more.

Forty-five managers in this study reported that they are idea-oriented managers. According to Row and Mason (1987), these managers are more concerned with thinking, analysis, judgment, innovation, creativity, and visualizing. The rest of the managers in this study (n= 40) were action-oriented. According to Row and Mason (1987), these managers are concerned with achieving results. They work well with others and find occupations that require direct involvement, achieving results, and interacting with the public.

Regarding the directors, it was found that most of them (66.7%, n=6) were idea-oriented, while only three of them (33.3%) were action-oriented. In the case of the associate directors, the number of idea-oriented managers was five (41.7%), while seven (58.3%) of them were action-oriented. Four assistant
directors, (66.7%) were found to be idea-oriented and two (33.3%) were action-oriented managers. Thirty department heads (51.7%) were idea-oriented managers, while twenty-eight department heads (48.3%) were action-oriented people.

It was concluded here that the highest percentages were reported in the idea orientation for every position’s groups except the associate director group. The associate directors were different in the orientation dominant. They are action-oriented, while the others are idea-oriented.

Ali (1989) argues that decision styles differ significantly by some variables, one of which is management function. And since each of these two orientations present two particular decision style, the orientation may also be influenced by the management function as a variable. Therefore, the researcher expected that the reason of this conclusion would be the management function. As we all might know that every position has a job description that determines exactly the main functions of a particular job or position; thus probably the management function of these associate directors is the reason they are action oriented rather than idea oriented, and therefore that particular difference between them and the rest of the respondents’ position groups occurred.

### The Findings and the Discussion of the Hypotheses Test

This part of this chapter presents the answer to the second question of this study. The question was: Is there a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender, age, ethnicity, level of education, educational major, administrative experience, and current positions?

To answer this research question, seven hypotheses were formulated and tested. To present the findings and the answer to this research question, the findings from testing the hypotheses will be presented and discussed.
Hypotheses

Age. It was hypothesized that there is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their age. Older managers are more directive and analytical than younger managers, while younger managers are more behavioral and conceptual. This hypothesis was based on Mech’s (1993) finding. He found that as library managers grow older, they may be more inclined to logical thinking and less inclined to broad thinking, creativity, and concern for people (Mech, 1993).

It was found, from the results shown in table 4.8 and table 4.9, that there was no significant relationship between the respondents’ age and any of the four decision styles and between the respondents’ age and any of the decision style patterns; therefore this hypothesis was rejected and the result does not meet with Mech study’s finding.

The researcher believes that he obtained this result because of the nature of the respondents’ age groups. The majority of the respondents \( n = 45 \) (52.9%) were in the age range of 50-59, while the rest of the respondents fell into the other three age groups. More detail about the result of respondents’ age groups is shown in Table 4.3.

Since the majority of the respondents were in the age range of 50-59 and the number of people in the other groups were not equal or even close to the number of people in that particular range, that may be the reason for finding no significant relationship between the respondent’s age and the managerial decision styles and between the respondents’ age and any of the decision style patterns.

Educational level. Hypothesis number two was: “There is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their level of education. The manager who has a lower degree is more directive than the one who has a Ph.D.”

This hypothesis was based on Goodyear’s findings (1987). Goodyear (1987) found that individuals with the fewest years of education scored highest in directive decision style. Nonetheless, it was found, in this study, that the
respondents who held a Ph.D. scored in the back-up level of intensity on directive decision style, and the respondents who held B.A./B.S. degree also scored in (back-up) level of intensity on directive decision style. The respondents who had an M.A./M.S. scored in the least-preferred level of intensity of this style (see table 4.12); therefore this hypothesis is rejected by the analysis and the findings do not align with Goodyear’s finding.

Goodyear conducted her study in another field, which is nursing, and the big difference between the field of nursing and our field may explain the difference in results.

**Educational major.** It was hypothesized that there is a relationship between the managerial decision styles of Florida's state university libraries' managers and their educational major. “This hypothesis was, the manager who holds all or one of his or her degrees in Library and Information Science is more conceptual, while the manager who has his or her degree in another major is more directive.”

As was mentioned in Chapter 4, this hypothesis was tested using a descriptive analysis. By considering the mean of each style within each group, it was found that $M = 81$ and $SD = 14.10$ for the respondents who held their degree or one of their degrees in Library and Information Science in conceptual decision style scores, while $M = 78$ and $SD = 13.41$ for the respondents who had his or her degree in another major in conceptual style scores. It was also found that $M = 72$ and $SD = 13.49$ for the respondents who had their degree in another major in directive style scores, while $M = 67$ and $SD = 11.0$ for the respondents who had their degree or one of their degrees in Library and Information Science in directive decision style scores; therefore this analysis rejected the hypothesis in one part and supported the hypothesis in the other part.

In this exploratory study it was found that this hypothesis was rejected in the part that proposed that the manager who holds his or her degree or one of his or her degrees in Library and Information Science is more conceptual. The hypothesis was supported, by the analysis, in the part that proposed that the manager who has his or her degree in another major is more directive. The result in table 4.13 shows that both groups are in the back-up level of intensity.
according to the mean scores in conceptual decision style scores, but it shows also that the directive decision style is the least preferred style for the manager who holds his or her degree or one of his or her degrees in Library and Information Science, while it is the back-up style for the manager who has his or her degree in another major.

According to the level of intensity, the back-up level indicates that a particular decision style is used occasionally, while the least-preferred level of intensity indicates that a particular decision style is rarely used. This difference between these two levels of intensity and according to DSM gives us an indication that the respondents who held their degrees in another major tended to use the directive style more than the respondents who held their degrees in Library and Information Science.

**Administrative experience.** There is a relationship between the managerial decision styles of Florida's state university libraries' managers and their administrative experience. The managers with less administrative experience were more likely to be behavioral than managers with more administrative experience. This hypothesis is based on Mech’s (1993) findings. Mech (1993) found that directors with less administrative experience are more likely to have a people-oriented behavioral style than directors with more administrative experience.

According to the result shown in table 4.14, a significant relationship between the respondents' administrative years of experience and the scores in behavioral decision style was found. Based on this result, it was found that managers with more years of administrative experience scored lower than managers with less administrative experience on behavioral decision style; therefore this result supports the hypothesis and the Florida’s university main libraries' managers whom had less administrative experience tended to use the behavioral decision style more than the Florida's university main libraries' managers whom had more administrative experience.
Current position. It was also hypothesized that there is a relationship between the managerial decision styles of Florida’s state university libraries’ managers and their current positions. “Managers with the highest positions are more directive, while heads of departments are more analytical.”

In this exploratory study it was found that the hypothesis was supported, but the direction of the relationship was rejected. More explicitly, it was found that the respondents in positions of director and department head use the directive style rarely, while the respondents in assistant and associate director positions use it occasionally. It was also found that the respondents in all positions use the analytical decision style occasionally.

Based on this finding, it is indicated that most respondents according to their positions scored in the back-up, dominant, and very dominant levels of intensity in behavioral decision style rather in the least-preferred level. This indication supports the finding mentioned early on pages 125 and 126 of this chapter.

Gender. It was hypothesized that there is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their gender. This hypothesis is based on Mech’s (1993) findings. Mech found that no significant differences existed between men and women managers on any of the decision styles or orientations.

In this study it was found that there was no significant relationship between male and female as gender groups and their decision styles (see Table 4.17). So this result supports the hypothesis, and therefore supports Mech’s finding.

Ethnicity. In this study it was hypothesized that there is no relationship between the managerial decision styles of Florida’s state university libraries’ managers and their ethnicity. This hypothesis is based on Benson’s (1986) findings. Benson tried to explore the relationship between the managerial decision styles and a number of demographic variables. One of these variables was ethnic background. She found no significant relationship between the adopted decision
styles and these variables. But in this study the result does not support Benson’s study finding.

In this study it was found that the dominant style for the African-American managers is the analytical and behavioral, while it is the conceptual and behavioral for the Asian-American managers. The very dominant decision style for the Hispanic managers is the conceptual decision style. The white managers are more flexible and they use the analytical, conceptual, and behavioral decision styles as back-up styles, while they do not have a dominant or very dominant decision style and the least-preferred decision style for this group is the directive decision style.

It seems, from this variety of levels of intensity among the four decision styles reported by the respondents, that ethnicity does play a role in the adoption of a particular decision style; therefore this result rejected the hypothesis.

Summary

This study found that:

1. The majority of Florida’s state university libraries’ managers were female. This result may give us an indication that females tend to work in university library management more than males.

2. The majority of the managers have a high range of years of administrative experience.

3. Most of the Florida’s state university libraries’ managers had M.A./M. and the majority of these managers hold their degree in Library and Information Science.

4. The majority of the Florida’s state university libraries’ managers used the directive decision style rarely.

5. The majority of Florida’s state university libraries’ managers used the behavioral decision style compulsively and frequently, scoring in dominant and very dominant levels of intensity for this style.
6. Most of Florida’s state university libraries’ managers were right-brain dominant.
7. Most of Florida’s state university libraries’ managers were idea-oriented.
8. There was no significant relationship between the respondents’ age and any of the four decision styles and between the respondents’ age and any of the decision style patterns.
9. It was not approved that the manager who has a lower degree is more directive than the one who has a PhD.
10. It was not approved that the manager who has his or her degree in Library and Information Science is more conceptual. It was also not approved that the manager who has his or her degree in another major are more directive.
11. The managers with less administrative experience were more likely to be behavioral than managers with more administrative experience.
12. The managers in positions of director and department head use the directive style rarely, while the respondents in assistant and associate director positions use it occasionally. It was also found that the respondents in all positions use the analytical decision style occasionally.
13. No significant relationship between male and female as gender groups and their decision styles.
14. It seems, from the variety of levels of intensity among the four decision styles reported by the respondents, that ethnicity does play a role in the adoption of a particular decision style.

**Conclusion**

This study provided a report about managerial decision style for the managers of Florida’s state university main libraries'. In addition, the relationships between these styles and several pieces of demographic information on these
managers were determined. The overall findings of this study were that the predominant decision style for the majority of Florida’s state university main libraries’ managers was the behavioral decision style, followed by the conceptual decision style. The directive decision style was the style used least by often most of these managers. As for the decision style patterns, the findings inform us that the majority of Florida’s state university main libraries’ managers think using the right side of the brain rather than the left side. The findings also determined that orientation dominance was adopted almost equally, since there were forty-five managers who were idea-oriented and forty managers who were action-oriented.

No relationship was found between Florida’s state university libraries’ managers and their gender, age, or highest academic degree held by these managers. On the other hand, the findings of this study indicated that years of administrative experience, ethnicity, position, and educational major of these managers were indeed related to the decision style or styles used by these managers.

According to this study’s findings, and because of the relationship between the managerial decision styles of Florida state university libraries’ managers and their gender, age, ethnicity, level of education, educational major, years of administrative experience, and positions, it was possible to revise the model of this study (see Figure 1.2) accordingly and remove the question marks. That was because as it is mentioned above of the relationship between the managerial decision styles of Florida state university libraries’ managers and their gender, age, ethnicity, level of education, educational major, years of administrative experience, and positions Figure 5.1 shows the revised study model.
Finally, using drop-off as a data collection method helped the researcher to obtain a high percentage of responses in relatively short time. Decision Style Model was found to be an appropriate model to use for measuring the managerial decision style for library managers.

**Limitations of the Study**

There are a number of limitations to this study that should be mentioned here for consideration by those using this study’s findings or evaluating the results. The first limitation was that this study focused on exploring the managerial decision styles of the managers only (directors, associate directors, assistant directors and department heads) working in Florida’s state university libraries. Other employees in these libraries were not included. The second limitation was that this study focused on an exploration of the managerial decision styles of the directors, associate directors, assistant directors and
department heads working in only state university libraries. Managers from other types of academic or other types of libraries in general were not included.

In addition, the study was limited to exploration of the managerial decision styles of the directors, associate directors, assistant directors and department heads working in Florida’s state university main libraries. Thus the branch libraries of Florida’s state university library system were excluded.

**The Study Implications**

This study has offered insight into the managerial decision style of Florida’s state university libraries’ managers. The researcher reached the following implications:

1. Florida’s state universities’ main libraries’ managers are not all alike in the adoption of their decision styles. Each manager has his or her own decision style. Some of them have more than one dominant decision style, some have more than one back-up decision style, while others use some of these four decision styles rarely. Sternberg (2001), states that according to Webster’s Dictionary (1967), “A style is a distinctive or characteristic manner, or method of acting or performing.” That means that these libraries’ managers use different methods of acting or performing to solve problems and make decisions. In addition and according to the DSM, each style has its strength and weaknesses, so knowing more about decision style should lead the library’s managers to be more able to use the strengths of others’ decision modes and to balance against the weaknesses of their own approaches and therefore enhance their ultimate effectiveness.

2. The Decision Style Model is an appropriate model for exploring the libraries’ managers decision styles. And the Decision Style Inventory is a short and effective tool for measuring the libraries’ managers’ managerial decision styles. This study and Mech’s study findings introduce this model to the libraries’ managers and the researchers in our field.
3. The administrative years of experience was the variable that influenced this adoption, while these managers’ educational majors, positions, and ethnicity may affect the adoption of such style. It was also found that these managers’ gender, age, and educational level do not affect their decision styles. In fact, the nature of the groups of some of these variables, such as educational majors, positions, ethnicity, and educational level does not help the researcher in using any statistical techniques that test the significant relationships between these variables and the decision styles, so the researcher used the mean and standard deviation to indicate the differences.

4. Rowe and Boulgarides (1992) argue that once we know the decision style, we may be able to predict outcomes in terms of decision behavior. They clarify that the manner in which each style reacts to stress, motivation, problem solving, and thinking provides another basis for understanding decision makers’ response behavior. Table 1.1 shows the reactions of each style. The results of this study in addition to Rowe and Boulgarides’s argument give us an indication that by knowing the managers’ decision styles, we are in the right boat toward understanding these managers’ response behavior. Accordingly, that would help the library’s managers to predict the action or reaction of each one of them and that will enhance the communication among them.

Recommendations

Recommendations for libraries’ managers. For managers in general and in particular the managers of academic libraries, the researcher recommends that those managers become aware of their decision style. Mech (1993) stated that when library managers are aware of their decision styles and orientation, they are more able to balance between the strength and weaknesses of their own and others’ decision modes.
While there are preferred decision styles and a predominant orientation among managers, these styles and orientations may not be the most effective in all situations or environments (Mech, 1993); therefore it is recommended that library managers to find ways to take advantage of the benefits provided by the other styles and orientations.

**Recommendations for further research studies.** This study has offered insight into the managerial decision style of Florida’s state university libraries’ managers. The following recommendations were drawn from the findings of this study:

1. The study was an exploratory study. Given that there is a dearth of research on exploring and profiling libraries’ managers decision styles, more exploratory studies of libraries’ managers managerial decision styles are recommended. And since the nature of the groups of some of these variables, such as, educational majors, positions, ethnicity, and educational level prevented the researcher from using any statistical techniques that test the significant relationships between these variables and the decision styles, then applying this study to different populations will be helpful in indicating the significant relationships between these variables and the decision styles.

2. This study was limited to exploring the managerial decision styles of Florida’s state university libraries’ managers. So another study that explores the managerial decision styles of another state’s university libraries’ managers is recommended as well as comparison of the findings of this study and the recommended study to determine the relationship between the region and managerial decision style.

3. This study can be replicated to explore the managerial decision style of Saudi Arabian university libraries’ managers. A comparison between this study’s findings and the study’s recommended findings should be considered.

4. It was found in this study that the predominant decision style of Florida state university libraries’ managers is the behavioral decision style. An
exploratory study about managerial decision style in another type of library (such as public, school, or medical libraries) is recommended to investigate the dominant decision style for the managers working in those types of library.

5. The drop-off as a data collection procedure is recommended for the researchers who tend to use a survey questionnaire as a data collection instrument.
APPENDIX A

HUMAN SUBJECT APPROVAL LETTER
Office of the Vice President
For Research
Tallahassee, Florida 32306-2763
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM
Human Subjects Committee

Date: 7/1/2003

Aburaham Algamri
2001 Old St. Augustine RD Apt # A-201
Tallahassee Fl 32301

Dept.: Information Studies

From: David Quadagno, Chair

Re: Use of Human Subjects in Research
Managerial Decision Styles of libraries' managers of Florida's State universities

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b) 2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If the project has not been completed by 6/30/2004 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Dr. John Bertot
HSC No. 2003.323
APPENDIX B

WEB-BASED QUESTIONNAIRE COVER LETTER
Dear Manager:

My name is Abdulrahman Alqarni. I am a graduate student under the direction of Dr. John Bertot in the School of Information Studies at Florida State University. As part of my doctoral studies, I am exploring the library managers’ managerial decision styles and the relationship between these styles and the managers’ gender, age, level of education, major of highest educational degree achieved, current position, and administrative experience.

I am requesting your participation, which will involve completion of two short Web-based surveys, one related to decision style entitled Decision Style Inventory (DSI) and the other part related to managers’ demographic questionnaire concerning gender, age, level of education, major of highest educational degree achieved, current position, and administrative experience…Completion of these surveys should take approximately 15 minutes and will be conducted in one session.

Your participation in this study is completely voluntary. You may refuse to participate and/or withdraw from participation at any time without prejudice or penalty. The researcher will maintain confidentiality to the fullest extent of the law. The researcher will do so by storing data in a locked cabinet, identifying participants by a code name, and destroying any lists that contain identifying materials. Your name will not appear on any of the results. No individual responses will be reported. Only group findings will be reported.

The responses will be evaluated collectively and then reported in a form of doctoral dissertation, a partial requirement for my doctoral degree. The data will be only available to the principal investigator and his major advisor. A copy of the findings will be sent to you if you wish.

Although there may be no direct benefit to you, the possible benefits are identifying your own decision style. Knowing your own decision style, as well as those of others, can help you to use the strength of others’ decision modes to balance against the differences in the managers’ own approaches. We all need, in order to improve our effectiveness, to develop our decision styles and find ways to take advantage of the benefits provided by the other styles.

If you have any questions about your rights or participation in this study, you can contact the chair of the Human Subjects Committee, Institutional Review Board at (850) 644-8633.

If you have any questions concerning the research study, please call me any time at (850) 212-8604 and (850) 219-0928 or e-mail me at aaa2570@garnet.acns.fsu.edu. Also, you can call Dr. John Bertot at (850) 644-8118 or e-mail him at jcbertot@lis.fsu.edu.
The return of the questionnaire will be considered your consent to participate. Thank you very much for participating in this study.

Please go to the link below, read carefully the instruction provided, and then start answering the questionnaire.

http://www.surveymonkey.com/s.asp?A=15321868E5867

The participants who will receive the printed questionnaire version will be informed that a stamped envelope is included.

Sincerely yours,

Abdulrahman Alqarni

2001 Old St. Augustine Rd. Apt # A- 201

Tallahassee, FL 32301
APPENDIX C

DROP-OFF QUESTIONNAIRE COVER LETTER
Dear Manager:

My name is Abdulrahman Alqarni. I am a graduate student under the direction of Dr. John Bertot in the School of Information Studies at Florida State University. As part of my doctoral studies, I am exploring the library managers’ managerial decision styles and the relationship between these styles and the managers’ gender, age, level of education, major of highest educational degree achieved, current position, and administrative experience.

I am requesting your participation, which will involve completion of two short Web-based surveys, one related to decision style entitled Decision Style Inventory (DSI) and the other part related to managers’ demographic questionnaire concerning gender, age, level of education, major of highest educational degree achieved, current position, and administrative experience…Completion of these surveys should take approximately 15 minutes and will be conducted in one session.

Your participation in this study is completely voluntary. You may refuse to participate and/or withdraw from participation at any time without prejudice or penalty. The researcher will maintain confidentiality to the fullest extent of the law. The researcher will do so by storing data in a locked cabinet, identifying participants by a code name, and destroying any lists that contain identifying materials. Your name will not appear on any of the results. No individual responses will be reported. Only group findings will be reported.

The responses will be evaluated collectively and then reported in a form of doctoral dissertation, a partial requirement for my doctoral degree. The data will be only available to the principal investigator and his major advisor. A copy of the findings will be sent to you if you wish.

Although there may be no direct benefit to you, the possible benefits are identifying your own decision style. Knowing your own decision style, as well as those of others, can help you to use the strength of others’ decision modes to balance against the differences in the managers’ own approaches. We all need, in order to improve our effectiveness, to develop our decision styles and find ways to take advantage of the benefits provided by the other styles.

If you have any questions about your rights or participation in this study, you can contact the chair of the Human Subjects Committee, Institutional Review Board at (850) 644-8633.

If you have any questions concerning the research study, please call me any time at (850) 212-8604 and (850) 219-0928 or e-mail me at aaa2570@garnet.acns.fsu.edu. Also, you can call Dr. John Bertot at (850) 644-8118 or e-mail him at jcbertot@lis.fsu.edu
The return of the questionnaire will be considered your consent to participate. Thank you very much for participating in this study.

Please, read carefully the instruction provided, and then start answering the questionnaire. After answering the questionnaire please send it back to the researcher using the provided stamped envelope.

If you prefer to complete the questionnaire electronically, please go to the link below and then start answering the questionnaire.

http://www.surveymonkey.com/s.asp?A=15321868E5867

Thanks for your participation in advance.

Sincerely yours,

Abdulrahman Alqarni

2001 Old St. Augustine Rd. Apt # A- 201

Tallahassee, FL 32301
APPENDIX D

THE INSTRUCTION OF THE DECISION STYLE INVENTORY
Instruction

The Decision Style Inventory aims at testing your preferences when you are approaching a decision situation. The inventory was developed by A. J. Rowe to study how decision styles work in an organization, and in what way the awareness of one's own style could make it possible to organize work in a better way. The result of the inventory is supposed to show how you prefer to act in different situations, what your primary concerns are, and how you relate to others.

The inventory is taken by grading the answers of questions 1 to 20. Grading is done by ranking each answer 8, 4, 2, or 1. A ranking of 8 indicates the response that you most prefer, 4 indicates a response that you consider often, 2 indicates a response that you consider on occasion, and 1 indicates the response that you least prefer. Each response in any set of four must be ranked differently; in the case in which two responses within a given set may seem equally preferable, you must choose one that you feel better represents your preferences. Here is an example:

THE WRONG ANSWER: two or more responses in one set are given same score.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My decisions typically are: Realistic and direct</td>
<td>8</td>
<td>Systematic or abstract</td>
<td>1</td>
<td>Broad and flexible</td>
</tr>
</tbody>
</table>

Sensitive to the needs of others 8

Must be ranked differently.

THE CORRECT ANSWER: Each response in each set has different score.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My decisions typically are: Realistic and direct</td>
<td>8</td>
<td>Systematic or abstract</td>
<td>1</td>
<td>Broad and flexible</td>
</tr>
</tbody>
</table>

Sensitive to the needs of others 2

Your responses should reflect how you see yourself and what you prefer to do, not what you believe is correct or desirable.
APPENDIX E

THE DECISION STYLE INVENTORY (DSI)
<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>My prime objective is to:</strong></td>
<td><strong>Have a position with statue</strong></td>
<td><strong>Be the best in my field</strong></td>
<td><strong>Achieve recognition for my work</strong></td>
</tr>
<tr>
<td>2.</td>
<td><strong>I enjoy jobs that:</strong></td>
<td><strong>Are technical and well defined</strong></td>
<td><strong>Have considerable variety</strong></td>
<td><strong>Allow independent action</strong></td>
</tr>
<tr>
<td>3.</td>
<td><strong>I expect people working with me to be:</strong></td>
<td><strong>Productive and fast</strong></td>
<td><strong>Highly capable</strong></td>
<td><strong>Committed and responsive</strong></td>
</tr>
<tr>
<td>4.</td>
<td><strong>In my job, I look for:</strong></td>
<td><strong>Practical results</strong></td>
<td><strong>The best solutions</strong></td>
<td><strong>New approaches or ideas</strong></td>
</tr>
<tr>
<td>5.</td>
<td><strong>I communicate best with others:</strong></td>
<td><strong>On a direct one-to-one basis</strong></td>
<td><strong>In writing</strong></td>
<td><strong>By having a group discussion</strong></td>
</tr>
<tr>
<td>6.</td>
<td><strong>In my planning I emphasize:</strong></td>
<td><strong>Current problems</strong></td>
<td><strong>Meeting objectives</strong></td>
<td><strong>Future goals</strong></td>
</tr>
<tr>
<td>7.</td>
<td><strong>When faced with solving a problem, I:</strong></td>
<td><strong>Rely on proven approaches</strong></td>
<td><strong>Apply careful analysis</strong></td>
<td><strong>Look for creative approaches</strong></td>
</tr>
<tr>
<td>8.</td>
<td><strong>When using information, I prefer:</strong></td>
<td><strong>Specific facts</strong></td>
<td><strong>Accurate and complete data</strong></td>
<td><strong>Broad coverage of my options</strong></td>
</tr>
<tr>
<td>9.</td>
<td><strong>When I am not sure about what to do, I:</strong></td>
<td><strong>Rely on intuition</strong></td>
<td><strong>Search for facts</strong></td>
<td><strong>Look for a possible compromise</strong></td>
</tr>
<tr>
<td>10.</td>
<td><strong>Whenever possible I avoid:</strong></td>
<td><strong>Long debates</strong></td>
<td><strong>Incomplete work</strong></td>
<td><strong>Using numbers or formulas</strong></td>
</tr>
<tr>
<td>11.</td>
<td><strong>I am especially good at:</strong></td>
<td><strong>Remembering dates and facts</strong></td>
<td><strong>Solving difficult problems</strong></td>
<td><strong>Seeing many possibilities</strong></td>
</tr>
<tr>
<td>12.</td>
<td><strong>When time is important, I:</strong></td>
<td><strong>Decide and act quickly</strong></td>
<td><strong>Follow plans and priorities</strong></td>
<td><strong>Refuse to be pressured</strong></td>
</tr>
<tr>
<td>13.</td>
<td><strong>In social settings, I generally:</strong></td>
<td><strong>Speak with others</strong></td>
<td><strong>Think about what is being said</strong></td>
<td><strong>Observe what is going on</strong></td>
</tr>
<tr>
<td>14.</td>
<td><strong>I am good at remembering:</strong></td>
<td><strong>People’s names</strong></td>
<td><strong>Place we met</strong></td>
<td><strong>People’s faces</strong></td>
</tr>
<tr>
<td>15.</td>
<td><strong>The work I do provides me:</strong></td>
<td><strong>The power to influence others</strong></td>
<td><strong>Challenging assignments</strong></td>
<td><strong>Achieving my personal goals</strong></td>
</tr>
<tr>
<td>16.</td>
<td><strong>I work well with those who are:</strong></td>
<td><strong>Energetic and ambitious</strong></td>
<td><strong>Self-confident</strong></td>
<td><strong>Open-minded</strong></td>
</tr>
<tr>
<td></td>
<td>When under stress, I:</td>
<td>Become anxious</td>
<td>Concentrate on the problem</td>
<td>Become frustrated</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------</td>
<td>----------------</td>
<td>--------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>17.</td>
<td>Others consider me:</td>
<td>Aggressive</td>
<td>Disciplined</td>
<td>Imaginative</td>
</tr>
<tr>
<td>18.</td>
<td>My decisions typically are:</td>
<td>Realistic and direct</td>
<td>Systematic or abstract</td>
<td>Broad and flexible</td>
</tr>
<tr>
<td>19.</td>
<td>I dislike:</td>
<td>Losing control</td>
<td>Boring work</td>
<td>Following rules</td>
</tr>
<tr>
<td>20.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX F

DEMOGRAPHIC QUESTIONS
Please check or fill in the appropriate responses for questions 21 to 27

21- Your gender
   ( ) Male
   ( ) Female

22- Your age in years:
   ________________ years

23- Please describe your primary race/origin:
   ( ) White (not Hispanic or Latino origin)
   ( ) Hispanic or Latino
   ( ) Black or African American
   ( ) Asian or Asian American
   ( ) American Indian or Alaska Native
   ( ) Some other race or origin (please specify) ______________________

24- What is the highest degree you hold?
   ( ) B.A./B.S.
   ( ) M.A./M.S.
   ( ) Ph.D./Ed.D.
   ( ) Other (please specify) ______________________

25- What is the academic subject of the highest degree you hold?
   ( ) Library and Information Science
   ( ) Other (please specify)________________________

26- What is your main current position?
   ( ) Director
   ( ) Associate Director
   ( ) Director Assistant
   ( ) Head of Department

27- Please specify your administrative/management experience in years in general (Including your previous positions and current position)
   ________________ years.
APPENDIX G

A DETAILED DESCRIPTIVE ANALYSES OF THE RESPONDENTS
DECISION STYLES
### Gender and Decision Style

Table G.1

Male Decision Style profile (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 14) P 46</td>
<td>(n 11) P 36.7</td>
<td>(n 5) P 16.7</td>
<td>(n 0) P 00</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 5) P 16.7</td>
<td>(n 13) P 43.3</td>
<td>(n 5) P 16.7</td>
<td>(n 7) P 23.3</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 8) P 26.7</td>
<td>(n 13) P 43.3</td>
<td>(n 4) P 13.3</td>
<td>(n 5) P 16.7</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 10) P 33.3</td>
<td>(n 10) P 33.3</td>
<td>(n 6) P 20.1</td>
<td>(n 4) P 13.3</td>
</tr>
</tbody>
</table>

Table G.2

Female Decision Style Profile (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 28) P 50.9</td>
<td>(n 18) P 32.7</td>
<td>(n 7) P 12.7</td>
<td>(n 2) P 3.6</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 18) P 32.7</td>
<td>(n 22) P 40.0</td>
<td>(n 5) P 9.1</td>
<td>(n 10) P 18.2</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 18) P 32.7</td>
<td>(n 18) P 32.7</td>
<td>(n 8) P 14.5</td>
<td>(n 11) P 20.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 9) P 16.4</td>
<td>(n 16) P 29.1</td>
<td>(n 17) P 30.9</td>
<td>(n 13) P 23.6</td>
</tr>
</tbody>
</table>

136
### Age Groups and decision Style

Table G.3

**Group 1. From age of 30-39 (Frequency and Percentage)**

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 4) P 36.4</td>
<td>(n 5) P 45.5</td>
<td>(n 2) P 18.2</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 3) P 27.3</td>
<td>(n 5) P 45.5</td>
<td>(n 0) P 00.0</td>
<td>(n 3) P 27.3</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 5) P 45.5</td>
<td>(n 4) P 36.4</td>
<td>(n 0) P 00.0</td>
<td>(n 2) P 18.2</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 3) P 27.3</td>
<td>(n 4) P 36.4</td>
<td>(n 0) P 00.0</td>
<td>(n 4) P 36.4</td>
</tr>
</tbody>
</table>

Table G.4

**Group 2. From age of 40-49 (Frequency and Percentage)**

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 14) P 73.7</td>
<td>(n 3) P 15.8</td>
<td>(n 2) P 10.5</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 5) P 26.3</td>
<td>(n 7) P 36.8</td>
<td>(n 3) P 15.8</td>
<td>(n 4) P 21.1</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 5) P 26.3</td>
<td>(n 6) P 31.6</td>
<td>(n 3) P 15.8</td>
<td>(n 5) P 26.3</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 5) P 26.3</td>
<td>(n 5) P 26.3</td>
<td>(n 6) P 31.6</td>
<td>(n 3) P 15.8</td>
</tr>
</tbody>
</table>
Table G.5
Group 3. From age of 50-59 (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 21) P 46.7</td>
<td>(n 17) P 37.8</td>
<td>(n 7) P 15.6</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 11) P 24.4</td>
<td>(n 20) P 44.4</td>
<td>(n 6) P 13.3</td>
<td>(n 8) P 17.8</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 14) P 31.1</td>
<td>(n 16) P 35.6</td>
<td>(n 8) P 17.8</td>
<td>(n 7) P 15.6</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 10) P 22.2</td>
<td>(n 12) P 26.7</td>
<td>(n 14) P 31.1</td>
<td>(n 9) P 20.0</td>
</tr>
</tbody>
</table>

Table G.6
Group 4. From age of 60 and above (Frequency and Percentage)

<table>
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<tr>
<th>Managerial Decision Style</th>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 3) P 30.0</td>
<td>(n 4) P 40.0</td>
<td>(n 1) P 10.0</td>
<td>(n 2) P 20.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 4) P 40.0</td>
<td>(n 3) P 30.0</td>
<td>(n 1) P 10.0</td>
<td>(n 2) P 20.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 2) P 20.0</td>
<td>(n 5) P 50.0</td>
<td>(n 1) P 10.0</td>
<td>(n 2) P 20.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 1) P 10.0</td>
<td>(n 5) P 50.0</td>
<td>(n 3) P 30.0</td>
<td>(n 1) P 10.0</td>
</tr>
</tbody>
</table>
## Ethnicity Groups and Decision Style

### Table G.7

Group 1. White (Not Hispanic or Latino Origin) (Frequency and Percentage)

<table>
<thead>
<tr>
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<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 37) P 50.7</td>
<td>(n 23) P 31.5</td>
<td>(n 11) P 15.1</td>
<td>(n 2) P 2.7</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 20) P 27.4</td>
<td>(n 31) P 42.5</td>
<td>(n 8) P 11.0</td>
<td>(n 14) P 19.2</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 21) P 28.8</td>
<td>(n 27) P 37.0</td>
<td>(n 11) P 15.1</td>
<td>(n 14) P 19.2</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 17) P 23.3</td>
<td>(n 23) P 31.5</td>
<td>(n 17) P 23.3</td>
<td>(n 16) P 21.9</td>
</tr>
</tbody>
</table>

### Table G.8

Group 2. Hispanic or Latino (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 2) P 100.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 1) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 50.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 50.0</td>
<td>(n 1) P 50.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 1) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 50.0</td>
<td>(n 0) P 00.0</td>
</tr>
</tbody>
</table>
Table G.9

Group 3. Black or African American (Frequency and Percentage)

<table>
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<tr>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 2) P 25.0</td>
<td>(n 5) P 62.5</td>
<td>(n 1) P 12.5</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 2) P 25.0</td>
<td>(n 2) P 25.0</td>
<td>(n 2) P 25.0</td>
<td>(n 2) P 25.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 5) P 62.5</td>
<td>(n 3) P 37.5</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 0) P 00.0</td>
<td>(n 2) P 25.0</td>
<td>(n 5) P 62.5</td>
<td>(n 1) P 12.5</td>
</tr>
</tbody>
</table>

Table G.10

Group 4. Asian (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 1) P 50.0</td>
<td>(n 1) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 0) P 00.0</td>
<td>(n 2) P 100.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 50.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 1) P 50.0</td>
<td>(n 1) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
</tr>
</tbody>
</table>
**Degree Groups and decision Style**

Table G.11

Group 1. B.A./B.S. (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 1) P 25.0</td>
<td>(n 1) P 25.0</td>
<td>(n 1) P 25.0</td>
<td>(n 1) P 25.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 1) P 25.0</td>
<td>(n 2) P 50.0</td>
<td>(n 1) P 25.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 2) P 50.0</td>
<td>(n 2) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 0) P 00.0</td>
<td>(n 2) P 50.0</td>
<td>(n 1) P 25.0</td>
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</table>

Table G.12

Group 2. M.A./M.S. (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 36) P 53.7</td>
<td>(n 24) P 35.8</td>
<td>(n 6) P 9.0</td>
<td>(n 1) P 1.5</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 15) P 22.4</td>
<td>(n 31) P 46.3</td>
<td>(n 8) P 11.9</td>
<td>(n 13) P 19.4</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 18) P 26.9</td>
<td>(n 24) P 35.8</td>
<td>(n 11) P 16.4</td>
<td>(n 14) P 20.9</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 16) P 23.9</td>
<td>(n 24) P 35.8</td>
<td>(n 14) P 20.9</td>
<td>(n 13) P 19.4</td>
</tr>
</tbody>
</table>
Table G.13
Group 3. Ph.D./Ed. D. (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 3) P 30.0</td>
<td>(n 3) P 30.0</td>
<td>(n 4) P 40.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 5) P 50.0</td>
<td>(n 2) P 20.0</td>
<td>(n 1) P 10.0</td>
<td>(n 2) P 20.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 5) P 50.0</td>
<td>(n 3) P 30.0</td>
<td>(n 0) P 00.0</td>
<td>(n 2) P 20.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 2) P 20.0</td>
<td>(n 0) P 00.0</td>
<td>(n 7) P 70.0</td>
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Table G.14
Group 4. Other (Frequency and Percentage)

<table>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 2) P 50.0</td>
<td>(n 1) P 25.0</td>
<td>(n 1) P 25.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 2) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 0) P 00.0</td>
<td>(n 2) P 50.0</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 1) P 25.0</td>
<td>(n 2) P 50.0</td>
<td>(n 1) P 25.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 1) P 25.0</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 25.0</td>
<td>(n 2) P 50.0</td>
</tr>
</tbody>
</table>
**Major and Decision Style**

Table G.15  
Group 1. LIS and Decision Style (Frequency and Percentage)

<table>
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<tr>
<th>Managerial Decision Style</th>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 36) P 50.0</td>
<td>(n 26) P 36.6</td>
<td>(n 8) P 11.3</td>
<td>(n 1) P 1.4</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 19) P 26.8</td>
<td>(n 28) P 39.4</td>
<td>(n 8) P 11.3</td>
<td>(n 16) P 22.5</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 20) P 28.2</td>
<td>(n 26) P 36.6</td>
<td>(n 11) P 15.5</td>
<td>(n 14) P 19.7</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 17) P 23.9</td>
<td>(n 23) P 32.4</td>
<td>(n 16) P 22.5</td>
<td>(n 15) P 21.1</td>
</tr>
</tbody>
</table>

Table G.16  
Group 2. Other and Decision Style (Frequency and Percentage)

<table>
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<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 6) P 42.9</td>
<td>(n 3) P 21.4</td>
<td>(n 4) P 28.6</td>
<td>(n 1) P 7.1</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 4) P 28.6</td>
<td>(n 7) P 50.0</td>
<td>(n 2) P 14.3</td>
<td>(n 1) P 7.1</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 6) P 42.9</td>
<td>(n 5) P 35.7</td>
<td>(n 1) P 7.1</td>
<td>(n 2) P 14.3</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 2) P 14.3</td>
<td>(n 3) P 21.4</td>
<td>(n 7) P 50.0</td>
<td>(n 2) P 14.3</td>
</tr>
</tbody>
</table>
## Position and decision Style

**Table G.17**

Group 1. Director and Decision Style (Frequency and Percentage)

<table>
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<tr>
<th>Managerial Decision Style</th>
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<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>( n \ 4 ) ( P \ 44.4 )</td>
<td>( n \ 4 ) ( P \ 44.4 )</td>
<td>( n \ 1 ) ( P \ 11.2 )</td>
<td>( n \ 0 ) ( P \ 00.0 )</td>
</tr>
<tr>
<td>Analytical</td>
<td>( n \ 1 ) ( P \ 11.2 )</td>
<td>( n \ 4 ) ( P \ 44.4 )</td>
<td>( n \ 2 ) ( P \ 22.2 )</td>
<td>( n \ 2 ) ( P \ 22.2 )</td>
</tr>
<tr>
<td>Conceptual</td>
<td>( n \ 3 ) ( P \ 33.3 )</td>
<td>( n \ 2 ) ( P \ 22.2 )</td>
<td>( n \ 3 ) ( P \ 33.3 )</td>
<td>( n \ 1 ) ( P \ 11.2 )</td>
</tr>
<tr>
<td>Behavioral</td>
<td>( n \ 4 ) ( P \ 44.4 )</td>
<td>( n \ 1 ) ( P \ 11.2 )</td>
<td>( n \ 2 ) ( P \ 22.2 )</td>
<td>( n \ 2 ) ( P \ 22.2 )</td>
</tr>
</tbody>
</table>

**Table G.18**

Group 2. Associate Director and Decision Style (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>( n \ 5 ) ( P \ 41.7 )</td>
<td>( n \ 4 ) ( P \ 33.3 )</td>
<td>( n \ 3 ) ( P \ 25.0 )</td>
<td>( n \ 0 ) ( P \ 00.0 )</td>
</tr>
<tr>
<td>Analytical</td>
<td>( n \ 4 ) ( P \ 33.3 )</td>
<td>( n \ 4 ) ( P \ 33.3 )</td>
<td>( n \ 0 ) ( P \ 00.0 )</td>
<td>( n \ 4 ) ( P \ 33.3 )</td>
</tr>
<tr>
<td>Conceptual</td>
<td>( n \ 5 ) ( P \ 41.7 )</td>
<td>( n \ 5 ) ( P \ 41.7 )</td>
<td>( n \ 1 ) ( P \ 8.3 )</td>
<td>( n \ 1 ) ( P \ 8.3 )</td>
</tr>
<tr>
<td>Behavioral</td>
<td>( n \ 3 ) ( P \ 25.0 )</td>
<td>( n \ 2 ) ( P \ 16.7 )</td>
<td>( n \ 7 ) ( P \ 58.3 )</td>
<td>( n \ 0 ) ( P \ 00.0 )</td>
</tr>
</tbody>
</table>
### Table G.19

**Group 3. Director Assistant and Decision Style (Frequency and Percentage)**

<table>
<thead>
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<th>Managerial Decision Style</th>
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<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 2) P 33.3</td>
<td>(n 3) P 50.0</td>
<td>(n 1) P 16.7</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 1) P 16.7</td>
<td>(n 3) P 50.0</td>
<td>(n 1) P 16.7</td>
<td>(n 1) P 16.7</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 3) P 50.0</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 16.7</td>
<td>(n 2) P 33.3</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 4) P 66.7</td>
<td>(n 0) P 00.0</td>
<td>(n 1) P 16.7</td>
<td>(n 1) P 16.7</td>
</tr>
</tbody>
</table>

### Table G.20

**Group 3. Department Heads and Decision Style (Frequency and Percentage)**

<table>
<thead>
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<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>(n 31) P 53.4</td>
<td>(n 18) P 31.0</td>
<td>(n 7) P 12.1</td>
<td>(n 2) P 3.4</td>
</tr>
<tr>
<td>Analytical</td>
<td>(n 17) P 29.3</td>
<td>(n 24) P 41.4</td>
<td>(n 7) P 12.1</td>
<td>(n 10) P 17.2</td>
</tr>
<tr>
<td>Conceptual</td>
<td>(n 15) P 25.9</td>
<td>(n 24) P 41.4</td>
<td>(n 7) P 12.1</td>
<td>(n 12) P 20.7</td>
</tr>
<tr>
<td>Behavioral</td>
<td>(n 8) P 13.8</td>
<td>(n 23) P 39.7</td>
<td>(n 13) P 22.4</td>
<td>(n 14) P 24.1</td>
</tr>
</tbody>
</table>
Experience Groups and decision style

Table G.21
Group 1. Years of experience below the mean, $M=16.2$. (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>$(n \ 23) \ P \ 56.1$</td>
<td>$(n \ 13) \ P \ 31.7$</td>
<td>$(n \ 5) \ P \ 12.2$</td>
<td>$(n \ 0) \ P \ 00.0$</td>
</tr>
<tr>
<td>Analytical</td>
<td>$(n \ 12) \ P \ 29.2$</td>
<td>$(n \ 20) \ P \ 48.8$</td>
<td>$(n \ 2) \ P \ 4.9$</td>
<td>$(n \ 7) \ P \ 17.1$</td>
</tr>
<tr>
<td>Conceptual</td>
<td>$(n \ 14) \ P \ 34.1$</td>
<td>$(n \ 13) \ P \ 31.8$</td>
<td>$(n \ 6) \ P \ 14.6$</td>
<td>$(n \ 8) \ P \ 19.5$</td>
</tr>
<tr>
<td>Behavioral</td>
<td>$(n \ 8) \ P \ 19.5$</td>
<td>$(n \ 10) \ P \ 24.4$</td>
<td>$(n \ 11) \ P \ 26.8$</td>
<td>$(n \ 12) \ P \ 29.3$</td>
</tr>
</tbody>
</table>

Table G.22
Group 2. Years of experience above the mean, $M=16.2$(Frequency and Percentage)

<table>
<thead>
<tr>
<th>Managerial Decision Style</th>
<th>Least Preferred</th>
<th>Back Up</th>
<th>Dominant</th>
<th>Very Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>$(n \ 19) \ P \ 43.2$</td>
<td>$(n \ 16) \ P \ 36.4$</td>
<td>$(n \ 7) \ P \ 15.9$</td>
<td>$(n \ 2) \ P \ 4.5$</td>
</tr>
<tr>
<td>Analytical</td>
<td>$(n \ 11) \ P \ 25.0$</td>
<td>$(n \ 15) \ P \ 34.1$</td>
<td>$(n \ 8) \ P \ 18.2$</td>
<td>$(n \ 10) \ P \ 22.7$</td>
</tr>
<tr>
<td>Conceptual</td>
<td>$(n \ 12) \ P \ 27.3$</td>
<td>$(n \ 18) \ P \ 40.9$</td>
<td>$(n \ 6) \ P \ 13.6$</td>
<td>$(n \ 8) \ P \ 18.2$</td>
</tr>
<tr>
<td>Behavioral</td>
<td>$(n \ 11) \ P \ 25.0$</td>
<td>$(n \ 16) \ P \ 36.4$</td>
<td>$(n \ 12) \ P \ 27.3$</td>
<td>$(n \ 5) \ P \ 11.4$</td>
</tr>
</tbody>
</table>
APPENDIX H

DETAILED DESCRIPTIVE ANALYSES OF THE RESPONDENTS’ DECISION STYLE PATTERNS
Table H.1
Decision Style Patterns and Gender (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>(n 9) P 30.0</td>
<td>(n 21) P 70.0</td>
<td>(n 17) P 56.7</td>
<td>(n 13) P 43.3</td>
</tr>
<tr>
<td>Female</td>
<td>(n 19) P 34.5</td>
<td>(n 36) P 65.5</td>
<td>(n 28) P 50.9</td>
<td>(n 27) P 49.1</td>
</tr>
</tbody>
</table>

Table H.2
Decision Patterns and Age Group (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-39</td>
<td>(n 2) P 18.2</td>
<td>(n 9) P 81.8</td>
<td>(n 4) P 36.4</td>
<td>(n 7) P 63.6</td>
</tr>
<tr>
<td>40-49</td>
<td>(n 8) P 42.1</td>
<td>(n 11) P 57.9</td>
<td>(n 12) P 63.2</td>
<td>(n 7) P 36.8</td>
</tr>
<tr>
<td>50-59</td>
<td>(n 15) P 33.3</td>
<td>(n 30) P 66.7</td>
<td>(n 25) P 55.6</td>
<td>(n 20) P 44.4</td>
</tr>
<tr>
<td>60 and Above</td>
<td>(n 3) P 30.0</td>
<td>(n 7) P 70</td>
<td>(n 4) P 40.0</td>
<td>(n 6) P 60.0</td>
</tr>
</tbody>
</table>
Table H.3
Decision Patterns and Ethnicity (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Ethnicity Group</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (Not Hispanic or</td>
<td>(n 23) P 31.5</td>
<td>(n 50) P 68.5</td>
<td>(n 40) P 54.8</td>
<td>(n 33) P 45.2</td>
</tr>
<tr>
<td>Latino)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>(n 1) P 50.0</td>
<td>(n 1) P 50.0</td>
<td>(n 2) P 100.0</td>
<td>(n 0) P 00.0</td>
</tr>
<tr>
<td>Black or African</td>
<td>(n 4) P 50.0</td>
<td>(n 4) P 50.0</td>
<td>(n 2) P 25.0</td>
<td>(n 6) P 75.0</td>
</tr>
<tr>
<td>American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian or Asian</td>
<td>(n 0) P 0.00</td>
<td>(n 2) P 100.0</td>
<td>(l) P 50.0</td>
<td>(n 1) P 50.0</td>
</tr>
<tr>
<td>American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table H.4
Decision Patterns and Degree (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Degree Group</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Directive &amp; Analytical</td>
<td>Conceptual &amp; Behavioral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.A/B.S</td>
<td>(n 2) P 50.0</td>
<td>(n 2) P 50.0</td>
<td>(n 1) P 25.0</td>
<td>(n 3) P 75.0</td>
</tr>
<tr>
<td>M.A./M.S.</td>
<td>(n 20) P 29.9</td>
<td>(n 47) P 70.1</td>
<td>(n 37) P 55.2</td>
<td>(n 30) P 44.8</td>
</tr>
<tr>
<td>Ph.D./Ed. D.</td>
<td>(n 4) P 40.0</td>
<td>(n 7) P 60.0</td>
<td>(n 5) P 50.0</td>
<td>(n 5) P 50.0</td>
</tr>
<tr>
<td>Other</td>
<td>(n 2) P 50.0</td>
<td>(n 2) P 50.0</td>
<td>(n 2) P 50.0</td>
<td>(n 2) P 50.0</td>
</tr>
</tbody>
</table>

### Table H.5
Decision Patterns and Major (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Degree Group</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Directive &amp; Analytical</td>
<td>Conceptual &amp; Behavioral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIS</td>
<td>(n 23) P 23.4</td>
<td>(n 48) P 76.6</td>
<td>(n 38) P 53.5</td>
<td>(n 33) P 46.5</td>
</tr>
<tr>
<td>Other</td>
<td>(n 5) P 35.7</td>
<td>(n 9) P 64.3</td>
<td>(n 7) P 50.0</td>
<td>(n 7) P 50.0</td>
</tr>
</tbody>
</table>
Table H.6
Decision Patterns and Position (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Degree Group</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>(n 4) P 44.4</td>
<td>(n 5) P 55.6</td>
<td>(n 6) P 66.7</td>
<td>(n 3) P 33.3</td>
</tr>
<tr>
<td>Associate Director</td>
<td>(n 6) P 50.0</td>
<td>(n 6) P 50.0</td>
<td>(n 5) P 41.7</td>
<td>(n 7) P 58.3</td>
</tr>
<tr>
<td>Director Assistant</td>
<td>(n 3) P 50.0</td>
<td>(n 3) P 50.0</td>
<td>(n 4) P 66.7</td>
<td>(n 2) P 33.3</td>
</tr>
<tr>
<td>Department Heads</td>
<td>(n 15) P 25.9</td>
<td>(n 43) P 74.1</td>
<td>(n 30) P 51.7</td>
<td>(n 28) P 48.3</td>
</tr>
</tbody>
</table>
Table H.7
Decision Patterns and Experience Groups (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Degree Group</th>
<th>Left Brain</th>
<th>Right Brain</th>
<th>Idea Orientation</th>
<th>Action Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>=</td>
<td>=</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below the Mean</td>
<td>(n 12) P 29.3</td>
<td>(n 29) P 70.7</td>
<td>(n 19) P 46.3</td>
<td>(n 22) P 53.7</td>
</tr>
<tr>
<td>Above the Mean</td>
<td>(n 16) P 36.4</td>
<td>(n 28) P 63.6</td>
<td>(n 26) P 59.1</td>
<td>(n 18) P 40.9</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY


BIOGRAPHICAL SKETCH

Abdulrahman Alqarni was born on June 4, 1962, in (Albathathah) a small town located in the south region of Saudi Arabia. He achieved his bachelor's degree in Library and Information Science in 1988. In October 1988, he worked as a high school librarian in the Royal Commission-Yanbu. In 1991, he was appointed as a cataloger (sixth grade) in the Library Affairs Deanship of King Abdulaziz University. In 1992, he was appointed as a teaching assistant within the same Deanship. In 1994, he continued his education at the University of Wisconsin-Milwaukee, School of Information Science and received his master’s in Information Science.

In 1998, back in Saudi Arabia, he was appointed as the supervisor of the Central Library Electronic Archiving System Project at King Abdulaziz University. This was a major five-year project to archive manuscripts and faculty research electronically. In March 1999, he was appointed as the supervisor of the Internet Services Department within the same Deanship in addition to the previous position. In the spring semester of 2001, he taught three undergraduate courses there, which were: Educational Technology in Libraries, Introduction to the Microcomputer, and Computer Usage in Libraries. In the fall of 2001, he returned to the U.S. to begin a doctoral program at Florida State University in the School of Information Studies, in Tallahassee, Florida.