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Leadership Styles of Entrepreneurs in Small Land Surveying Businesses

A dissertation
presented to
the faculty of the Department of Educational Leadership
and Policy Analysis
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Doctor of Education in Educational Leadership

by
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Keywords: Small Business, Land Surveying, Participatory Leadership, Autocratic Leadership, Transformational and Transactional Leadership, Contingency and Situational Theory.

ABSTRACT

Leadership Styles of Entrepreneurs in Small Land Surveying Businesses

by

Jerry W. Nave

The purpose of this research study was to analyze the leadership styles of owners of small land surveying businesses in the states of Tennessee and Virginia to determine what leadership style was currently being employed by the majority of those owners. The participants in this study were chosen from members of the Virginia Association of Surveyors and the Tennessee Association of Professional Surveyors. The respondents to the questionnaire were licensed land surveyors who owned small firms of fewer than 101 employees. In addition, a corollary purpose was to flesh out the skeletal literature available on small business leadership styles and their effect on small business success.

The owners of the small surveying businesses were asked to reply to a series of questions on demographic data and Likert-type scale questions designed to examine the respondents' leadership styles as Participatory, Situational, or Autocratic in a both external and internal environments. The results of the questionnaire produced nominal data, which were analyzed using Statistical Package for Social Sciences (SPSS) software to compute the frequency and significance. Additionally, a nonparametric Kruskal-Wallis K Independent Samples procedure and one-way Chi -Square tests were used to analyze the statistical relationships and differences in the respondents' answers.

The results of this study suggested that the majority of the respondents used a participatory style of leadership when confronted with internal environment decisions and an autocratic leadership style in the external environment. The overall conclusion drawn from this study was that the owners of small land surveying firms who responded to the questionnaire were predominantly situational because they adjusted their leadership styles to meet the needs and demands of their changing situations.

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CHAPTER 1

INTRODUCTION

A vital entity, the small business sector, represents a significant proportion of the United States economy. According to the Small Business Administration (n.d.), “[S]mall businesses represent 99.7 percent of all employers” (Small Business Statistics, ¶ 2) in the United States. One type of small business represented by this statistical data is the land surveying firm. The United States Census Bureau revealed that in 1990 that there were 11,405 individuals who listed their occupations as land surveyors. Many of those individuals owned and operated sole-proprietorship businesses with few employees. According to 2004 statistical data from BizStats.com, 94% of all sole-proprietor owned land surveying and mapping firms were successful. Because the owner of a sole-proprietorship is chiefly responsible for the successes or failures of the daily as well as long-term operations, the leadership style employed by that owner may determine the triumph or collapse of the business.

Although leadership has been an endlessly debated topic, the influence of leadership on the success of a small business has not been excessively studied. However, over the years, a number of theories were developed that attempted to describe leadership and the effects it had on organizations (Bennis & Nanus, 1985). In fact, “In the last two decades, volumes have been written about leadership – what it is, how to recognize it, how to use it, and how to develop leadership characteristics when they are not already in evidence” (McMurray, 1987, p.1). Even though material was plentiful on leadership in general, literature was lacking in the area of leadership for small business success. Sergiovanni and Starratt (1983) stated, “No one best style

of leadership could be identified but that effectiveness of style was determined by its appropriateness to the situation at hand” (p. 89).

Many theories were developed without regard to the problems of leadership within organizations; instead, the tradition of basic research was to explain and to understand the social influence of leadership. There was a necessary place for such research but it should have provided a platform for understanding and resolving practical leadership problems found in real world situations. While leadership theories continued to grow in sophistication and breadth in the late 20th and early 21st centuries, they had not expanded into a comparable range of effective practices (Zaccaro & Horn, 2003).

The Statement of the Problem

The problem of this study was to determine which leadership style is an important factor in the management of a small land surveying business. A corollary purpose was to flesh out the skeletal literature available on small business leadership styles and its impact on small business success and whether or not those styles had an effect on small businesses.

Significance of the Study

Many texts were written over the years that dealt with leadership and the different styles used in the worlds of business and education. This was borne out by the vast number of journal articles based on research performed since the start of the 20th century. Most authors studied organizational effectiveness, goal accomplishment and productivity within large corporations. However, little work was published on small business leaders and the styles of leadership necessary for surviving with little or no depth of middle management.

Assumptions

The following assumptions were considered relevant to the study:

1. The answers provided by participants in this study were honest reflections of their leadership styles and demographic information on their companies.
2. Participants in this study were professional land surveyors who were licensed in either Virginia or Tennessee and had owned or currently owned small land surveying businesses. In addition, they were members of their respective state associations.

Delimitations

The following delimitations were considered to be relevant to this study:

1. With one exception, the study was limited to small surveying companies of 100 or fewer employees in the states of Virginia and Tennessee whose owners were members of their individual state professional organizations.
2. The study was restricted to companies offering land surveying services as their primary source of income.
3. The study was limited to owners of small surveying and mapping companies who were licensed land surveyors in the states of Virginia and/or Tennessee.

Limitations

The accuracy of the findings of this study are limited by the degree to which the responses of the subjects were candid.

Definitions of Terms

Small Business

The literature offered several definitions for a small business. Some defined a company, indicated as a small business, by the number of employees, sales volumes or assets. The Small Business Act of July 30, 1953 defined a small business as “one that was independently owned and operated and which was not dominant in its field of operation” (n.p.). However, for the purposes of this study, a small business was defined as a business, whether sole-proprietorship, partnership or corporation, with 100 or fewer employees.

Sole-Proprietorship

According to *Gilmer’s Law Dictionary* (1986) a sole-proprietorship consisted of a business that was not legally separated from the owner of the company. The owner of the company operated the business in his/her name and was solely responsible for all debts of the business.

Partnership

A partnership was defined by *Black’s Law Dictionary* (1990) as “[a] business owned by two or more persons that is not organized as a corporation” (p. 1120).

Corporation

Black’s Law Dictionary (1990) defined a corporation as “[a]n artificial person or legal entity created by or under the authority of the laws of a state” (p. 340).

Limited Liability Corporation (LLC)

A Limited Liability Corporation could be defined as an incorporated firm that combines the personal liability protection of a corporation with the advantages of a partnership. This form of business structure taxes the owners only on profits and reduces the personal liability for the company’s debt (*Gilmer’s Law Dictionary*, 1986).

Contingency Theory

Contingency theory is the result of two interacting factors. As defined by Antoine (2003), “these factors are known as leadership style and situational favorableness” (p. 1).

Land Surveying Company

Land Surveying Companies, as used in this research, include firms that offer to provide service or work as defined by the Tennessee Land Surveyors Laws and Regulations (2000). The Tennessee Land Surveyors Laws and Regulations defines land surveying as “any service of work, the adequate performance of which involves the application of special knowledge of the principles of mathematics, the relative physical and applied sciences and the relevant requirements of law” (p. 6).

Leadership

Hersey and Blanchard (1984) defined leadership as “the process of influencing the activities of an individual or a group in efforts toward goal achievement in a given situation” (p. 83).

Situational Theory

In the late 1960s, Hersey and Blanchard (1969) theorized that leadership was based on applying the right leadership style to a given situation within an organization. According to Norris and Vecchio (1992), the “theory proposed that optimal styles of leadership change as the level of followers’ maturity levels increases” (p. n.a.).

Transactional Leadership

Transactional leaders focus on the bottom line and the events that surround completion of tasks. According to Covey (1991), transactional leaders are “preoccupied with power and position, politics and perks” that will allow the person to complete the job and make a living (p. 286).

Autocratic Leadership

Autocratic leaders can be directly linked to transactional styles of leadership. According to Shankar, Ansari, and Saxena (1994), leaders “in an authoritarian climate are status and power oriented, demanding blind obedience and personal loyalty from their subordinates” (p. 641).

Transformational Leadership

Transformational leaders are those who inspire loyalty from their subordinates, while producing visionary change in organizations. Transformational theory began with the work of Burns (1978), and involved both leaders and followers working together to raise motivation toward idealistic goals, such as one in which the aims and aspirations of both the leader and the followers were combined into one (Burns, 1987).

Participatory Leadership

Participatory leaders are transformational leaders; those who “encourage group decision making, team spirit, supportive relationships, and high goals” (Shankar, *et. al.*, 1994, p. 641).

Research Questions

This study focused on six research questions. The 1st addressed the leadership styles of the owners of small surveying businesses. The 2nd and 3rd question concentrated on those leadership styles as applied to internal situations within the company and external situations that pertained to decisions made outside of the company. Questions 4 and 5 pertained to demographic factors as related to internal and external situations. Question 6 pertained to the pattern of open-ended questions in the demographic section of the questionnaire.

The research questions used in this study were:

1. What styles of leadership do the majority of owners of small surveying businesses use in managing internal affairs?
2. What styles of leadership do the majority of owners of small surveying businesses use in managing external (external) affairs?
3. What demographic factors reflect internal leadership styles in small surveying businesses?
4. What demographic factors reflect external leadership styles in small surveying businesses?
5. What leadership style is prevalent among owners of small land surveying businesses?
6. What are the patterns of responses to open-ended questions in the demographic section of the questionnaire?

Procedures

1. The current literature was reviewed.
2. Geographic areas of study were selected and an instrument to measure leadership styles was developed.
3. A demographic questionnaire was devised to obtain additional information from participants.
4. The Virginia Association of Surveyors and the Tennessee Association of Professional Surveyors were contacted to obtain mailing addresses of their individual members.
5. A pilot study was conducted at the Northeast Chapter of the Tennessee Association of Professional Surveyors. A second pilot was conducted through a random sample from the

membership lists of both Tennessee and Virginia professional societies and submitted by mail. The latter pilot produced a 60% response rate.

6. Fifty members of each professional organization who qualified as owners of small surveying businesses were mailed copies of a questionnaire and asked to participate in the study.
7. Statistical analysis was applied to the data gathered during the study.
8. The results were summarized and reported.

Organization of the Study

The study was organized into five chapters. Chapter 1 contains a brief introduction to the study, the statement of the problem, the significance of the problem, the research questions for the study, the limitations and assumptions, the definitions of terms used for this study, the procedures employed and the organization of the study.

Chapter 2 contains a current literature review pertaining to a variety of leadership styles and theories, and an overview of small businesses and small business leadership styles. Chapter 3 contains a description of the methods and procedures used in this study, including: design, selection of sample, instrumentation, data collection, methods of data analysis, and a summary. Chapter 4 reflects analysis of the data, including demographic data for all respondents as well as leadership style analysis, and reviews questionnaire data according to the hypotheses posed by this research. Chapter 5 offers summative findings and recommendations for further study and application.

CHAPTER 2

REVIEW OF LITERATURE

The literature of leadership practice was “in turn riddled with trial and error applications that are grounded more in the anecdotes of key policymakers, sponsoring stakeholders, and targeted constituencies than in scientific data and models” (Zaccaro & Horn, 2003, p. 770). The popular literature consisted of a plethora of books and articles that offered advice on leadership wisdom and principles, falling loosely into the self-help genre. These texts reflected single case studies, unreliable evidence, and common sense reflections. This mass of literature on organizational managers and leadership practices tended to place greater emphasis on the popular theories than on scientifically tested principles (Zaccaro & Horn).

Leadership

According to Fairholm (1998), “Leaders play a major role in helping us shape our life. Leaders define business and practice. They determine the character of society. They define our teams, groups and communities” (xiii). Thus, leadership was about a vision and an environment that owners created in order for their companies to succeed. In the world of the small business, the sole-proprietor was the leader who initially established that vision. However, for the business to grow and expand, the owners needed to pass that vision on to their employees. Gray, Densten, and Sarros (2003, Feb.) stated that in order for “the business to prosper beyond the start-up phase, the founder-leader needs to communicate the vision for the business and develop followers with the capacity to implement the vision” (p. 37).

Historical Research on Leadership

While historical research abounds on leadership within large organizations, few studies have been completed that address leadership traits in small businesses. Small businesses differ in that they have fewer layers of authority. The owner usually is responsible for achieving performance, setting strategic goals and controlling the daily activities of the company (Gray, *et al*, 2003). To understand the present research and theories on leadership and to build a foundation for this study, past theories were reviewed to discover a cross-section of styles and to establish a timeline.

Early in the 20th century, research was conducted to determine the best traits of a leader. The bulk of this undertaking was aimed at establishing personal features that set the leader apart from the non-leader (Bryman, 1986). These trait theories (Bowden, 1927) focused attention on determining the attributes and qualities of good leaders. The idea that a leader was born and not made was the order of the day; as stated by General Archibald Wavell in the February 17, 1941, edition of *The London Times*, “no amount of learning will make a man a leader unless he has the natural qualities of one” (n.p.). The search for traits centered around three broad types: physical traits, abilities, and personality. A closer examination of these types revealed that under the category of physical, researchers examined height, weight, age, and general appearance of individuals. The abilities of a leader were thought to be characteristics, such as intelligence, speech, scholarship, and general knowledge. The last category dealt with the personality traits of leaders. A few of the areas of research included conservatism, introversion-extroversion, dominance, and self-confidence (Bryman, 1986).

Following World War II, the quest for leadership traits took a turn as theorists concluded “the qualities, characteristics and skills required in a leader are determined to a large extent by the demands of the situation” (Stogdill & Shartle, 1948, p. 287). Other researchers, such as Gibb (1947), observed that “the particular set of social circumstances existing at the moment

determine which attribute of personality will confer leadership status” (p. 270). The theory of applying different traits to fit the needs of the situation was expanded by the research of Carter and Nixon in 1949. Their studies of schoolboys verified that different leaders emerged to meet the needs of the moment. In other words, leaders involved in intellectual and clerical tasks were different from those involved in mechanical tasks (Bryman, 1986).

A paradigm shift occurred from the late 1940s through the 1960s as the research moved away from traits and into styles and behaviors. According to Bryman (1992), “researchers were particularly concerned to identify the kinds of leader behavior that enhanced the effectiveness of subordinates” (p. 4). This concept shifted from one as a born leader to the idea that once researchers identified a behavior, a person could be trained to exhibit that behavior, thus, becoming a better leader. Other style theorists (Blake & Mouton, 1969; Likert, 1961; McGregor, 1966) began publishing their research and theories during this time period. In 1964, Blake and Mouton were identified with the management grid that was used to determine the degree that a person enjoyed working with tasks and other people. Likert’s management theory and McGregor’s X and Y theory were concerned with “not being nice to people or making work pleasant, but with understanding how to make work organizations more effective” (Owens, 2001, p. 70).

Likert’s theory dealt with the systematic development of ideas. He recommended that supervisors should advocate that groups seek agreement in problem solving so that those solutions could be generalized to the organization at large. On the basis of this concept, Likert (1961) listed four types of management systems: 1) System one was the exploratory/authoritative system, in which management functions through intimidation of employees and all communication was from the top-down; 2) System two was benevolent/authoritative, in which management rewarded employee loyalty and information coming from the bottom of the hierarchy was basically what employees thought management wanted to hear; 3) System three was consultative with major decisions being handed down from

the top and lower level communication being screened prior to delivery; and 4) System four was participative group management, wherein the managers encouraged two-way communication and employee participation in setting goals for the organization (Owens, 2001).

McGregor's (1966) Theory X and Theory Y looked at what caused an individual to join an organization, remain in it and work toward the goals of that organization. Theory X demonstrated a view of work from the stance of the administrator, while Theory Y illustrated the concept of work from an employee's perspective. As Owens (2001) stated, "Theory X and Theory Y are obviously two different, contrasting explanations of real-world conditions" (p. 67). According to Bryman (1986), Theory X focused on management of resources and personnel to enhance the interests of the organization, while Theory Y was more congruent with modern theories involving self-actualization as the goal of work.

The next shift in the leadership paradigm concentrated on contingency approaches to managing people. The contingency approach proposed that the effectiveness of leadership was contingent upon situations. A variety of theorists, such as House (1977), Hersey and Blanchard (1969), and Fiedler (1970), worked with contingency as a basis of theory. Hersey and Blanchard and Fiedler are discussed in detail later in this chapter. Tannenbaum and Schmidt (1973) theorized that leader behavior was a continuum from manager-centered to subordinate-centered behavior. In other words, if subordinate behavior needs to change, leader behavior should also change. Davis and Luthans (1979) concluded that leaders did not cause follower behavior. Leaders served as role models for follower modeling.

House and Dessler (1974) asserted, "The motivational function of the leader consists of increasing personal payoffs to subordinates for work goal attainment, and making the path to the payoffs easier to travel by clarifying it, reducing roadblocks and pitfalls, and increasing the opportunities for personal satisfaction *en route*" (p.31). This theory proposed that leaders motivated and enhanced the performance of their subordinates to obtain the goals of the

organization (Bryman, 1992). Combining both transactional and transformational approaches to leadership, House's Path-Goal theory noted leader responsibility for initiating expectations for subordinates while elevating the goals of the group by developing group norms. This work was a precursor to modern leadership theory that tended to view transformation as the ultimate goal of the leader.

Situational Leadership

What is the best leadership style to apply in a given situation? Hersey and Blanchard asked this question in the late 1960s. Their theory, Life Cycle Theory of Leadership, was based on applying the right leadership style to a given situation within an organization at a given time. The theorists concluded that no empirical studies had shown a normative style of leadership; however, they theorized that successful leaders adapted their behaviors to meet the demands of their employees in different situations. The effectiveness of the leader was dependent on the leader, the employee, and the situational elements. The model later developed by Hersey and Blanchard in 1969 allowed researchers to study the different needs or situations within an organization and to adopt the appropriate leadership style for dealing with a given problem. The validity and utility of this theory was asserted as a three-way interaction and was tested using data on employee performance, maturity, affect, and style of leadership in a work setting.

The Life Cycle Theory of Leadership was later renamed the Situational Leadership Theory and first appeared in the *Training and Development Journal*. The original theory proposed that optimal styles of leadership changed as the level of followers' maturity levels increased. In addition the level of education and/or amount of experience could be an influence on the level of maturity exhibited by the followers. They considered age a factor in maturity but

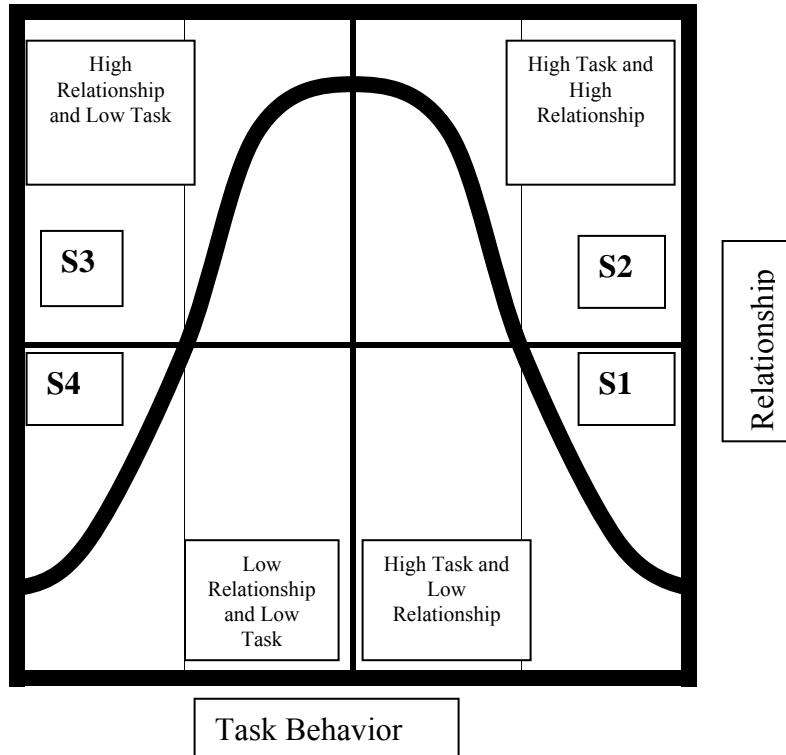
concluded that it was not directly related to maturity as illustrated in their theory. They concluded that a leader's behavior should change with the maturity level of the followers; in other words, as employees matured, they could be given less supervision and more responsibility (Hersey & Blanchard, 1969).

Blanchard and Hersey revised the theory as Situational Leadership II in 1985, with a second revision in 1993 (Graeff, 1997). The major alterations focused on renaming task-relevant maturity as development level and renaming two components of maturity/development as commitment and competence. Other changes altered the labeling of the four leadership styles and the prescriptive curve. Some authors disagreed with these changes. For example, Graeff and Norris and Vecchio (1992) argued these modifications were merely quick fixes or management fads. The theory was subjected to empirical testing by Graeff (1997), Fernandez and Vecchio (1997), along with others during the 1980s and 1990s. The results of these tests were varied and highly dependent on the methods and controls used by the researchers (Graeff).

In the original theory of 1969, the authors projected that followers with low maturity levels required high levels of direct supervision and those with high maturity levels required little or no direct supervision. Additionally, those with intermediate maturity levels usually required intermediate supervision on the task level and a high level of supervision on the relationship dimension (Norris & Vecchio, 1992, Sept.). This could be represented by as a curvilinear relationship model as seen in Figure 1. In this model, leadership behavior style is measured on the curve by S1 – S4, with the employees' relationship behavior and task behavior levels as linear measurements. In later revisions Hersey and Blanchard changed the description of the styles to Directing (S1), Coaching (S2), Supporting (S3), leaving Delegating as the S4 style (Blanchard and Johnson, 1982).

The leadership styles of managers are shown as a curve in Figure 1 below. The S1 leader (Telling) usually defines the roles and tasks of the followers and closely supervises the followers' performance. The S1 leadership style could be denoted by the lack of two-way communication between the leader and followers. The S2 leader (Selling) defines the roles and tasks of the employees but actively seeks feedback in the form of ideas and suggestions as to how the activities could best be performed. However, as in the S1 leadership style, the decision making process remains the leader's prerogative. The S3 leader (Participating) is seen as a supporting position, where the day-to-day operations and decisions are passed along to the followers. In this situation, the leader facilitates decisions within the organization; however, followers maintain control. The last leadership style was S4 (Delegating). This leadership style delegates decision and problem solving tasks to the employee who has full control of the situation. The followers determine the leader's level of involvement (Graeff, 1997).

Style of Leadership



High	Moderate	Low
M4	M3 M2	M1

Figure 1. The Situational Leadership Model
Adapted from Norris & Vecchio (1992)

The followers' or employees' levels of maturity and behavior as related to task and relationships are demonstrated as linear measurements found in Figure 1. Later revisions to the model changed the maturity level to competence and commitment on the part of the employees. Using the later changes for maturity, Hersey and Blanchard (1984) defined the levels of competence and commitment by levels D1 – D4, which replaced the original M1 – M4 scales for maturity. In the D1 level, Blanchard and Hersey described the follower as having low competence and low commitment. This type of follower usually is lacking in specific skills and

lacks the confidence and motivation needed to achieve a higher level of maturity. The D2 follower is seen as having some competence with a low level of commitment to the task at hand. These employees might have some relevant skills to perform the tasks but generally need help to perform new tasks or in new situations. The D3 follower is moderately or variably committed to the task and has a high level of competence of performing the necessary task. They were usually marked as being experienced and capable of performing of their tasks. However, they frequently lacked the confidence to perform the tasks alone and required additional supervision to support decisions. The last quadrant is D4, where the individual is highly competent and highly committed to the task. Individuals with this characteristic are seen as being very comfortable with their abilities and highly experienced at their jobs (Blanchard & Johnson, 1982).

Several authors suggested that the theory as proposed by Blanchard and Hersey was flawed. Chief among these dissenters was Graeff in 1997. Graeff described the major problems associated with the theory as “the continued lack of a sound theoretical foundation of the hypothesized relationships among the variables in the model” (p. 164). Graeff suggested that the original authors’ theory was not a well thought out rationale with regard to the relationships of the different variables of the model. Additionally, he saw the theory as ambiguous and lacking consistency in various situations. As an example, Graeff used the contrast between D1 and D2 in relation to the follower’s level of development. Graeff asked how “the twin components of follower-development combine to determine overall development levels” (p. 162). Norris and Vecchio (1992, Sept.) questioned the extent of matching that could exist in organizations. They stated “[I]f matching was rare (the extent of mismatching was high), then a serious difficulty exists for trying to document or test the theory in field settings” (p. 332).

Attempts to test the validity of the theory in the field had resulted in mixed opinions. In one study Norris and Vecchio (1992, Sept.) examined the three-way interaction hypothesis of situational leadership for nurses in a 200-bed private hospital. The test was used to predict a three-way interaction among structuring, consideration, and maturity. The results of the hierarchical regression approach were mixed and did not provide support for the theory. Further results indicated a low level of matched respondents per level of maturity (Norris & Vecchio, 1992).

Another attempt to verify Situational Leadership was conducted by Fernandez and Vecchio (1997) at a small university. The primary goal of the researchers was to analyze the job level as a predictor of optimal leadership style. Their test results suggested that the evidence in support of interaction proposed by Situational Leadership Theory could not be easily demonstrated. In comparing their results to prior tests, only a moderate percentages of cases could be classified by the researchers as matching. They concluded that the test “provides evidence of accuracy of the theory within limits of the current instrumentation” (p. 80).

The theory of Situational Leadership, as proposed by Blanchard and Hersey, is limited in its focus by using only comparatively narrow and specific sets of implied influence tactics (Fernandez & Vecchio, 1997). According to Fernandez and Vecchio, “it was straightforward, appealing and easy to learn” (p. 82). The focus of the theory on basic human interaction with learned management skills to predict situational management is appealing to a large number of organizations. Its ease of use would lead to continued practice by companies seeking methods to identify and promote leaders within their organizations.

Contingency Theory

According to Owens (2001), contingency theory was defined by Moberg and Koch (1975) as “a middle ground between (a) the view that there are universal principles of organizations and management (b) the view that seems to have value in dealing with the theory-practice gap” (p. 99). Historical emphasis in leadership research shifted from traits and personal characteristics to styles and behaviors in the late 1940s. However, in the two decades between 1960 and 1980, leadership interest turned to contingency theory. The contingency model was based on the concept that a leader’s effectiveness could be measured by a practical questionnaire that could be administered in a short time period and provide a multi-level analysis that could be used as an instrument for personnel selection, training, and organizational development (Ayman, Chemers, & Fiedler, 1995).

The primary proponent of the theory was Fiedler, who published *A Theory of Leadership Effectiveness* in 1967. According to Fiedler, contingency theory measured the interaction between leadership personality and the leader’s situational control in predicting leadership performance. Fiedler’s model postulated that the leader’s effectiveness was based on situational contingencies in addition to his/her leadership style. The first major factor in Fiedler’s theory was concerned with leadership style or the interaction between the leader and the work group. This factor was dependent upon the leader’s personality and was unchangeable. The personality of the leader could be detected by administering a short test. The test was based on a leader’s reference to the least preferred co-worker (LPC), where variables were derived by a scale questionnaire of 18 to 25 paired adjectives that ranged from such categories as hostile to supportive and unfriendly to friendly. A high LPC score suggested that the leader was oriented toward human relations, while a low score indicated task orientation (Antoine, 2003).

In the earlier stages of the development of the model, Fiedler (1970) stated that group productivity was the most appropriate variable in his research on leadership; however, Schriesheim and Kerr (1977) argued that the contingency model paid too little attention to the satisfaction of subordinates (Ayman, *et al.*, 1995). The contingency model was designed to predict work team performance and one of the most important premises was that neither leader personality nor situational factors could make that prediction alone.

According to Brown (1983), Fiedler stated that leaders with low LPC were effective in extremely favorable or unfavorable situations, while those with high LPC performed best in situations with intermediate favorability. The LPC scale was always considered fairly reliable for internal consistency as a measure of the characteristics of the leader.

The strength of contingency theory was in the concept and statistical independence of its central ideas, those of LPC and situational control. Situational control incorporated three components: leader-member relations, task structure, and position power. Leader-member relationships or the degree to which employees accepted the leader were the most important part of situational control because the leader had to have group support to elicit effective problem solving and productivity. Fiedler maintained that for leaders to be effective and to have more influence over a group, they had to sustain a good relationship with group members who liked, respected, and trusted their leaders. The relationship also reflected the amount of stress under which the leader was forced to operate and the degree to which the leader's influence was weakened by the team's lack of implementation of the goals (Ayman, *et al.*, 1995).

Task structure referred to the detail or clarity of the goals for employees and the leaders' effectiveness in communicating those goals. The task structure was often directly correlated to the leader's perception of effectiveness that might be different from the work group's perception.

Highly structured tasks requiring specifics on how to perform a job provided leaders with more influence over group actions. In contrast to other models, the task measured in contingency theory was the leader's ability to complete a task, rather than the subordinate's ability to complete a task under leader supervision (Ayman, *et al.*, 1995).

The third component, position power, referred to the administrative authority of the leader as given by the organization or other source of authority. Most leaders moved within the organization along a horizontal path, thus, retaining existing power rather than acquiring greater responsibilities. The component measured leaders' discretionary power to reward or punish subordinates, their expertise in the position and their relevance to the organization. According to Fiedler, leaders who had position power were given more respect from their group than leaders who did not have this power (Ayman, *et al.*, 1995).

This classification of a group by the three variables allowed Fiedler to develop eight different groups or situations or leadership styles. These groups were classified into either task-orientation or relationship-orientation. By comparing the results of this test, it was possible to classify the leadership style of an individual. The results could then be used to assign leaders to proper groups of employees (Antoine, 2003).

Antoine (2003) stated that in order for this test to work, managers should use Fiedler's original instruments to evaluate the favorableness of a leader. Additionally, all candidates for leadership positions should be evaluated using the LPC scale, and the results should be used to place leaders in positions that best suit their personalities. By following these suggestions, management could ensure a proper fit between leaders and groups of employees.

Although the theory proved to be fundamentally reliable, it had its share of critics. Some of those criticisms indicate that contingency theory was not credible due to its lack of process-

based explanations for performance. Other scholars assumed that management required a single style of leadership and took exception to Fiedler's matching leadership styles with situational contingencies. Further critics asserted that Fiedler's model assumed the only way to correct a mismatch between work groups and leadership was to change the leader (Brown, 1983).

Fiedler (1970) concluded there was no ideal leader and that both low LPC and high LPC leaders could be effective managers within an organization. Regardless of the leadership orientation, the most effective was the one that fit the situation. The contingency theory left room to predict the effective characteristics for the appropriate situation (Brown, 1983). "Finally, the model's utility in creating practical approaches to leadership training and organizational development reinforces Kurt Lewin's dictum that 'There was nothing so practical as a good theory'" (Ayman, *et al.*, 1995, p. 163).

Transactional Leadership

Transactional leadership could be defined as a leader-follower relationship "based on a series of exchanges or bargains between leaders and followers" (Lievens, Van Geit & Coetsier, 1997, p. 417). Those who participated in transactional exchanges in the workplace were trained in *quid pro quo*, clearly delineated roles, wherein the manager managed and the worker, worked. The exchange or bargain was frequently offered in the form of financial reimbursement for hours invested without any personal acknowledgement of the worker's abilities. Transactional leaders are also referred to as authoritative or non-participatory.

Often viewed as polarized opposites, transactional and transformational leadership styles were studied in great detail over the past few years. Some noted a direct comparison of the two views to MacGregor's earlier Theory X and Theory Y. Burns (2003) stated transactional

leadership is easily defined because that person, functioning as a broker, has a relatively minor role but he questioned whether or not there are true differences between transactional and transformational leadership or whether they were merely “variations on a spectrum” (p. 24).

According to Lowe, Kroeck, and Sivasubramaniam (1996), transactional leadership, augmented by transformational leadership to obtain higher goals, differed in the processes by which leaders sought to motivate followers and to establish goals for work performance. In addition, Vroom and Jago (1995) stated, “when [a] person and [a] situation are examined jointly ... they reflect not an overall tendency to be autocratic or participative, but rather leader-specific contingency rules for deciding the appropriateness of a leadership strategy” (p. 177).

Bass (1985) characterized transactional leaders as those who functioned within existing systems or cultures. He further asserted that transactional leaders preferred to avoid risks, were time and efficiency conscious, and favored rote processes to other types of activities.

Transactional leaders were more comfortable in predictable situations where past performance could be used to indicate future successes. To test his theories, beginning in the 1980s, Bass (1995) conducted a variety of experiments that resulted in the emergence of two transactional factors, contingency reward and management-by-exception. Contingency reward was illustrated by the employees’ desire to know what to do to gain reward; while management-by-exception indicated the employees’ wish to perform tasks in a traditional manner. In addition, “Contingent reward is ordinarily more highly correlated with outcomes than is managing-by-exception, particularly passive managing-by-exception” (Bass, 1995, p. 475).

“This leader prototype is consistent with an equitable leader-member exchange relationship where the leader fulfills the needs of the follower in exchange for performance meeting basic expectations” (Lowe, *et al.*, 1996, p. 387). Covey (1991) offered the following

characteristics of transactional leaders: they are 1) preoccupied with power, position, politics, and perks; 2) oriented toward short-term goals and hard data; 3) focused on tactical issues; and 4) supportive of structures and systems that reinforce the bottom line.

Transformational Leadership

According to Chemers and Ayman (1993), “A common problem with leadership research is that one new theory often is substituted by an ‘older’ theory that has fallen into disfavor. Rather than build on earlier theories, there is a tendency to discount them for the sake of introducing a ‘new way of thinking’” (p. 51.) Originally proposed by Burns (1978) and Bass (1985), the ideas of distinguishing between transformational leadership and transactional leadership emerged fully in the 1990s. Transformational leadership was considered the opposite of transactional leadership, the basis of many earlier theories; however, the concept was really an outgrowth of the work of McGregor, House, and other predecessors. According to Chemers and Ayman, transformational leaders shared the following characteristics: motive-arousal behaviors; role modeling in defining traits, values, beliefs, and behaviors good to emulate; visionary in articulating an ideological goal; image building and empowering (inspiring confidence in followers); risk-taking; self-sacrificial; offer intellectual stimulation, as well as being supportive and adaptive. Owens (2001) affirmed, “Transforming leaders engage the aspirations of followers, tap their inner motivations, energize their mental and emotional resources, and involve them enthusiastically in the work to be done” (p. 245). Transformational leaders are frequently referred to as participatory leaders.

Transformational theory began with the work of Burns (1978) and involved both leaders and followers working together to raise motivation toward an idealistic goal. This idealistic goal

was one in which the aim and aspirations of both the leader and followers were combined into one vision. Transformational leaders sought to energize followers as whole persons without restricting the range of their basic needs; therefore, leaders addressed the higher order needs of their followers. By leaders addressing higher order needs, they motivated followers to aspire to the organizational goals. In other words, if organizations treated employees as individuals, those employees would, in turn, demonstrate more loyalty to the company. On the other hand, there were others, such as Bryman (1992), who discounted Burns', theory as too idealistic. Bryman stated that Burns, "ideas seemed to suggest that such leadership is almost bound to have a limited impact because of its failure to raise the aspirations of leaders and led" (p. 95). Bryman might have referred to the primary difference between intrinsic and extrinsic rewards as a critique of Burns; in other words, he queried whether an employee was motivated more by financial reward or by self-actualization.

Bass (1985) tied together previous literature on both transformational and transactional theory and applied those theories to his study of organizational behavior. He concluded that the best leaders are both transformational and transactional and that to be a transformational leader required mature moral development and added to the transactional leader's effectiveness. He differed from Burns in three significant areas: 1) he emphasized the expansion of followers' needs and wants; 2) he allowed for positive and negative transformation; and 3) he did not consider transformational and transactional leaders as polar opposites. Further, Bass cited transformational leaders as sharing three-dimensional characteristics. Those characteristics were: charismatic behavior, individualized consideration, and intellectual stimulation. Bass viewed charismatic leaders as creating pride, faith, and respect in their followers and as guiding forces in articulating the vision of the organization. Transformational leaders also provided

individualized consideration to their followers by furnishing projects and learning experiences that stimulated growth and involvement. These leaders sought to address the problems of the weakest link in the organizational chain while treating all employees as individuals. In the third characteristic, intellectual stimulation, leaders functioned as a catalyst for employees' creativity in evaluating older methods and in seeking new approaches to problem solving (Hunt, 1991).

Additionally, Bass (1985) listed three personality characteristics of transformational leaders, which were cognitive intelligence, social intelligence, and emotional intelligence. Cognitive intelligence was measured by traditional testing of skills, tasks and problem-solving abilities. Although these characteristics were found in some measure in all persons in leadership roles, the transformational leaders displayed a higher level of cognitive creativity in their approaches to problem solving. Social intelligence incorporated a variety of characteristics indicating nurturance, ranging from openness to supportiveness to empathy. Sociability showed a direct correlation to transformational leadership and indicated an open and direct style of communication. Emotional intelligence, the third characteristic, related to the ethics and moral constructs of the leader. Within the category, attributes such as moral sense, integrity, and idealism were listed as traits of the transformational leader. Further, transformational leaders were self-contained, visionary and noted the need for change within the organization. True transformational leaders inspired their followers to become leaders in their own right, while pseudo-transformational leaders merely created a significant base of followers (Riggio, Murphy, & Pirozzolo, 2002).

Expanding on Bass's research, Lievens, Van Geit, and Coetsier (1997) depicted Bass' theory as containing four factors of charismatic leadership, inspiration, individual consideration, and intellectual stimulation. Lieven, *et al.* divided the factors as they related to the Multifactor

Leadership Questionnaire (MLQ). They defined charismatic leadership as being evident in those who acted as role models for their organization, created a shared vision, and instilled pride and faith in their followers. The second factor, inspiration was defined as inspiring and empowering workers or followers. They encouraged workers to “enthusiastically accept and pursue challenging goals and a mission” (p. 417). Individual consideration examined the behaviors of the leader. Transformational leaders who demonstrated individual consideration communicated personal respect to workers by showing individual attention to their employees. The last factor stated by Bass, intellectually stimulating, was based on leaders looking at old problems in a new light and articulating the new ideas to their followers by encouraging them to “rethink their conventional practice and ideas” (p. 417).

Theorists disagreed on the connection between transformational leadership and charismatic leadership. Some believed the two were so closely aligned that they were inseparable, while others viewed charismatic leadership as a distinct category. For the purpose of this paper, charismatic leadership was viewed as separate from transformational and was often situationally driven, which illustrated a continuum of leadership theory. According to House (1992), “Charisma matters most in startups, turnarounds, or whenever a business (or team) is going through rapid, unpredictable change. He believes that when conditions are uncertain, charismatic bosses spur subordinates to work above and beyond the call of duty” (p. 5).

Charismatic Leadership

In the late 1970s and early 1980s, the disciplines of organizational behavior and organizational psychology became alerted to leaders as change agents and “found that corporate leaders with high levels of motivation, vision and innovativeness are particularly effective

facilitators of organizational change” (Gibson, Hannon, & Blackwell, 1998, p.12). Change was noted as the criteria for transformational leadership but it was more affected by leaders marked as charismatic. Bass (1985), however, stated that charismatic leaders were a sub-dimension of transformational leadership and that the two were, thus, interchangeable. According to House’s (1977) definition, charismatics were leaders who had a profound effect on their followers.

Chemers and Ayman (1993) added,

charismatic leaders theoretically transform organizations by infusing into them ideological values and moral purpose, thus inducing strong commitment rather than by affecting the cognitions or the task environment of followers, or by offering material incentives and the threat of punishment (p. 83).

Bryman (1992) considered a variety of facets of personality significant to charismatic leadership. Some of those qualities he viewed as imperative were: a physical presence, a presence of mind, quality of the eyes, physical beauty, use of voice, energy, confidence, and endurance, unusual mental attainments, and the power to bring forth an almost pathological response from their audiences.

In order for charismatic leadership to function, followers had also to display certain behaviors. According to Gibson, *et al* (1998), the three “follower behaviors associated with charismatic leadership are awe, inspiration, and empowerment. Of the three, awe is perhaps the most dramatic ... [and] seem to lead to the unquestioning followership behavior associated with charismatics” (p. 14). In addition, Behling and McFillen (1996) reported that followers of charismatic leaders tended to favor the personal judgments of their leaders rather than their own. Shamir, House, and Arthur

(1992) noted that follower emotional attachment was vital for charismatic leadership to work effectively.

Connecting theories of leadership, House (1992) proclaimed that some charismatic leadership was produced by situational factors. He listed four situations that could lend credence to charismatic leaders. The situations were: 1) a situation in which moral engagement was necessary; 2) a situation that was not stable or when members was facing psychological confusion; 3) the situation that did not offer reward for the leader as punishment for the followers; and 4) the situation that required self-sacrifice and outstanding modes of action. Interestingly, Riggio, *et al.* (2002) pointed out, “Organizational prosperity (even survival) depends on the appropriate balance between these two somewhat incompatible functions – stability and change” (p. 140).

Small Business Leadership

Covey (1991) asserted that some of the largest corporations “have put their trust in their cash reserves, capital assets, technology, strategy and buildings, only to witness ... smaller companies with a different paradigm – one better suited to the current marketplace – humble them in their battle for customers” (p. 174). Obviously, small businesses could offer a leadership edge by having fewer employees, less overhead, and smaller volume. In a small business of 20 or fewer employees, it was likely that a leader would have compatibility with the firm’s employees, which tended to point toward a more contemporary theory of leadership.

The current literature on small business leadership was virtually nonexistent. Unfortunately, the bulk of information revolved around large corporations and major business leadership theories. The material available on small businesses either fell into the how-to

category of management or merely took large corporation theories and attempted to create applicable generalizations to small business. Due to this paucity of information, the research presented here might serve, in part, to fill that void.

Even less information was available on small land surveying businesses, most of which were entrepreneurial in nature and sole-proprietor firms. Early authors, Timmons (1994) and Galbraith (1971), suggested that it is rare to find entrepreneurs who could start a company and guide it through its high growth stage to a point of maturity. This suggested that leadership skills necessary to start and grow a company were different than those essential for leading an established, mature company. However, there was increasing evidence in the literature in the past few years that suggested new ventures that flourish beyond their high growth stage could be managed by the founding entrepreneurs. Rubenson and Gupta (1990) stated in their research findings that if “a firm grows relatively slowly and the founder was capable of some adaptation then the firm can apparently become large” (p. 177). In addition, their findings also suggested that the founder’s tenure was longer if the firm was a family-dominated company. Willard, Krueger, and Feeser (1997) observed that “many founders can and do manage growth successfully” (p. 190). The majority of land surveying companies fell into this category as either entrepreneurial, still under original management, or family-owned. Longenecker, Moore, and Petty (2003) explained that most entrepreneurs were drawn by the potential for profit, the independence of working for one’s self or the personal fulfillment of owning a business. In surveying the latter two categories were the most applicable.

Many theorists referred to small business owners as managers and not as leaders. However, Richards, and Engle (1986) stated, “Leadership is about articulating vision ... and creating an environment in which things can be accomplished” (p. 206). Thus, small business

owners as sole proprietors were responsible for the vision of the firms and the environments surrounding their services. Therefore, small business owners were leaders as much as those who control large corporations.

Summary

Chapter 2 summarized the literature on the history of leadership theory, explored several leadership styles in depth and investigated the information on small business leadership. The leadership styles emphasized in the literature review reflected those used in the survey research for this work; e. g., situational, contingency, transformational, and charismatic.

It became obvious in the literature review that leadership theory had a long and complicated history and, yet, many of the theories suggested similar approaches and comparable views. It was also evident that the literature on small business leadership was deficient and that any effort to create a larger body of knowledge would add to the literature.

CHAPTER 3

METHODS AND PROCEDURES

“Occasionally, you have to go down into the trenches and do work that is normally assigned to your subordinates. Good leaders don’t hesitate to do so when necessary. However, if ‘when necessary’ becomes a routine occurrence, that’s a sure sign of management failures” (Kaltman, 2000, p. 231).

Overview

This chapter provides an overview of the research methods that were applied in this study. The following sections address the research design, the selection of the sample, the instrumentation used in the study, the pilot studies, the research questions, the data collection, and a summary of the statistical analysis of the data.

Research Design

The research consisted of mixed-method, predominantly quantitative, with a descriptive study of small surveying and mapping company owners. A descriptive study “describe[s] characteristics of a population or phenomenon” (Zikmund, 1994, p. 33). Borg and Gall (1983) described descriptive studies as being “primarily concerned with finding out ‘what was’” (p. 354). Descriptive research seeks to explain the who, what, when and where of a study. Zikmund further explained that “accuracy was of paramount importance” (p. 34) in descriptive studies. While all error and bias cannot be eliminated from a study, a researcher should strive for impartiality and accuracy within the analysis of the data.

Research Population and Sample

The purpose of this study was to determine the leadership styles of small land surveying and mapping business owners and to analyze those styles according to demographic information collected from the participants in the study. Zikmund (1994) described the target population as “the specific complete group relevant to the research project” (p. 358). In the states of Tennessee and Virginia, the population consisted of members of the professional societies that were owners of small land surveying businesses. The original lists of members provided by the state societies consisted of a diverse group of non-licensed persons and licensed persons, some of whom worked for large firms and government agencies. The original lists, which consisted of 611 from the State of Virginia and 585 from the State of Tennessee, were culled all persons who were not owners of small land surveying businesses. These groups of names were reduced to 311 from the State of Virginia and 238 from the State of Tennessee, which were then subjected to a random number generator to select the sample of 50 from each state.

The sample was randomly selected from members of the Virginia Association of Surveyors and the Tennessee Association of Professional Surveyors by use of a random number generator. This single-stage sample included only those members who were licensed land surveyors and owners of small surveying companies with 101 or fewer employees. In addition, the random sample was impossible to stratify due to the homogeneity within the profession. It was an assumption connected with the study that those who were members of their professional societies were successful in their business ventures and leaders in their profession.

The sample consisted of a total of 100 participants, 50 from Tennessee and 50 from Virginia. One member from each group was disqualified for not meeting the minimal qualification of this study pertaining to ownership and licensure. After obtaining mailing lists from both Tennessee and Virginia, the names were culled to eliminate firms that were obviously not qualified for this study. Following that examination, the list was randomized, selecting 50 participants from each state. Participants were chosen from a population of small land surveying

business owners in Tennessee and Virginia who volunteered to answer the questionnaire. The societies' mailing list was selected due to the availability of the desired population in one location and to aid in facilitating an appreciable return rate.

Generalizations gained from the sample included leadership styles in small land surveying businesses, demographic information of those business owners, and an investigation of trends within the leadership styles and the demographics. From these generalizations, it might be possible to apply leadership styles determined by demographic findings to small businesses at large and, thus, to increase the extant literature on small business leadership.

Instrumentation

According to Creswell (2003), "A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (p.153). Surveys offer generalizations from the sample to the wider population in order that other researchers can replicate studies or make inferences on their own.

After reviewing a variety of standardized questionnaires, it was determined that no one format covered the information required for this study. Therefore, the researcher placed 20 questions on a Likert-type scale to assess small business leadership styles and whether those styles were participative/transformational, autocratic/transactional or situational/contingency. According to Clason and Dormody (2000) "Likert scaling presumes the existence of an underlying (or latent or natural) continuous variable whose value characterizes the respondents' attitudes and opinions" (p. 31). In addition, a demographic profile accompanied each questionnaire and findings were correlated between leadership styles and demographics.

The first section of the questionnaire examined the demographic data of the respondents to determine the factors that affected the individual's leadership styles. Information was collected on the age and gender of the individual, the population of the respondent's business location, the approximate three-year average increase in profit of each company, the total

amount of formal education of the owners, the type of business structure and the number of professional business courses taken by the owners. In addition, the demographic section identified the services offered by the individual businesses, how the owners acquired the business, the owners' level of activity within the professional societies and the employment and updating of business plans.

Following the demographic section of the questionnaire, subjects were asked a series of questions that identified whether or not they used participative, autocratic or situational styles of leadership. Using a five-point Likert-type scale ranging from 1) Almost Never to 5) Almost Always, the participants were asked a series of questions related to issues faced by managers in small land surveying businesses (See Appendix C).

Pilot Study

A pilot study was conducted in Kingsport, Tennessee, at a monthly meeting of the Northeast Chapter of the Tennessee Association of Professional Surveyors, attended by 12 owners of small land surveying businesses. It was hoped that the Northeast Chapter would provide a representative sample of those who were members of professional societies in both Tennessee and Virginia because several members of the Chapter were licensed land surveyors in both states. The survey was administered to the group with requests for feedback and proposed alterations in phrasing to assess the content validity of the questionnaire. The responses from the Northeast Chapter made suggestions regarding phrasing on several of the questions related to income and wording of several of the leadership questions. The feedback from this pilot was used to modify the questionnaire.

Once the suggestions from the first pilot were completed, a second pilot was sent out to a randomly selected group of Tennessee and Virginia Land Surveyors. From the membership lists provided by the Virginia and Tennessee professional associations, ten names were selected at random from each state and mailed a sample copy of the questionnaire. This second pilot

generated a 60% response rate, and the resultant feedback allowed minor changes to be made in the questionnaire as well as aiding in providing content validity of the study.

Data Collection

Arrangements were made with the state organizations of both Virginia and Tennessee to obtain a mailing list of their members. The professional societies allowed more accessibility to names and addresses through association records. As a general rule, most members of the professional societies were small business owners, thus, they were equated to the target population needed for this study.

After obtaining the mailing list from each professional society, members who did not meet the definition of small business owners were culled from the list. The remaining membership was subjected to a random number generator to select 50 candidates from each state to receive the questionnaire. A packet containing a cover letter, explaining the purpose of the questionnaire, the required IRB forms, the instrument and a self-addressed stamped envelope were mailed to each of the subjects of this study. Each participant was asked to complete and return the questionnaire in approximately one week. The cover letter explained the usefulness of the study, the impact the respondent could have by participating, and assurance of respondent confidentiality. To facilitate follow-up, the questionnaires were coded so that those not responding to the initial mailing could be identified (see Appendix C).

Allowing two weeks from the initial mailing, a follow-up letter was scheduled to be mailed to each individual who did not respond to the first mailing; however, by that date, there was a 54% return rate rendering follow-up unnecessary.

Research Questions

The research questions were designed to reflect both the internal operations of small land surveying firms and the external decision making and involvement of the owners of those businesses. The term internal indicates a smaller entity, e.g., the internal affairs of the business, whereas, the term external refers to the larger spectrum, e.g., the external affairs of the firm. The categories on the questionnaire dealing with leadership styles were fairly evenly divided between internal and external groupings. Questions 1, 4, 7, 8, 13, 14, 17, and 19 were internal, while questions 2, 3, 5, 6, 9, 10, 11, 12, 15, 16, 18, and 20 were external questions. However, question 12 and 20 were separated statistically because they related specifically to client-based activity. The research questions for this study are as follows:

1. What styles of leadership do the majority of owners of small surveying businesses use in managing internal affairs?
2. What styles of leadership do the majority of owners of small surveying businesses use in managing external affairs?
3. What demographic factors reflect internal leadership styles in small surveying businesses?
4. What demographic factors reflect external leadership styles in small surveying businesses?
5. What leadership style is prevalent among owners of small land surveying businesses?
6. What are the patterns of responses to open-ended questions in the demographic section of the questionnaire?

Data Analysis

The survey produced nominal data that was analyzed using Statistical Package for Social Sciences (SPSS) software to compute the frequency and significance. Additionally, a nonparametric Kruskal-Wallis K Independent Samples procedure and one-way chi-square tests were used. The Kruskal-Wallis was selected because the data did not require regrouping or recoding and, thus, provided information of a more exact nature across the demographic groups. According to Green and Salkind (2003), the assumption underlining the Kruskal-Wallis test are: 1) the continuous distributions for the test variable are exactly the same for the different populations; 2) the cases represent random samples from the population and the scores on the test variables are independent of each other; and 3) the chi-square statistic for this test is only approximate and becomes more accurate with larger sample sizes (the test is fairly accurate if the sample size is greater than or equal to 30).

To look at factors in the demographic data and compare them to leadership styles, a chi-square was used. According to Green and Salkind (2003), the assumptions for a one-sample chi-square test are: 1) the observation must be from a random sample and the scores associated with the observation are independent of each other; and 2) the one-sample chi-square test yields a test statistic that is approximately distributed as a chi-square when the sample size is relatively large. chi-square was not used to analysis the Likert-type scale responses; however, it was used to analysis the relationship between the demographic responses and the leadership styles reflected in the Likert-type scale answers.

A Two-Way Contingency Table Analysis evaluated the statistical relationship between two variables using both the chi-square and a Phi Coefficient 2 x 2 Table. This test was used to

investigate both the independence and homogeneity of the sample (Green & Salkind, 2003). In addition, quantitative analysis using frequency counts and resulting distributions were compiled for each the items in the questionnaire. Frequency distributions were converted to percentages of total respondents to facilitate reporting of the information.

Summary

Chapter 3 discussed the design of the study, the selection of the sample, the pilot survey and data collection. Chapter 4 offers data analysis and Chapter 5 provides a summary of the findings, conclusions, and recommendations for further study.

CHAPTER 4

DATA ANALYSIS

Introduction

This study examined the leadership styles of owners of small land surveying businesses in the states of Tennessee and Virginia. Using a Likert-type questionnaire, the research measured leadership styles from participative to situational to autocratic in addition to collecting in depth demographic data on each of the respondents. The six research questions for this study examined leadership styles in both internal work environments and external (external) influences affecting the overall performance of the company. Those research questions were:

1. What styles of leadership do the majority of owners of small surveying businesses use in managing internal affairs?
2. What styles of leadership do the majority of owners of small surveying businesses use in managing external affairs?
3. What demographic factors reflect internal leadership styles in small surveying businesses?
4. What demographic factors reflect external (external) leadership styles in small surveying businesses?
5. What leadership style is prevalent among owners of small land surveying businesses?
6. What are the patterns of responses to open-ended questions in the demographic section of the questionnaire?

The sample for this study included 50 randomly selected owners of small land surveying businesses in Virginia and 48 randomly selected owners of small land surveying businesses in

Tennessee. The Tennessee sample was originally set at 50; however, two questionnaires were returned with insufficient addresses. The criteria for the sample was that each be a licensed professional land surveyor, a member of a state professional organization, and an owner of a small surveying firm, employing 101 or fewer. As shown in Figure 2 below, the overall return rate on the questionnaire was 54%, which included 30 from the State of Tennessee (56.6%) and 23 from the State of Virginia (43.4%).

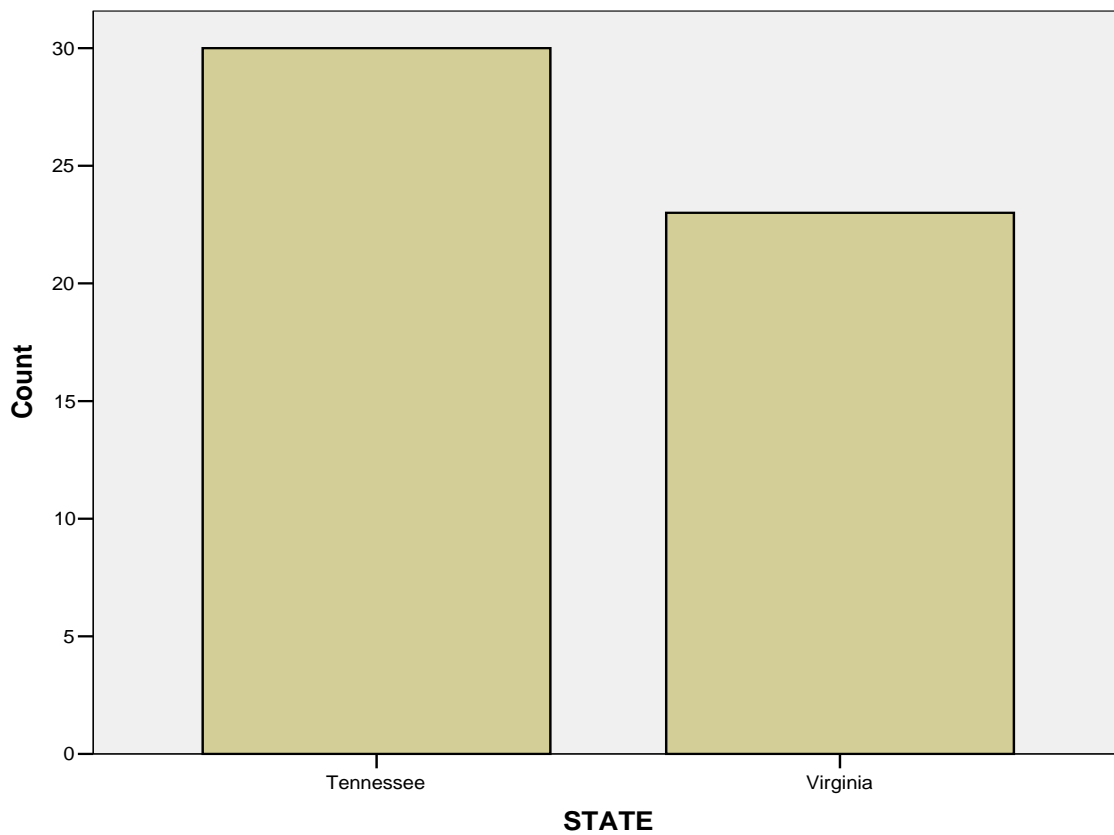


Figure 2. Number of Respondents per State

In addition to the Likert-type questionnaire to measure leadership styles, each respondent was asked to complete a demographic component. Demographic questions (See Appendix E)

were grouped into three broad categories: personal information, which included categories such as gender, age, ethnicity, and educational background; organizational information, which included areas such as years in business, number of employees, profit margin, and service population; and professional involvement, which included responses such as membership in community organizations, membership in professional organizations, and offices held in those organizations.

The questionnaire produced nominal data that was analyzed using Statistical Package for Social Sciences (SPSS) software to compute the frequency (See Appendix F), significance, and descriptive statistics (See Appendix G). Additionally, a nonparametric Kruskal-Wallis K Independent Samples procedure and one-way chi -square tests were used, with follow-up tests for those items indicated as being significant.

Sample

The sample for this study was chosen from the membership rosters of the Tennessee Association of Professional Surveyors and the Virginia Association of Surveyors due to the ready availability of mailing lists provided by both organizations. Using the data collection process described in Chapter 3, the data were collected over a five-week period of time between 29 July and 5 September 2005. The criteria for the respondents in this study consisted of members of the professional organizations who were licensed land surveyors, who were owners of the firms, and whose companies employed less than 100 employees. The cut off of 100 employees was selected to meet the parameters of a small business as defined by the Small Business Bureau. The mailing list for each organization was reviewed and culled of members who did not meet the criteria of this study. The mailing list was then subjected to a random number generator to select 50 candidates from each state. Of the sample, the packets of two

potential subjects were returned due to an insufficient address; both subjects were from the State of Tennessee. According to the U.S. Census Bureau (2004) 2002 Economic Census, there were 238 land surveying firms in the State of Tennessee and 306 land surveying firms in the State of Virginia. This study, therefore, represents 20.0% of Tennessee firms and 16.0% of the Virginia companies.

Demographics

The initial study of the sample featured respondents answering questions on a variety of demographic questions (See Appendix E) that could be broken into three broad categories: personal, organizational, and professional involvement. From these responses several characteristics of the respondents could be generalized.

Under personal characteristics, the respondents were 100% Caucasian with 98.1% male and 1.9% female. The ages varied from one respondent under 25 to 9 respondents over 65, with the majority falling between 36 and 65 years of age (mean age group of 46-55) and equaling 73.5% of the sample (see Table 1 below). The majority of respondents reported educational levels of associate or higher college degree (52.8%), with 5.7% having postgraduate degrees, 39.6 with a bachelors degree, and 7.5% with an associates degree. Respondents who had a high school diploma or equivalent equaled 41.5% of those reporting. Of those respondents holding postsecondary degrees, the majority, 50.9%, majored in the engineering sciences, while 5.7% majored specifically in surveying and mapping (see Figure 3 below). The remaining majors were varied and included areas such as business, psychology, and English.

Table 1

Age of Respondents

Ages	Frequency	Percent	Valid Percent	Cumulative Percent
Under 25	1	1.9	1.9	1.9
25-35	4	7.5	7.5	9.4
36-45	14	26.4	26.4	35.8
46-55	12	22.6	22.6	58.5
56-65	13	24.5	24.5	83.0
Over 65	9	17.0	17.0	100.0
Total	53	100.0	100.0	

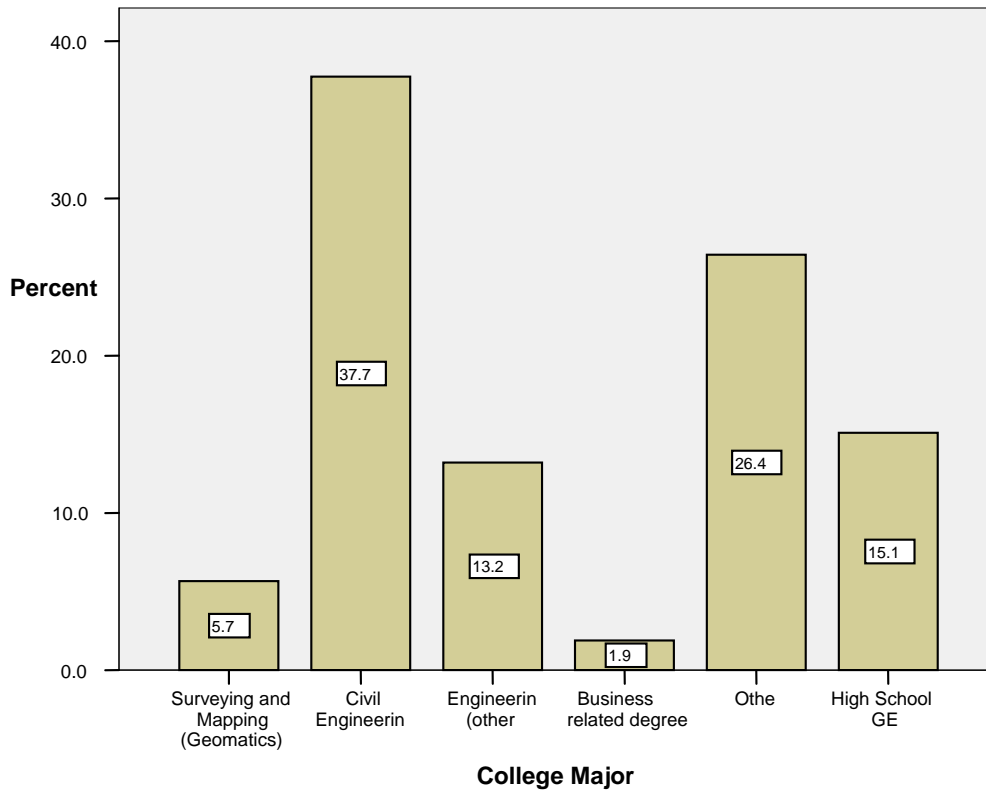


Figure 3. College Majors

From the demographic data gathered under the organizational category, a variety of generalizations could be drawn about the respondents that reflected their business design, longevity, structure, and profit. Most owners of surveying firms employed 1 to 3 employees, 39.6%, with those reporting 4 to 6 as 17% and 7 to 10 as 20.8%, while a smaller percentage reported over 10 employees (see Table 2). Questionnaire respondents indicated their service population as primarily 100,000 or more, 47.2%, while only 13.2% worked in areas with a population of fewer than 20,000. The vast majority of owners of professional land surveying companies in the study, 62.3%, did not use a business plan. Of those reporting use of a business plan, the majority, 85%, indicated that they managed their business with the business plan but only 20.8% had updated that plan since starting their firm.

Table 2

Current Number of Employees

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1-3 employees	21	39.6	39.6	39.6
4-6 employees	9	17.0	17.0	56.6
7-10 employees	11	20.8	20.8	77.4
11-20 employees	7	13.2	13.2	90.6
21-50 employees	3	5.7	5.7	96.2
51-100 employees	1	1.9	1.9	98.1
101 or more employees	1	1.9	1.9	100.0
Total	53	100.0	100.0	

The overwhelming majority, 71.7%, had been in business more than 10 years with 56.6% as owners for over 16 years. On the other hand, employee turnover rates appeared to be high with 50% of the owners indicating that their current employees had been with the company for five years or less. The statistics indicated that 5.8% of employees had been with the company longer than 16 years. Most of the firms were structured as corporations, 60.4%, which

included S-corporations and Limited Liability Corporations (LLC); while 37.7% were sole-proprietors and 1.9% were partnerships. Most of the owners in all categories started their businesses, 84.9%; whereas, 13.2% bought an existing business and 1.9% inherited their firms (see Figure 4 below).

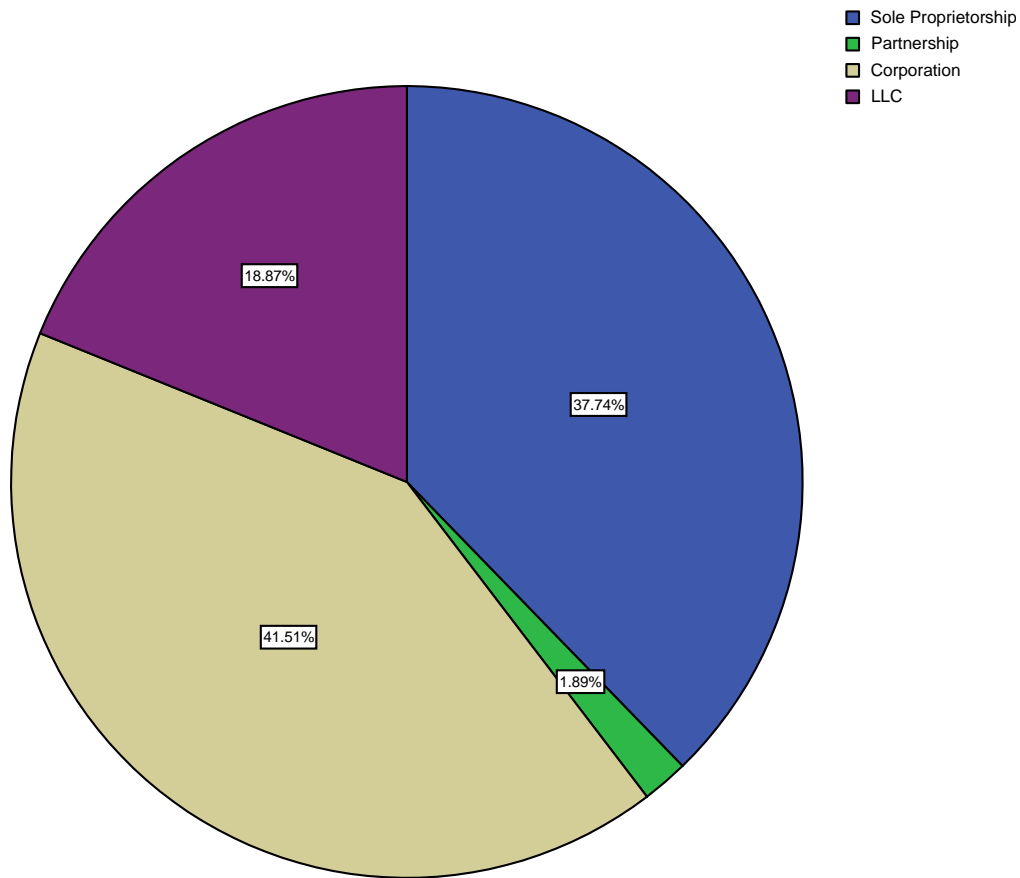


Figure 4. Business Structures

The majority of Virginia and Tennessee respondents, 81.10%, reported some profit over a three year period with a mean of 15.68% in Tennessee and 18.78% in Virginia. Of those

reporting from the State of Virginia, a 15.00% profit was reported by 31.30%, with the lowest reporting 5.00%. In Tennessee, the most frequently reported profit was 6.00-10.00%, offered by 31.60%, with the lowest, 21.10%, reporting 5.00% (see Table 3 below). In this study, two outliers existed, one of whom reported a profit in excess of 500.00%, while another noted that his firm was closed and he was retired.

Table 3

Reported Profits for the Last Three Years

States	Did Not Report	No profit	5-15%	16-25%	26% or greater
Tennessee	8	5	10	2	5
Virginia	3	4	10	2	4
Total	11	9	20	4	9

According to Table 4 below, the U.S. Census Bureau Data for the State of Tennessee (2005, May) indicated that between the years of 1997 and 2002, land surveying firms showed an overall profit of 10.00%, which averaged 2.00% per annum. Compared to the Tennessee Census Data for that period, respondents in this study, 63.20%, exceeded the statewide average. The U.S. Census Bureau Data for the State of Virginia (2005, May) revealed that between the years 1997 and 2002, land surveying firms averaged a five year increase of 19.00%, which was an average of 3.80% per year. Seventy-five percent of the respondents from Virginia in this study reported higher increases in profits than the Virginia average increase for that period. On the other hand, when profits for Tennessee and Virginia companies were compared to the national average of 18.00% for a three-year time period, Tennessee had a lower than average increase in profits reported for the period, while Virginia's average was slightly higher (U.S. Census Bureau, 2004,).

Table 4

U.S. Census Bureau Economic Census Data, Professional Scientific and Technical Services

	Virginia 1997	Virginia 2002	Tennessee 1997	Tennessee 2002
Number of Firms	290	306	237	238
Number of Employees	2,017	2,287	1,088	1,011
Receipts (\$1000)	\$114,200	\$140,882	53,196	58,799
Annual Payroll (\$1000)	55,476	70,250	22,979	25,654

The respondents in this study, for the most part, were uninvolved in community organizations but were members of professional groups in their field. However, most indicated that they did not attend professional meetings at the local, state, or national level and only few had ever held offices in those professional organizations. Of the respondents who reported being members of their state chapters, 62.20% were members of their local chapter. The respondents who reported being members of their local chapter of the state professional organization, on average, attended only 2 of the 12 meetings per year. At a state level, respondents, 94.3%, were members of their professional organization; however, the respondents for both states combined indicated that they were attending 0.85% of their state level meetings, revealing that the majority were not active in their state organizations. As far as national affiliation, membership in the American Congress of Surveying and Mapping (ACSM) was 34.00% but attendance was reported at 0.02%. Reports from the respondents, 39.60%, indicated that they had held offices in their local professional organizations at some time, as compared with 20.80% at the state level and 1.90% at the national level.

Data Analysis

The purpose of this study was to assess the leadership styles of professional land surveyors who were owners of small businesses in the states of Tennessee and Virginia. The questionnaire designed for the study was geared to collecting demographic data (32 questions) on each respondent and to gauge the leadership styles (20 questions) (See Appendix H) of the subjects in both the external and internal environment of the land surveying business. The leadership style questions were created used a five point Likert-type scale to judge whether the respondents managed their business by participatory, situational, or autocratic methods (See Appendix C). The respondents were asked to answer each question as almost never, seldom, sometimes, often, or almost always. The data were analyzed using frequencies (Appendix F), descriptive statistics (Appendix G), Kruskal-Wallis K Independent Samples procedure, and one-way chi-square tests with follow-up tests to assure validity of the significant items. In both the Kruskal-Wallis K Independent Samples procedure and the one-way chi-square test, the results were tested at $p < 0.05$ levels of significance. To use the one-way chi-square test, the responses to the leadership style section were regrouped to reflect participatory, situational, and autocratic styles. Questions 5, 6, 10, 11, 17, and 20 were weighted as autocratic and, thus, reversed to maintain consistency in responses. If the chi-square test showed significance, the pairwise comparison test was performed to assure validity of the findings.

Research Question 1:

Research question 1 was stated as follows: What styles of leadership do the majority of owners of small surveying businesses use in managing internal affairs? To facilitate answering this research question, the leadership style portion of the questionnaire was divided into external and internal environments and their effects on methods of leadership. Both frequencies (See Appendix F) and descriptive analysis (See Appendix G) of the data were used to evaluate the respondents' answers to the questions. Questions 1, 3, 4, 7, 8, 13, 14, 17, and 19 represented the internal environment of small land surveying businesses. Those questions investigated the owners' responses to employee involvement within the company, sharing the goals and direction of the firm with others, and asking employees within the company to help during times of crises (see Table 5 below).

Table 5

Internal Environment in Small Land Surveying Business

Internal Questions	Participative	Situational	Autocratic
1. I actively listen to different points of view from my employees concerning project decisions.	78.9%	19.2%	1.9%
3. I share my vision of the business with others	58.5%	17.0%	24.5%
4. When faced with a deadline, I ask my employees to work overtime to help complete the project on time.	65.4%	17.3%	17.3%
7. I allow my employees the latitude to solve problems on their own.	69.2%	23.1%	7.7%
8. When faced with a deadline, I ask my employees to work overtime to help me complete the project on time.	67.3%	11.5%	21.2%
13. I listen to suggestions about the business provided by others.	71.6%	24.5%	3.8%
14. When presented with work situations that require long hours with reduced sleep, I ask others for assistance in completing the project.	39.6%	20.8%	39.6%
* 17. I do not give my employees the opportunity to make important decisions about their work.	60.8%	29.4%	9.8%
19. I believe that the best product can be produced by a team effort.	84.9%	7.5%	7.5%

* The questions were worded in an autocratic manner in the question and those higher values in column 2 indicate a participatory response.

In eight of the nine questions (88.90%) relating to the internal environment, the respondents overwhelmingly reported participative style leadership. Owners' responses ranged from 58.50% in question 3 to 84.90% in question 19. The highest response was related to team efforts (question 19), with an 84.90% participative response. In addition, an analysis of the descriptive statistic for question 19 showed a mean (μ) of 4.42 and a standard deviation (ζ) of 0.989. Other high participative scores related to listening to employees or others (questions 1 and 13), with scores of 78.9 % participatory ($\mu = 4.15$, $\zeta = 0.872$) and 71.6 % participatory ($\mu =$

4.02, $\zeta = 0.930$), respectively. The only question not showing a majority opinion was question number 14, where the respondents were split between participative (39.6%) and autocratic (39.6%) The descriptive statistics for question 14 were $\mu = 2.89$ and $\zeta = 1.396$.

Research Question 2:

Research question 2 was stated as follows: What style of leadership do the majority of small business owners use in managing external (external) affairs? To facilitate answering this research question, the leadership style portion of the questionnaire concentrated on the external environment and its effect on methods of leadership. Both frequencies (See Appendix F) and descriptive analysis (See Appendix G) of the data were used to evaluate the respondents' answer to the questions. Questions 2, 5, 6, 9, 10, 11, 15, 16, and 20 (see Table 6 below) represented the internal environment of a small land surveying business, while questions 12 and 18 represented the responses from the owners in dealing with clients in a external environment. These questions were designed to test leadership styles of owners in managing affairs related to clients, overall business plans and problem solving related to running the company, excluding those areas related to the internal segment. Questions related to client-based external environments are shown in Table 7 below.

Table 6

External Environment in Small Land Surveying Business

External Questions	Participative	Situational	Autocratic
2. When I encounter a business problem, I consult with others to solve that problem	62.6%	26.4%	11.3%
* 5. When setting business goals for the next year's performance, I do not consult with others.	49.0%	29.4%	21.6%
6. I act independently when it is necessary.	1.9%	7.5%	90.5%
9. I actively assist in developing rules and standards with my planning commission.	36.6%	25.0%	38.5%
10. In problem-solving or otherwise performing work in my business, I solve problems independently.	36.6%	25.0%	38.5%
* 11. I do not seek assistance in preparing business plans for my company.	56.6%	11.3%	32.1%
15. I actively participate in community service organizations.	39.6%	13.2%	47.2%
16. I seek assistance from outside consultants in setting goals and directions for my business.	11.3%	13.2%	75.5%
18. I participate in other professional organization within my community (e.g., homebuilders association, civic clubs, etc.).	34.6%	11.5%	53.8%

* The questions were worded in an autocratic manner and those higher values in column 2 indicate a participatory response.

Table 7

External Environment Related to Clients

Client Based External Questions	Participative	Situational	Autocratic
12. I actively seek outside professional help when confronted by clients' requests to perform work that I am qualified for educationally but not practically.	73.6%	11.3%	15.1%
20. When my company needs to improve the quality of our service to clients, I seek outside assistance from others (e.g. vendors, efficiency experts, etc.).	45.3%	35.8%	18.8%

The response rate varied on questions related to the external environment of the business. In question 2 (62.6%, $\mu = 3.68$ and $\zeta = 1.070$) and question 11 (56.6%, $\mu = 2.68$ and $\zeta = 1.626$), the owners' response indicated a participative style of leadership, while questions 6, 16, and 18 showed a response of 90.5% ($\mu = 4.68$ and $\zeta = 0.701$), 75.5% ($\mu = 1.92$ and $\zeta = 1.124$) and 53.8% ($\mu = 2.77$ and $\zeta = 1.542$), respectively, which indicated an autocratic style of leadership. Questions 2 and 11 both investigated items related to the overall performance of the company. The autocratic responses varied in the business areas, from acting independently and seeking outside consultants to active participation in professional organizations within the respondent's community. In questions 9 (38.5%, $\mu = 3.02$, and $\zeta = 1.393$), 10 (38.5%, $\mu = 3.87$, and $\zeta = 1.057$), and 15 (47.2%, $\mu = 2.94$, and $\zeta = 1.486$), the analysis leaned toward a more autocratic approach but there was little appreciable difference between those who responded as autocratic and those who answered as participative. Question 5 showed a participative response, 49.0%, but moved toward situational at 29.4% ($\mu = 2.53$ and $\zeta = 1.347$). In the client based questions, the study showed a participative style of leadership when owners dealt with problems initiated by their clients. Question 12 (73.6%, $\mu = 4.06$ and $\zeta = 1.336$) indicated that owners were willing

to seek help from outside sources when confronted with problems they felt unqualified to handle alone due to lack of education. Question 20 was not overwhelmingly decisive but was closer to a situational response at 35.8% ($\mu = 2.57$ and $\zeta = 1.248$).

Research Question 3:

Research question 3 was stated as follows: What demographic factors reflect internal leadership styles in small surveying businesses? The demographic factors considered in this question were: gender, ethnicity, age, educational background, number of years in business, current number of employees, number of years employees have been with the company, business structure, service population, managing with a business plan, major in college, holding offices in either local, state, or national in professional organizations, and profit. Because the sample was 98.10% male and 100% Caucasian, those factors offered no significant variation. Additionally, national level office holders were not compared because there was only one respondent in that category. Furthermore, college majors indicated no significance in either the Kruskal-Wallis test or the chi-square test. The questions that were related to the internal running of the company were 1, 3, 4, 7, 8, 13, 14, 17, and 19 (See Appendix F and H for frequency and descriptive statistics).

The respondents were asked to answer each question as almost never, seldom, sometimes, often, or almost always. The data were analyzed using descriptive statistics, Kruskal-Wallis K Independent Samples procedure and one-way chi-square test with follow-up tests as indicated by the chi-square test. In both the Kruskal-Wallis K Independent Samples procedure and the one-way chi-square test, the results were tested at $p < 0.05$ levels of significance. The tests did not indicate any statistically significant difference or any statistically

significant relationship among demographic elements in the internal environment with the exception of four demographic categories. The first was in the current number of employees in the respondents' company (See Table 8). For this category the Kruskal-Wallis test found significance on question 8 at $\chi^2(6, N=52) = 12.81, p = 0.05$. Follow-up tests were conducted to evaluate pairwise differences among the seven groups using the Mann-Whitney U test. The results of these tests indicated three of the seven pairwise differences. The differences were found as follows:

- 1-3 employees and 7-10 employees ($z = -2.14, p < 0.03$)
- 1-3 employees and 11-20 employees ($z = -2.28, p < 0.02$)
- 4-6 employees and 7-10 employees ($z = -2.02, p < 0.04$)

Table 8 below shows the percentages of leadership style responses based on the current number of employees in each respondent's firm. When the owners queried had six employees or fewer (54%), they tended to be more autocratic in their styles of leadership than the larger firms with 7 to 20 employees, as shown by the Kruskal-Wallis test above. As evidenced in the chart, owners who had in excess of 21 current employees were overwhelmingly participatory; however, those data must be viewed in the light of fewer overall respondents in those categories.

Table 8

Percentages of Leadership Styles Based on Current Number of Employees

Question 8		QB8A			Total
		1.00	2.00	3.00	
1-3 employees	Count	5	3	12	20
	Expected Count	4.2	2.3	13.5	20.0
	% within Current Employees	25.0%	15.0%	60.0%	100.0%
4-6 employees	Count	4	2	3	9
	Expected Count	1.9	1.0	6.1	9.0
	% within Current Employees	44.4%	22.2%	33.3%	100.0%
7-10 employees	Count	1	1	9	11
	Expected Count	2.3	1.3	7.4	11.0
	% within Current Employees	9.1%	9.1%	81.8%	100.0%
11-20 employees	Count	1	0	6	7
	Expected Count	1.5	.8	4.7	7.0
	% within Current Employees	14.3%	.0%	85.7%	100.0%
21-50 employees	Count	0	0	3	3
	Expected Count	.6	.3	2.0	3.0
	% within Current Employees	.0%	.0%	100.0%	100.0%
51-100 employees	Count	0	0	1	1
	Expected Count	.2	.1	.7	1.0
	% within Current Employees	.0%	.0%	100.0%	100.0%
101 or more employees	Count	0	0	1	1
	Expected Count	.2	.1	.7	1.0
	% within Current Employees	.0%	.0%	100.0%	100.0%
Total	Count	11	6	35	52
	Expected Count	11.0	6.0	35.0	52.0
	% within Current Employees	21.2%	11.5%	67.3%	100.0%

The second demographic response showing significance was the average number of years an employee had been with the respondent's firm. A one-sample chi-square was conducted to assess whether the number of years the employee had been with the firm affected the response to question number 8 (See Table 9). The results of the test were significant, $\chi^2(6, N=52) = 14.71, p = 0.02$. A follow-up test indicated significance as follows:

- 6-10 years as it was related to 16 years or longer ($\chi^2(2, N=19) = 7.72, p = 0.00$)
- 6-10 years as it was related to 11-15 years ($\chi^2(2, N=23) = 6.27, p = 0.04$)
- 0-5 years as it was related to 16 years or longer ($\chi^2(2, N=28) = 6.05, p = 0.05$)

Table 9 below shows the percentage breakdown of leadership styles as they were related to the average number of years employees had been with a company. When the results from above were compared with Table 9, the results indicated that in the relationship of 6-10 years to 16 years or more, owners were less likely to ask their employees to work overtime based on their lack of participatory response to the question. The relationship between 6-10 years and 11-15 years of employment with the same company indicated similar results to that of 6-10 and 16 years or longer employment. Overall, those companies that had the most longevity for employees and those companies with employment averages of 4-6 years were least likely to ask employees to work overtime.

Table 9

Percentages of Leadership Styles Based on Average Number of Years Employees Have Been With Employer

Question 8			QB8A			Total
			1.00	2.00	3.00	
Average years employees w/company	0-5 years	Count	4	1	21	26
		Expected Count	5.5	3.0	17.5	26.0
		% within Years with Employer	15.4%	3.8%	80.8%	100.0%
	6-10 years	Count	5	3	8	16
		Expected Count	3.4	1.8	10.8	16.0
		% within Years with Employer	31.3%	18.8%	50.0%	100.0%
	11-15 years	Count	2	0	5	7
		Expected Count	1.5	.8	4.7	7.0
		% within Years with Employer	28.6%	.0%	71.4%	100.0%
	16 years or longer	Count	0	2	1	3
		Expected Count	.6	.3	2.0	3.0
		% within Years with Employer	.0%	66.7%	33.3%	100.0%
Total	Count	11	6	35	52	
	Expected Count	11.0	6.0	35.0	52.0	
	% within Years with Employer	21.2%	11.5%	67.3%	100.0%	

The third demographic area of significance was business structure in relation to question 14 (See Table 10 below). Both Kruskal-Wallis and chi-square tests showed significance in this category. The results of the Kruskal-Wallis test were $\chi^2(3, N=53) = 10.50, p = 0.02$. Follow-up tests were conducted to evaluate pairwise differences among the four groups using the Mann-Whitney *U* test. The results of these test indicated two of the four pairwise differences. The differences were found as follows:

- Sole Proprietorship to Corporations ($z = -2.85, p < 0.00$)
- Sole Proprietorship to Limited Liability Companies (LLC) ($z = -2.33, p < 0.02$)

Table 10

Percentages of Leadership Styles Based on Business Structure of Respondents

Question 14			QB14A			Total
			1.00	2.00	3.00	
Type of Business	Sole Proprietorship	Count	13	4	3	20
		Expected Count	7.9	4.2	7.9	20.0
		% within Business Structure	65.0%	20.0%	15.0%	100.0%
	Partnership	Count	0	0	1	1
		Expected Count	.4	.2	.4	1.0
		% within Business Structure	.0%	.0%	100.0%	100.0%
	Corporation	Count	6	3	13	22
		Expected Count	8.7	4.6	8.7	22.0
		% within Business Structure	27.3%	13.6%	59.1%	100.0%
	LLC	Count	2	4	4	10
		Expected Count	4.0	2.1	4.0	10.0
		% within Business Structure	20.0%	40.0%	40.0%	100.0%
Total		Count	11	6	35	52
		Expected Count	21.0	11.0	21.0	53.0
		% within Business Structure	39.6%	20.8%	39.6%	100.0%

Table 10 above shows the percentages of leadership style responses based on the business structure of each respondent's firm. When the owners reported sole proprietorship, they tended to be more autocratic than either the respondents who reported corporate structures or LLCs. In answering question 14, the autocratic responses indicated that the owners did ask

others for assistance in completing projects that required long hours as reported in the Kruskal-Wallis test above.

The last demographic category showing significance was the respondents' holding office in a professional organization at the local level. This significance was reflected in question 13 using the Kruskal-Wallis test, $\chi^2(1, N=53) = 5.24, p = 0.02$. A follow-up test was conducted to evaluate pairwise differences among the two groups using the Mann-Whitney U test. The results of the test did not indicate any significant differences; however, the overall result of this might indicate that those holding local offices in professional organization were more likely to be participative in listening to suggestions about their business.

Question 8 and 14 dealt with employees working overtime or long hours to complete projects. In the above analysis, the tests indicated larger firms and those firms that were reported as corporations or LLCs were more likely to ask their employees to work overtime than were smaller firms, those with 1 to 6 employees. Question 13 addressed the respondents' listening to business suggestions that were provided by others. Those respondents who reported serving as an officer in their local professional organizations were largely participatory in listening to suggestions, while those who had not served were largely situational.

Research Question 4:

The research question was stated as follows: What demographic factors reflect external (external) leadership styles in small surveying businesses? The demographic factors considered in this question were: gender, ethnicity, age, educational background, number of years in business, current number of employees, number of years employees have been with the company, business structure, service population, managing with a business plan, major in

college, holding offices in either local, state, or national in professional organizations, and profit. With seven exceptions, those of the age of the respondents, ethnicity, gender, major in college, profit, holding office at a state level, and holding office at the national level, all demographic categories showed significance in the external environment, using either Kruskal-Wallis or chi-square or both. The questions that were related to the external (external) running of the company were 2, 4, 7, 8, 13, 14, 17, and 19, with questions 12 and 20 separated to research client based responses (See Appendix F and H for frequency and descriptive statistics).

The respondents were asked to answer each question as almost never, seldom, sometimes, often, or almost always. The data were analyzed using descriptive statistics, Kruskal-Wallis K Independent Samples procedure and one-way chi-square test with follow-up tests for both when there were indications of significance. In both the Kruskal-Wallis K Independent Samples procedure and the one-way chi-square test, the results were tested at $p < 0.05$ levels of significance. The tests indicated both a statistically significant difference and a statistically significant relationship among several demographic elements in the external environment.

The first significance was found in the type of education reported by the respondents. For this category the chi-square test found significance on question 16 at $\chi^2(8, N=53) = 22.65, p = 0.01$. A follow-up test indicated significance as follows:

- High School or GED as it was related to Some College ($\chi^2(2, N=25) = 9.21, p = 0.01$)
- Some College as it was related to an Associates Degree ($\chi^2(2, N=24) = 11.20, p = 0.00$)
- Bachelor Degree as it was related to Post Graduate Degree ($\chi^2(2, N=24) = 9.24, p = 0.01$)

Table 11 below shows the percentage breakdown of leadership styles as they were related to the educational level of the respondents. When the results from above were compared with

Table 11 below, the results indicated that the relationship of high school or equivalent diploma and some college was that those with high school or equivalent diploma were less likely to seek assistance from outside consultants when setting goals for their businesses. When the respondents who had some college were statistically tested with those respondents who had an associates degree, both groups were predominantly autocratic. The results relating to those with a bachelor degree and the respondent with a post graduate degree showed significance; however, there was only one respondent in the latter category. Overall, those respondents with the most education were least participatory and less likely to ask for outside consultants.

The second category showing significance was the number of years the respondent had been in business as related to question 10 with a chi-square test ($\chi^2(8, N=53) = 18.81, p = 0.02$).

A follow-up test indicated significance as follows:

- 6 to 10 years in business as it was related to 11 to 15 years in business ($\chi^2(1, N=15) = 4.29, p = 0.04$)
- 6 to 10 years in business as it was related to 16 to 20 years in business ($\chi^2(2, N=19) = 8.06, p = 0.02$)
- 6 to 10 years in business as it was related to 21 or more years in business ($\chi^2(2, N=25) = 6.73, p = 0.04$)
- 11 to 15 years in business as it was related to 16 to 20 years in business ($\chi^2(1, N=20) = 4.44, p = 0.04$)

Table 11

Percentages of Leadership Styles Based on Educational Level of Respondents

Question 16			QB16A			Total
			1.00	2.00	3.00	
Educational Background	High School or GED	Count	3	0	2	5
		Expected Count	3.8	.7	.6	5.0
		% within Educational Background	60.0%	.0%	40.0%	100.0%
	Some College	Count	16	4	0	20
		Expected Count	15.1	2.6	2.3	20.0
		% within Educational Background	80.0%	20.0%	.0%	100.0%
	Associate's Degree	Count	2	0	2	4
		Expected Count	3.0	.5	.5	4.0
		% within Educational Background	50.0%	.0%	50.0%	100.0%
	Bachelor's Degree	Count	18	1	2	21
		Expected Count	15.8	2.8	2.4	21.0
		% within Educational Background	85.7%	4.8%	9.5%	100.0%
	Post Graduate	Count	1	2	0	3
		Expected Count	2.3	.4	.3	3
		% within Educational Background	33.3%	66.7%	0%	100.0%
Total		Count	40	7	6	53
		Expected Count	40.0	7.0	6.0	53.0
		% within Educational Background	75.5%	13.2%	11.3%	100.0%

Table 12 below shows the percentage breakdown of leadership styles as they were related to the years in business of the respondents. When the results from above were compared with Table 12, the results indicated that in the relationship of 6-10 years in the business to 16-20 years in the business and 6-10 or 21 or more years in the business, respondents were the least autocratic when solving problems independently. The 6-10 years in business respondents and the 11-15 years in business respondents showed a significant relationship in that neither indicated a situational response to this question. The significant relationship between those in business 11-15 years and those in business for 16-20 years was that neither indicated a participatory response. Overall, the majority of the respondents were autocratic in solving problems independently.

Table 12

Percentages of Leadership Styles Based on Years in Business

Question 10			QB10A			Total
			1.00	2.00	3.00	
Years in Business	1-5 years	Count	6	1	1	8
		Expected Count	5.4	1.8	.8	8.0
		% within Years in Business	75.0%	12.5%	12.5%	100.0%
	6-10 years	Count	4	0	3	7
		Expected Count	4.8	1.6	.7	7.0
		% within Years in Business	57.1%	.0%	42.9%	100.0%
	11-15 years	Count	8	0	0	8
		Expected Count	5.4	1.8	.8	8.0
		% within Years in Business	100.0%	.0%	.0%	100.0%
	16-20 years	Count	7	5	0	12
		Expected Count	8.2	2.7	1.1	12.0
		% within Years in Business	58.3%	41.7%	.0%	100.0%
	21 or more years	Count	11	6	1	18
		Expected Count	12.2	4.1	1.7	18.0
		% within Years in Business	61.1%	33.3%	5.6%	100.0%
Total	Count	36	12	5	53	
	Expected Count	36.0	12.0	5.0	53.0	
	% within Years in Business	67.9%	22.6%	9.4%	100.0%	

The third category showing significance was the current number of employees in the respondent's firm. Questions indicating significance in Kruskal-Wallis tests (See Table 13 below) were 10, 11, and 12; questions indicating significance in chi-square tests (See Table 14 below) were 10 and 12.

Table 13

Kruskal-Wallis Test for Significance for Current Number of Employees at the Respondents' Firm

	QB10	QB11	QB12
Chi-square	16.66	13.43	13.44
Df	6	6	6
Asymp. Sig.	.01	.04	.04

a Kruskal Wallis Test

b Grouping Variable: Current Employees

Table 14

Chi-Square Test for Significance for Current Number of Employees at the Respondents' Firm

	QB10	QB12
Chi-square	25.86	24.40
Df	12	12
Asymp. Sig.	.01	.05

Follow-up tests were conducted to evaluate pairwise differences among the five groups using the Mann-Whitney *U* test. The results of these tests indicated significance in two of the five pairwise differences. The differences were found as follows:

Question 10

- 1 to 3 current employees to 11 to 20 current employees in the firm ($z = -2.19, p < 0.03$)
- 1 to 3 current employees to 21 to 50 current employees in the firm ($z = -2.46, p < 0.01$)
- 4 to 6 current employees to 11 to 20 current employees in the firm ($z = -2.08, p < 0.04$)
- 4 to 6 current employees to 21 to 50 current employees in the firm ($z = -2.42, p < 0.02$)
- 7 to 10 current employees to 11 to 20 current employees in the firm ($z = -3.17, p < 0.00$)
- 7 to 10 current employees to 21 to 50 current employees in the firm ($z = -3.58, p < 0.00$)

- 7 to 10 current employees to 51 to 100 current employees in the firm ($z = -3.32, p < 0.00$)

Question 11

- 1 to 3 current employees to 7 to 10 current employees in the firm ($z = -2.24, p < 0.03$)
- 4 to 6 current employees to 7 to 10 current employees in the firm ($z = -2.87, p < 0.00$)

Question 12

- 1 to 3 current employees to 7 to 10 current employees in the firm ($z = -2.30, p < 0.02$)
- 4 to 6 current employees to 7 to 10 current employees in the firm ($z = -2.02, p < 0.04$)
- 7 to 10 current employees to 21 to 50 current employees in the firm ($z = -2.81, p < 0.01$)
- 7 to 10 current employees to 51 to 100 current employees in the firm ($z = -3.32, p < 0.00$)
- 11 to 20 current employees to 21 to 50 current employees in the firm ($z = -2.28, p < 0.02$)
- 11 to 20 current employees to 51 to 100 current employees in the firm ($z = -2.65, p < 0.01$)

The follow-up test for the chi-square relationship for question 10 was as follows:

- 1 to 3 current number of employees as it was related to 21 to 50 current number of employees $\chi^2(2, N=24) = 6.93, p = 0.03$.
- 4 to 6 current number of employees as it was related to 21 to 50 current number of employees $\chi^2(2, N=12) = 6.67, p = 0.04$
- 7 to 10 current number of employees as it was related to 11 to 20 current number of employees $\chi^2(2, N=18) = 10.88, p = 0.00$
- 7 to 10 current number of employees as it was related to 21 to 50 current number of employees $\chi^2(2, N=14) = 14.00, p = 0.00$

For question 12 the follow-up tests indicated significance as follows:

- 4 to 6 current number of employees as it was related to 7 to 10 current number of employees in the firm $\chi^2(2, N=20) = 10.00, p = 0.01$
- 7 to 10 current number of employees as it was related to 21 to 50 current number of employees in the firm $\chi^2(2, N=14) = 8.56, p = 0.01$
- 7 to 10 current number of employees as it was related to 51 to 100 current numbers of employees $\chi^2(1, N=12) = 12.00, p = 0.00$
- 11 to 20 current number of employees as it was related to 51 to 100 current numbers of employees in the firm. $\chi^2(1, N=8) = 8.00, p = 0.00$

Table 15 below shows the percentage breakdown of leadership styles as they were related to the current number of employees in the business of the respondents. When the results from the Mann-Whitney *U* test were compared with Table 15, the results indicated a significant difference between company sizes of 1-10 employees and those companies with 11 or greater number of employees. The difference appeared to be that the smaller companies (1-10) were predominantly autocratic in solving problems independently when related to their business. The results of the chi-square test indicated a relationship between companies with from 1-6 employees and those reporting 21-50 employees. Both groups were more situational than participatory. An additional relationship indicated that companies sized 7-10 and those with 11-50 employees were more autocratic or situational than participatory. Overall, the majority of the respondents were autocratic in solving problems independently.

Table 16 below shows the percentage breakdown of leadership styles as they were related to the current number of employees in the business of the respondents. When the results from the Mann-Whitney *U* test were compared with Table 16, the results indicated a significant difference between company sizes of 1-6 employees and those companies with 7-10 employees.

The difference appeared to be that the smaller companies (1-6) were predominantly participatory in asking for assistance in developing business plans for their firms. Overall, the majority of the respondents were participatory in asking for assistance in developing business plans for their firms.

Table 17 below shows the percentage breakdown of leadership styles as they were related to the current number of employees in the business of the respondents. When the results from the Mann-Whitney *U* test were compared with Table 17, the results indicated a significant difference between company sizes of 7-20 employees and those companies with 21-50 employees. The difference appeared to be that the smaller companies (7-20) were predominantly participatory in asking for outside assistance when asked to perform work beyond their area of expertise. Those respondents with 51 or more employees were not considered in this analysis due to the low number of respondents. In the chi-square follow-up test, a significant relationship was indicated in companies of 4-6 employees and those with 7-10. The tests indicated that neither group was situational in their responses. Overall, the majority of the respondents were participatory in asking for outside assistance when asked to perform work beyond their area of expertise with the exception of those respondents reporting 21-50 employees, which were evenly split among the categories.

Table 15

Percentages of Leadership Styles Based on Current Number of Employees, Question 10

Question 10			QB10A			Total
			1.00	2.00	3.00	
Current Employees	1-3 employees	Count	16	3	2	21
		Expected Count	14.3	4.8	2.0	21.0
		% within Current Employees	76.2%	14.3%	9.5%	100.0%
	4-6 employees	Count	7	2	0	9
		Expected Count	6.1	2.0	.8	9.0
		% within Current Employees	77.8%	22.2%	.0%	100.0%
	7-10 employees	Count	11	0	0	11
		Expected Count	7.5	2.5	1.0	11.0
		% within Current Employees	100.0%	.0%	.0%	100.0%
	11-20 employees	Count	2	3	2	7
		Expected Count	4.8	1.6	.7	7.0
		% within Current Employees	28.6%	42.9%	28.6%	100.0%
	21-50 employees	Count	0	2	1	3
		Expected Count	2.0	.7	.3	3.0
		% within Current Employees	.0%	66.7%	33.3%	100.0%
	51-100 employees	Count	0	1	0	1
		Expected Count	.7	.2	.1	1.0
		% within Current Employees	.0%	100.0%	.0%	100.0%
	101 or more employees	Count	0	1	0	1
		Expected Count	.7	.2	.1	1.0
		% within Current Employees	.0%	100.0%	.0%	100.0%
Total		Count	36	12	5	53
		Expected Count	36.0	12.0	5.0	53.0
		% within Current Employees	67.9%	22.6%	9.4%	100.0%

Table 16

Percentages of Leadership Styles Based on Current Number of Employees, Question 11

Question 11			QB11A			Total
			1.00	2.00	3.00	
Current Employees	1-3 employees	Count	6	2	13	21
		Expected Count % within Current Employees	6.7 28.6%	2.4 9.5%	11.9 61.9%	21.0 100.0%
	4-6 employees	Count	1	0	8	9
		Expected Count % within Current Employees	2.9 11.1%	1.0 .0%	5.1 88.9%	9.0 100.0%
	7-10 employees	Count	7	2	2	11
		Expected Count % within Current Employees	3.5 63.6%	1.2 18.2%	6.2 18.2%	11.0 100.0%
	11-20 employees	Count	3	1	3	7
		Expected Count % within Current Employees	2.2 42.9%	.8 14.3%	4.0 42.9%	7.0 100.0%
	21-50 employees	Count	0	1	2	3
		Expected Count % within Current Employees	1.0 .0%	.3 33.3%	1.7 66.7%	3.0 100.0%
	51-100 employees	Count	0	0	1	1
		Expected Count % within Current Employees	.3 .0%	.1 .0%	.6 100.0%	1.0 100.0%
	101 or more employees	Count	0	0	1	1
		Expected Count % within Current Employees	.3 .0%	.1 .0%	.6 100.0%	1.0 100.0%
Total		Count	17	6	30	53
		Expected Count % within Current Employees	17.0 32.1%	6.0 11.3%	30.0 56.6%	53.0 100.0%

Table 17

Percentages of Leadership Styles Based on Current Number of Employees, Question 12

Question 12			QB12A			Total
			1.00	2.00	3.00	
Current Employees	1-3 employees	Count	3	5	13	21
		Expected Count	3.2	2.4	15.5	21.0
		% within Current Employees	14.3%	23.8%	61.9%	100.0%
	4-6 employees	Count	3	0	6	9
		Expected Count	1.4	1.0	6.6	9.0
		% within Current Employees	33.3%	.0%	66.7%	100.0%
	7-10 employees	Count	0	0	11	11
		Expected Count	1.7	1.2	8.1	11.0
		% within Current Employees	.0%	.0%	100.0%	100.0%
	11-20 employees	Count	0	0	7	7
		Expected Count	1.1	.8	5.2	7.0
		% within Current Employees	.0%	.0%	100.0%	100.0%
	21-50 employees	Count	1	1	1	3
		Expected Count	.5	.3	2.2	3.0
		% within Current Employees	33.3%	33.3%	33.3%	100.0%
	51-100 employees	Count	1	0	0	1
		Expected Count	.2	.1	.7	1.0
		% within Current Employees	100.0%	.0%	.0%	100.0%
	101 or more employees	Count	0	0	1	1
		Expected Count	.2	.1	.7	1.0
		% within Current Employees	.0%	.0%	100.0%	100.0%
Total		Count	8	6	39	53
		Expected Count	8.0	6.0	39.0	53.0
		% within Current Employees	15.1%	11.3%	73.6%	100.0%

The fourth category showing significance was the average number of years the employees had been with the respondent's firm. The only question indicating significance in Kruskal-Wallis test was number 3 ($\chi^2(3, N=52) = 7.99, p = 0.05$), while question 18 indicated significance in the chi-square test $\chi^2(6, N=51) = 12.49, p = 0.05$. Follow-up tests were conducted on question 3 to evaluate pairwise differences among the four groups using the Mann-Whitney U test. The results of these tests indicated significance in three of the six pairwise differences. The differences on question 3 were found as follows:

- 0 to 5 years of average employment of employee to 11 to 15 years of average employment of the employees in the firm ($z = -2.59, p < 0.01$)
- 6 to 10 years of average employment of employees to 11 to 15 years of average employment of the employees in the firm ($z = -2.37, p < 0.02$)
- 11 to 15 years of average employment of employees to 16 years or longer of average employment of the employees in the firm ($z = -2.06, p < 0.04$)

The follow-up test for the chi-square relationship for question 18 was as follows:

- 0 to 5 years of average employment by the employees as it was related to 6 to 10 years of average employment by the employees in the firm $\chi^2(2, N=28) = 6.05, p = 0.05$
- 11 to 15 years of average employment by the employees as it was related to 16 years or longer of average employment by the employees in the firm $\chi^2(2, N=19) = 7.72, p = 0.02$.

Table 18 below shows the percentage breakdown of Leadership styles as they were related to the average number of years employees had been with the respondents' company. When the results from the Mann-Whitney U test were compared with Table 18, the results indicated that the significant difference in the categories was related to respondents who reported

having employees for 11-15 years and showed no response in the situational category. Overall, those respondents were participatory in sharing their vision of the business with others. The only exception was those respondents who reported employees that had been with the company 16 years or longer indicating an equal split among the categories.

Table 18

Percentages of Leadership Styles Based on Average Number of Years Employees Have Been with Respondents' Companies, Question 3

Question 3			QB3A			Total
			1.00	2.00	3.00	
Average years employees w/company	0-5 years	Count	6	5	15	26
		Expected Count	6.0	4.5	15.5	26.0
		% within Years with Employer	23.1%	19.2%	57.7%	100.0%
	6-10 years	Count	4	3	9	16
		Expected Count	3.7	2.8	9.5	16.0
		% within Years with Employer	25.0%	18.8%	56.3%	100.0%
	11-15 years	Count	1	0	6	7
		Expected Count	1.6	1.2	4.2	7.0
		% within Years with Employer	14.3%	.0%	85.7%	100.0%
	16 years or longer	Count	1	1	1	3
		Expected Count	.7	.5	1.8	3.0
		% within Years with Employer	33.3%	33.3%	33.3%	100.0%
Total		Count	12	9	31	52
		Expected Count	12.0	9.0	31.0	52.0
		% within Years with Employer	23.1%	17.3%	59.6%	100.0%

Table 19 below shows the percentage breakdown of leadership styles as they were related to the average number of years employees had been with the respondent's company. When the results from the chi-square follow-up test were compared with Table 19, the results indicated that the significant relationship in the categories was connected to respondents who reported having employees from 0-10 years showing lower participatory scores than those with employees who had been with the firm for a longer period of time.

Table 19

Percentages of Leadership Styles Based on Average Number of Years Employees Have Been with Respondent's Company, Question 18

Question 18			QB18A			Total
			1.00	2.00	3.00	
Average years employees w/company	0-5 years	Count	15	3	7	25
		Expected Count	13.2	2.9	8.8	25.0
		% within Years with Employer	60.0%	12.0%	28.0%	100.0%
	6-10 years	Count	10	3	3	16
		Expected Count	8.5	1.9	5.6	16.0
		% within Years with Employer	62.5%	18.8%	18.8%	100.0%
	11-15 years	Count	2	0	5	7
		Expected Count	3.7	.8	2.5	7.0
		% within Years with Employer	28.6%	.0%	71.4%	100.0%
	16 years or longer	Count	0	0	3	3
		Expected Count	1.6	.4	1.1	3.0
		% within Years with Employer	.0%	.0%	100.0%	100.0%
Total	Count	27	6	18	51	
	Expected Count	27.0	6.0	18.0	51.0	
	% within Years with Employer	52.9%	11.8%	35.3%	100.0%	

The fifth category showing significance was the current business structure used by the respondents. Questions 12 and 18 indicated significance in the Kruskal-Wallis test (See Table 20 below), while questions 3, 6, 10, and 12 indicated significance in the chi-square test (See Table 26). Follow-up tests were conducted to evaluate pairwise differences among the four groups using the Mann-Whitney *U* test; however, the group for partnership was not considered as it contained only one respondent. The results of the Mann-Whitney *U* test showed no significance in any of the pairwise differences on question 12. When the Mann-Whitney *U* test was performed on question 18, the results indicated only one significant difference between sole proprietors and LLCs ($z = -3.05, p < 0.00$). When question 18 was compared with the results in Table 21 below, sole proprietors were shown to be more autocratic than were those respondents in LLCs, who were more participatory in community organizations.

Table 20

Kruskal-Wallis Test for Significance for Current Business Structures of the Respondents' Firms

	QB12	QB18
Chi-square	11.516	8.458
df	3	3
Asymp. Sig.	.009	.037

a Kruskal Wallis Test

b Grouping Variable: Type of Business

Table 21

Percentages of Leadership Styles Based on Business Structures of Respondents, Question 18

Question 18			QB18A			Total
			1.00	2.00	3.00	
Type of Business	Sole Proprietorship	Count	14	3	3	20
		Expected Count	10.8	2.3	6.9	20.0
		% within Business Structure	70.0%	15.0%	15.0%	100.0%
	Partnership	Count	0	0	1	1
		Expected Count	.5	.1	.3	1.0
		% within Business Structure	.0%	.0%	100.0%	100.0%
	Corporation	Count	12	1	8	21
		Expected Count	11.3	2.4	7.3	21.0
		% within Business Structure	57.1%	4.8%	38.1%	100.0%
	LLC	Count	2	2	6	10
		Expected Count	5.4	1.2	3.5	10.0
		% within Business Structure	20.0%	20.0%	60.0%	100.0%
Total		Count	28	6	18	52
		Expected Count	28.0	6.0	18.0	52.0
		% within Business Structure	53.8%	11.5%	34.6%	100.0%

The follow-up test for the chi-square relationship for question 3 showed one significant relationship of Sole Proprietor structured businesses as it was related to Corporate structured businesses ($\chi^2(2, N=42) = 7.16, p = 0.03$). When the results of the follow-up tests were compared with Table 22 below, the significant relationship appeared to be in the situational category as it related to the respondents sharing their vision of the business with others.

Table 22

Percentages of Leadership Styles Based on Business Structures of Respondents, Question 3

Question 3			QB3A			Total
			1.00	2.00	3.00	
Type of Business	Sole Proprietorship	Count	9	2	9	20
		Expected Count	5.2	3.3	11.4	20.0
		% within Business Structure	45.0%	10.0%	45.0%	100.0%
	Corporation	Count	2	5	15	22
		Expected Count	5.8	3.7	12.6	22.0
		% within Business Structure	9.1%	22.7%	68.2%	100.0%
Total		Count	11	7	24	42
		Expected Count	11.0	7.0	24.0	42.0
		% within Business Structure	26.2%	16.7%	57.1%	100.0%

For the follow-up on question 6, the tests results indicated two significant relationships:

- Sole Proprietor to LLC, $\chi^2(2, N=30) = 9.23, p = 0.01$
- Corporation to LLC, $\chi^2(2, N=32) = 6.79, p = 0.03$

When the results of the follow-up test were compared to Table 23 below, they indicated that all three structures were autocratic in that they act independently when necessary.

Table 23

Percentages of Leadership Styles Based on Business Structures of Respondents Question 18

Question 18			QB18A			Total
			1.00	2.00	3.00	
Type of Business	Sole Proprietorship	Count	20	0	0	20
		Expected Count	18.1	1.5	.4	20.0
		% within Business Structure	100.0%	.0%	.0%	100.0%
	Partnership	Count	1	0	0	1
		Expected Count	.9	.1	.0	1.0
		% within Business Structure	100.0%	.0%	.0%	100.0%
	Corporation	Count	21	1	0	22
		Expected Count	19.9	1.7	.4	22.0
		% within Business Structure	95.5%	4.5%	.0%	100.0%
	LLC	Count	6	3	1	10
		Expected Count	9.1	.8	.2	10.0
		% within Business Structure	60.0%	30.0%	10.0%	100.0%
Total	Count	48	4	1	53	
	Expected Count	48.0	4.0	1.0	53.0	
	% within Business Structure	90.6%	7.5%	1.9%	100.0%	

When question 10 was tested by the follow-up methods, the results indicated two significant relationships:

- Sole Proprietor to Corporation, $\chi^2(2, N=42) = 6.49, p = 0.04$
- Sole Proprietor to LLC, $\chi^2(2, N=30) = 6.15, p = 0.05$

When the results of the follow-up test were compared to Table 24 below, they indicated that the significant relationship was that all three structures were autocratic in acting independently in solving problems or working in their companies.

Table 24

Percentages of Leadership Styles Based on Business Structures of Respondents, Question 10

Question 10			QB10A			Total
			1.00	2.00	3.00	
Type of Business	Sole Proprietorship	Count	18	1	1	20
		Expected Count	13.6	4.5	1.9	20.0
		% within Business Structure	90.0%	5.0%	5.0%	100.0%
	Partnership	Count	0	1	0	1
		Expected Count	.7	.2	.1	1.0
		% within Business Structure	.0%	100.0%	.0%	100.0%
	Corporation	Count	12	6	4	22
		Expected Count	14.9	5.0	2.1	22.0
		% within Business Structure	54.5%	27.3%	18.2%	100.0%
	LLC	Count	6	4	0	10
		Expected Count	6.8	2.3	.9	10.0
		% within Business Structure	60.0%	40.0%	.0%	100.0%
Total		Count	36	12	5	53
		Expected Count	36.0	12.0	5.0	53.0
		% within Business Structure	67.9%	22.6%	9.4%	100.0%

Question 12 showed one significant relationship, Sole Proprietor to Corporation, $\chi^2(2, N=42) = 8.63, p = 0.01$. Additionally, question 16 indicated only one significant relationship of Sole Proprietor to Corporation, $\chi^2(2, N=42) = 6.48, p = 0.04$. When the results of the follow-up test were compared to Table 25 below, they indicated that the significant relationship was that sole proprietors and corporation were more participatory in seeking professional help when confronted by client requests for which they felt unqualified.

Table 25

Percentages of Leadership Styles Based on Business Structures of Respondents, Question 12

Question 12			QB12A			Total
			1.00	2.00	3.00	
Type of Business	Sole Proprietorship	Count	6	4	10	20
		Expected Count	3.0	2.3	14.7	20.0
		% within Business Structure	30.0%	20.0%	50.0%	100.0%
	Partnership	Count	0	1	0	1
		Expected Count	.2	.1	.7	1.0
		% within Business Structure	.0%	100.0%	.0%	100.0%
	Corporation	Count	1	1	20	22
		Expected Count	3.3	2.5	16.2	22.0
		% within Business Structure	4.5%	4.5%	90.9%	100.0%
	LLC	Count	1	0	9	10
		Expected Count	1.5	1.1	7.4	10.0
		% within Business Structure	10.0%	.0%	90.0%	100.0%
	Total	Count	8	6	39	53
		Expected Count	8.0	6.0	39.0	53.0
		% within Business Structure	15.1%	11.3%	73.6%	100.0%

The follow-up test for the chi-square relationship for question 16 showed one significant relationship of Sole Proprietor structured businesses as it was related to Corporate structured businesses ($\chi^2(2, N=42) = 6.48, p = 0.04$). When the results of the follow-up test were compared with Table 26 below, the significant relationship appeared to be in the situational category as it related to the respondents sharing their vision of the business with others.

Table 26

Chi Square Test for Significance for Current Business Structures

	QB3	QB6	QB10	QB12
Chi-square	13.02	14.12	12.96	18.70
df	6	6	6	6
Asymp. Sig.	0.04	0.03	0.04	0.00

The sixth category showing significance was related to the service population served by the respondents' business. When the Kruskal-Wallis test was conducted, questions 12 and 20, both customer-based questions, showed significance. The test results for question 12 were $\chi^2(3, N=53) = 12.51, p = 0.01$, while question 20 was $\chi^2(3, N=53) = 8.82, p = 0.03$. In the chi-square test, question 12 a showed a significant relationship $\chi^2(6, N=53) = 12.99, p = 0.04$. Follow-up tests were conducted to evaluate pairwise differences among the four groups using the Mann-Whitney *U* test. The results of the Mann-Whitney *U* test showed four significant responses in the pairwise differences on question 12; while on question 20, there were three significant differences.

For question 12 the four responses were as follows:

- When service populations of less than 20,000 were compared to populations of 20,000 to 49,999, the results were $z = -1.96, p < 0.05$
- When service populations of less than 20,000 were compared to populations of 100,000 or more, the results were $z = -2.16, p < 0.03$
- When service populations of 20,000 to 49,999 were compared to populations of 50,000 to 99,999, the results were $z = -2.63, p < 0.01$

- When service populations of 50,000 to 99,999 were compared to populations of 100,000 or more, the results were $z = -2.91, p < 0.00$

The follow-up tests results for the chi-square test on question 12 were as follows:

- Service population of less than 20,000 as they related to service population of 20,000 to 49,999, the results were $\chi^2(2, N=20) = 6.52, p = 0.04$
- Service population of 20,000 to 49,999 as they related to service population of 50,000 to 99,999, the results were $\chi^2(2, N=21) = 7.64, p = 0.02$
- Service population of 50,000 to 99,999 as they related to service population of 100,000 or more, the results were $\chi^2(2, N=33) = 6.76, p = 0.04$

The follow-up test for both Kruskal-Wallis and the chi-square relationship for question 12 showed significance with the service population. In analyzing the Mann-Whitney U test, the significant difference was that service populations (See Table 27 below) of less than 20,000 and 50,000 to 99,999 were split between the leadership categories, while the service population of 20,000 to 49,999 and over 100,000 were more participatory in seeking outside professional help when confronted by client requests to perform work for which they felt unqualified. In the chi-square follow-up test, the significant relationship between all the service population categories was that they were participatory in relation to seeking outside professional help when confronted by client requests to perform work for which they felt unqualified.

Table 27

Percentages of Leadership Styles Based on Service Population, Question 12

Question 12			QB12A			Total
			1.00	2.00	3.00	
Service Population	Less than 20,000	Count	2	2	3	7
		Expected Count	1.1	.8	5.2	7.0
		% within Service Population	28.6%	28.6%	42.9%	100.0%
	20,000-49,999	Count	1	0	12	13
		Expected Count	2.0	1.5	9.6	13.0
		% within Service Population	7.7%	.0%	92.3%	100.0%
	50,000-99,999	Count	3	2	3	8
		Expected Count	1.2	.9	5.9	8.0
		% within Service Population	37.5%	25.0%	37.5%	100.0%
	100,000 or more	Count	2	2	21	25
		Expected Count	3.8	2.8	18.4	25.0
		% within Service Population	8.0%	8.0%	84.0%	100.0%
Total		Count	8	6	39	53
		Expected Count	8.0	6.0	39.0	53.0
		% within Business Structure	15.1%	11.3%	73.6%	100.0%

The Mann-Whitney U follow-up test for question 20 indicated two significant differences.

- When service populations of 20,000 to 49,999 were compared to populations of 100,000 or more, the results were $z = -2.34, p < 0.02$.
- When service populations of 50,000 to 99,999 were compared to populations of 100,000 or more, the results were $z = -2.48, p < 0.01$.

When the Mann-Whitney *U* test was compared with Table 28 below, the significant differences in the service population indicated that, in areas of over 100,000 or more, the respondents were more participatory, while in areas of 50,000 to 99,999, the respondents were situational and in areas of 20,000 to 49,999, the respondents were split among the leadership categories when asked to seek outside assistance to improve their quality of service to their clients.

Table 28

Percentages of Leadership Styles Based on Service Population, Question 20

Question 20			QB20A			Total
			1.00	2.00	3.00	
Service Population	Less than 20,000	Count	2	1	4	7
		Expected Count % within Service Population	1.3 28.6%	2.5 14.3%	3.2 57.1%	7.0 100.0%
	20,000-49,999	Count	4	5	4	13
		Expected Count % within Service Population	2.5 30.8%	4.7 38.5%	5.9 30.8%	13.0 100.0%
	50,000-99,999	Count	2	5	1	8
		Expected Count % within Service Population	1.5 25.0%	2.9 62.5%	3.6 12.5%	8.0 100.0%
	100,000 or more	Count	2	8	15	25
		Expected Count % within Service Population	4.7 8.0%	9.0 32.0%	11.3 60.0%	25.0 100.0%
Total		Count	10	19	24	53
		Expected Count % within Business Structure	10.0 18.9%	19.0 35.8%	24.0 45.3%	53.0 100.0%

The seventh category showing significance was related to operating the firm with a business plan. When the Kruskal-Wallis test was performed, only question 16 indicated significance, while question 3 indicated a relationship in the chi-square test. The test results for question 16 were $\chi^2(1, N=53) = 5.86, p = 0.02$, while question 3 in the chi-square test was $\chi^2(2, N=53) = 5.99, p = 0.05$. Follow-up tests for Kruskal-Wallis indicated ($z = -2.42, P < 0.02$) in the Mann-Whitney U test. The follow-up test for the chi-square test on question 3 was inconclusive due to only two variables relating to managing with a business plan.

The eighth category dealing with holding office in the local professional organization showed significance only in Kruskal-Wallis on question 12. The results of the Kruskal-Wallis test were $\chi^2(1, N=53) = 5.20, p = 0.02$. The follow-up tests indicated ($z = -2.28, P < 0.02$) in the Mann-Whitney U test.

Research Question 5:

The research question was stated as follows: What leadership style is prevalent among owners of small land surveying businesses? The demographic factors considered in this question were: gender, ethnicity, age, educational background, number of years in business, current number of employees, number of years employees have been with the company, business structure, service population, managing with a business plan, major in college, holding offices in either local, state, or national in professional organizations, and profit. With seven exceptions, those of the age of the respondents, ethnicity, gender, major in college, profit, holding office at a state level, and holding office at the national level, all demographic categories showed significance in the external and internal environments using, either Kruskal-Wallis or chi-square

or both. All 20 questions submitted to respondents on the questionnaire were considered in analyzing this question.

The respondents were asked to answer each question as almost never, seldom, sometimes, often, or almost always. The data were analyzed using descriptive statistics, Kruskal-Wallis K Independent Samples procedure and one-way chi-square test with follow-up tests for both when there were indications of significance.

In Table 29 below, the respondents' answers to all 20 questions were statistically compiled to analyze whether or not a particular leadership style emerged. The results indicated that there was no overwhelming leadership style predominant in small land surveying businesses. Participative leadership carried the most weight at 50.30% with autocratic leadership showing 30.10 % and situational leadership at 18.70%. In research questions 3 and 4, which pertained to the internal and external environments of the respondents' businesses, the results indicated a mixed style of leadership. These results can be seen in Tables 30 and 31 below. In Table 30, the responses to the question about the external environment were split between participatory and autocratic, while the internal results in Table 31 were largely participatory.

Table 29

Overall Leadership Style of Respondents to Question 1-20

Overall Leadership Style Responses				Total
	Autocratic	Situational	Participatory	
Question 1	1.90%	18.90%	77.40%	98.20% *
Question 2	11.30%	26.40%	62.30%	100.00%
Question 3	24.50%	17.00%	58.50%	100.00%
Question 4	17.00%	17.00%	64.20%	98.20% *
Question 5	20.80%	28.30%	47.20%	96.30% *
Question 6	90.60%	7.50%	1.90%	100.00%
Question 7	7.50%	22.60%	67.90%	98.00% *
Question 8	20.80%	11.30%	66.00%	98.10% *
Question 9	37.70%	24.50%	35.80%	98.00% *
Question 10	67.90%	22.60%	9.40%	100.00%
Question 11	32.10%	11.30%	56.60%	100.00%
Question 12	15.10%	11.30%	73.60%	100.00%
Question 13	3.80%	24.50%	71.70%	100.00%
Question 14	39.60%	20.80%	39.60%	100.00%
Question 15	47.20%	13.20%	39.60%	100.00%
Question 16	75.50%	13.20%	11.30%	100.00%
Question 17	9.40%	28.30%	58.50%	96.20% *
Question 18	52.80%	11.30%	34.00%	98.10% *
Question 19	7.50%	7.50%	85.00%	100.00%
Question 20	18.90%	35.80%	45.30%	100.00%
Average Total	30.10%	18.70%	50.30%	99.10% *

*Total is based on responses, if the total is less than 100% it indicates that a respondent did not answer the question.

Table 30

Overall Leadership Style of Respondents to External Questions

External Questions	Autocratic	Situational	Participatory	Total
Question 2	11.30%	26.40%	62.30%	100.00%
Question 5	20.80%	28.30%	47.20%	96.30% *
Question 6	90.60%	7.50%	1.90%	100.00%
Question 9	37.70%	24.50%	35.80%	98.00% *
Question 10	67.90%	22.60%	9.40%	100.00%
Question 11	32.10%	11.30%	56.60%	100.00%
Question 12	15.10%	11.30%	73.60%	100.00%
Question 15	47.20%	13.20%	39.60%	100.00%
Question 16	75.50%	13.20%	11.30%	100.00%
Question 18	52.80%	11.30%	34.00%	98.10% *
Question 20	18.90%	35.80%	45.30%	100.00%
Average Total	42.71%	18.67%	37.91%	99.31% *

*Total is based on responses, if the total is less than 100% it indicates that a respondent did not answer the question.

Table 31

Overall Leadership Style of Respondents to Internal Questions

Internal Questions	Autocratic	Situational	Participatory	Total
Question 1	1.90%	18.90%	77.40%	98.20% *
Question 3	24.50%	17.00%	58.50%	100.00%
Question 4	17.00%	17.00%	64.20%	98.20% *
Question 7	7.50%	22.60%	67.90%	98.00% *
Question 8	20.80%	11.30%	66.00%	98.10% *
Question 13	3.80%	24.50%	71.70%	100.00%
Question 14	39.60%	20.80%	39.60%	100.00%
Question 17	9.40%	28.30%	58.50%	96.20% *
Question 19	7.50%	7.50%	85.00%	100.00%
Average Total	14.67%	18.66%	65.42%	98.74% *

*Total is based on responses, if the total is less than 100% it indicates that a respondent did not answer the question.

Research Question 6:

Research question 6 asked: What are the patterns of responses to open-ended questions in the demographic section of the questionnaire? The demographic questions considered in the response to Research Question 6 were Questions 23, 25, 30, and 32, which were phrased as open-ended.

Question 23 of the demographic section asked the respondents to list the last 5 major decisions they made for their business. There were 10 respondents who did not answer the question. In both the states of Tennessee and Virginia, equipment purchases (Tennessee 79.17% and Virginia 89.47%) ranked as number one among the respondents, with hiring of new employees ranking second (Tennessee 41.67% and Virginia 47.37%). Relocation of the business was ranked as number three in both states, with Tennessee reporting 20.83% and Virginia, 31.58%. Other items in Tennessee included: size of the company (16.67%) and decisions concerning project management (20.83%). In Virginia, the opening of a branch office was ranked third at 21.05%.

Question 25 of the demographic section was based on affirmative answers to Question 24, which asked about consulting with others. Question 25 asked the respondents to list those with whom they consulted in making business decisions. In Tennessee and Virginia, ten respondents from each state did not answer the question. In Tennessee, the respondents overwhelming replied that they consulted with other professional land surveyors (50%), while in Virginia the response was split between employees and family members at 46.15% for each group. In both states accountants ranked second. In Tennessee, employees tied with accountants for second ranking with attorneys third and family members fourth. In Virginia, attorneys and surveyors tied with accountants for the second ranking.

Question 30 was contingent on affirmative responses to Question 29, which asked if the respondent asked for help in developing or updating a business plan for the firm. Question 30 inquired about whom the respondent asked for that assistance. In Tennessee, only 5 owners responded to the question and of those accountants, employees, and attorneys were equally ranked. In Virginia, there were 7 respondents who ranked accountants first with attorneys and family members tied for second place.

Question 32 asked about benefit packages offered to employees. In Tennessee, eight respondents did not answer the question with 4 not responding in Virginia. In both states the overwhelming response to benefits offered was paid vacation as the highest ranking (Tennessee 100% and Virginia 94.74%), with medical insurance ranking second (Tennessee 54.55% and Virginia 89.47%) and sick leave (Tennessee 50.00% and Virginia 63.16%) occupying the third spot. The benefits packages in Virginia were more diversified than those in Tennessee and Virginia firms tended to offer retirement benefits more frequently.

Summary

Chapter 4 offered data analysis and Chapter 5 provides a summary of the findings, conclusions, and recommendations for further study.

CHAPTER 5

SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

Many texts were written over the years that dealt with leadership in general and the different styles used in the worlds of business and education. This was borne out by the vast number of journal articles based on research performed since the start of the twentieth century. Most authors studied organizational effectiveness, goal accomplishment, and productivity within large corporations. In a reviewing the literature on leadership styles for this study, many articles and books were examined to understand the current theories of leadership. According to Fiedler (1970), a “ leader [is] the individual in charge of a group who is given the task of directing and coordinating the task-relevant activity or [one] who carries the primary responsibility” (p. 1). The literature discussed a variety of leadership theories, dealing with contingency, situational, transformational, and transactional styles in large organizations and in educational settings. However, little work was published on small business leaders and the styles of leadership necessary for surviving with little or no depth of middle management. The problem in this study was to determine whether one style of leadership was predominant among small land surveying firms in the states of Tennessee and Virginia.

After reviewing a variety of standardized questionnaires, it was determined that no one format covered the information required for this study. Therefore, the researcher developed a 20-question Likert-type scale to assess small business leadership styles and to determine whether those styles were participative/transformational, autocratic/transactional, or

situational/contingency. In addition, a demographic profile accompanied each questionnaire and findings and relationships were established between leadership styles and demographics.

Findings

The findings of the study were related to the six research questions set forth at the outset and based on questionnaire responses concerning leadership styles as well as demographic information supplied by owners of small land surveying businesses in both Tennessee and Virginia. The initial sample for the study included 100 respondents, 50 from each state, but two requests for information from Tennessee surveyors were returned due to insufficient addresses. Thus, the final number was N-98 and the study was based on a 54.00% return rate. The leadership styles addressed in the questionnaire included: autocratic, situational, and participative.

Research Question 1

To address research question one, what styles of leadership do the majority of owners of small surveying businesses use in managing internal affairs, frequencies and descriptive statistics were used to evaluate responses classed as internal questions.

In eight of the nine questions (88.90%) relating to the internal environment, the respondents overwhelmingly reported participative style leadership. Owners' responses ranged from 58.50% in question 3 to 84.90% in question 19. The highest response was related to team efforts (question 19), with an 84.90% participative response. Other high participative scores related to listening to employees or others (questions 1 and 13), with scores of 78.9 % participatory ($\mu = 4.15$, $\zeta = 0.872$) and 71.6 % participatory ($\mu = 4.02$, $\zeta = 0.930$), respectively.

Related to the transformational style, participative leadership includes group decision making, team spirit, supportive relationships, and high goals (Shankar, Ansari, & Saxena, 1994). In this study these qualities were particular to the internal environment that involved direct associations with employees and the inner workings of the business. According to Willower (1960, Oct.),

The leader expects subordinates to work things out for themselves, each in his own way. He expects subordinates to behave in ways which meet their personal needs. He sees his authority as delegated and emphasizes that rules and procedures have to be tailored to the individual subordinate's personality. (p. 59)

In this study the questions related to the internal environment supported the statement above. Those questions were associated with the owner's response to his employees' input into problem solving, team work, and independent decision making.

The nature of the small land surveying business has been traditionally based in team orientation. Surveyors are familiar with working in crews, usually composed of two to three persons. In the normal working relationship of the field crew, each member is expected to perform his or her job and assist in the completion of the overall project. In the land surveying profession from the outset, employees are exposed to working in a highly participatory milieu. As they progress through the ranks, they gain more responsibility, as well as learning to trust their fellow crew members to perform their duties and assume responsibilities. Therefore, in this particular profession, the owners learn from the first day of their careers to manage and work in a participatory style to complete task and projects in a timely manner.

Research Question 2

To address research question two, what styles of leadership do the majority of owners of small surveying businesses use in managing external affairs, frequencies and descriptive statistics were used to evaluate responses classed as external questions. To facilitate answering this research question, the leadership style portion of the questionnaire concentrated on the external methods of leadership. Questions representing the external environment of a small land surveying business were designed to test leadership styles of owners in managing affairs related to clients, overall business plans, and problem solving related to running the company, excluding those areas related to the internal segment. Additionally, two questions addressed the owners' responses to questions related to client based, external environments.

The response rate varied on questions related to the external environment of the business. In some responses the owners' answers indicated a participative style of leadership, while other questions indicated an autocratic style of leadership. The autocratic responses varied in the business areas from acting independently and seeking outside consultants to active participation in professional organizations within the respondent's community. In questions 9 (38.5%, $\mu = 3.02$, and $\zeta = 1.393$), 10 (38.5%, $\mu = 3.87$, and $\zeta = 1.057$) and 15 (47.2%, $\mu = 2.94$, and $\zeta = 1.486$), the analysis leaned toward a more autocratic approach but there was little appreciable difference between those who responded as autocratic and those who answered as participative. Question 5 showed a participative response, 49.0%, but moved toward situational at 29.4% ($\mu = 2.53$ and $\zeta = 1.347$). In the client based questions, the study showed a participative style of leadership when owners dealt with problems initiated by their clients. Question 12 (73.6%, $\mu = 4.06$ and $\zeta = 1.336$) indicated that owners were willing to seek help from outside sources when confronted with problems they felt unqualified to handle alone due to lack of education.

Question 20 was not overwhelmingly decisive but was closer to a situational response at 35.8% ($\mu = 2.57$ and $\zeta = 1.248$).

Overall, the responses to the external questions indicated an autocratic leadership style. According to Willower (1960), an autocratic “leader expects subordinates to do things ‘by the book.’ He expects subordinates to behave in strict conformity to organizational requirements” (p. 59). Other characteristics of the autocratic leader involved his emphasizing rules and procedures, enforcing proper behavior, and operating on a *quid pro quo* basis (Willower, 1960).

In this study the questions related to the external environment supported the statement above. Those questions were associated with the owner’s response to outside consulting, sharing a vision of the business with others, and independent problem solving. In the two questions related to client-based situations, the respondents were more participatory than autocratic, which indicated that the owners adjusted their leadership style to fit the needs of the moment.

In most small businesses, the owners are responsible for making the decisions that affect the overall performance of the company. In the land surveying profession, those owners are required to make independent decisions on everything affecting the business from payroll to professional liability to familiarity with the legal system to creating and honoring contractual agreements. This environment creates a need for independent control of the company and autonomous decision making. While these aspects of the company lend themselves to an autocratic approach to leadership, client relationships require the flexibility to include participatory leadership in providing the necessary services to meet the clients’ demands.

Research Question 3

To address research question three, what demographic factors reflect internal leadership styles in small surveying businesses, Kruskal-Wallis and chi-square tests were used to evaluate responses classed as internal questions as related to demographic responses. To facilitate answering this research question, the leadership style portion of the questionnaire was evaluated to assess the relationship or differences found in the demographic information. The demographic information affecting the internal environment included the size of companies, longevity of employees with the respondents, business structures of the respondents' firms, and whether respondents had served at one or another as an officer in their local professional organization.

In the two questions related to overtime, the statistical tests indicated three significant categories with relation to the size of the companies, longevity of the employees with the companies, and the business structure of the companies. In larger companies of 6 or more employees, the respondents were more likely to ask their employees to work longer hours than were the smaller firms. In addition, overtime was significant in the companies when employees had been with the firm from 6-10 years and 16 years or longer were less likely to work overtime. Furthermore, sole proprietor owned companies were more likely to ask employees to work overtime than other business structures were.

Those respondents who reported their business structure as sole proprietorship, usually employed between 1-3 employees; additionally, their employees were reported as staying with the company from 0-5 years. There appeared to be some connection between firm size, longevity of employees, and business structure as they related to overtime. "Effectiveness

depends on the leader, the followers, and situational elements. Leaders must be able to diagnose their own behavior in light of their environments” (Blanchard & Hersey, 1996, p. 44).

Research Question 4

To address research question 4, what demographic factors reflect external (external) leadership styles in small surveying businesses, Kruskal-Wallis and chi-square tests were used to evaluate responses classed as external (external) questions as related to demographic responses. To facilitate answering this research question, the leadership style portion of the questionnaire was evaluated to assess the relationship or differences found in the demographic information. The demographic information affecting the external environment included the size of companies, longevity of employees with the respondents, business structures of the respondent’s firms, and whether respondents had served at one or another as an officer in their local professional organization.

Six of the demographic categories showed significance when analyzed with the leadership questionnaire. The results of this analysis indicated that the more education the recipients had, the more autocratic they were when seeking outside assistance in developing goals and direction for the business. In addition, the longer a company was in business, the more independent the owners became in solving problems; however, all categories were basically autocratic in their responses.

When the size of the company was a factor, the results were varied. If respondents were solving problems related to the company, the smaller firms were more autocratic than the larger firms; however, in developing business plans, the respondents, regardless of size, were

participatory. All sizes of companies indicated a tendency toward participatory leadership when dealing with clients and clients' needs.

Related to the longevity of the employees with the company, those firms with employees who had been with the company the longest tended to be more participatory than those who were employed for the least amount of time. This could also be related to business structure because the indications of this study showed that sole proprietorships whose owners were more autocratic had the highest turnover rate for employees, while corporations were more participatory in nature and retained employees longer periods of time.

The final category of service population indicated a variety of responses contingent on size of the service area. In larger population areas (100,000 or more), companies appeared to be more participatory, while mid-sized communities (50,000-99,999) leaned more toward situational leadership. In the smallest communities (less than 50,000), the owners were split between participatory and situational. Overall, the responses indicated a tendency to autocratic leadership in dealing with external environments unless those situations were client-based.

Professional surveyors appear to be highly independent when making decisions about the external affairs of their firms. It is possible to “obtain a measure of effectiveness not just a single behavior but rather a pattern of choices. The unit of analysis now becomes the individual respondent, not an individual decision” (Vroom & Jago, 1995, p. 173).

Research Question 5

To address research question five, what leadership style is prevalent among owners of small land surveying businesses, frequencies and descriptive statistics were used to evaluate all leadership style questions. The data were analyzed using descriptive statistics, Kruskal-Wallis K

Independent Samples procedure, and one-way chi-square test with follow-up tests for both when there were indications of significance.

The respondents' answers to all 20 questions were statistically compiled to analyze whether or not a particular leadership style emerged. The overall results indicated a participatory style of leadership was predominant in small land surveying businesses. Although participative leadership carried the most weight at 50.30%, it was not an overwhelming majority response. In research questions 3 and 4, which pertained to the internal and external environments of the respondents' businesses, the results indicated a mixed style of leadership. The responses to the question about the external environment were split between participatory and situational, while the internal results were largely participatory. Overall, the leadership style preferred by the majority of the respondents to this study was participatory.

According to Hersey and Blanchard (1969), "Empirical studies tend to show that there is no normative (best) style of leadership" (p. 27). The overall effectiveness of a leader is co-dependent on others and other situational elements. Therefore, no single ideal leadership behavior can be classified as appropriate in all situations (Hersey & Blanchard).

Research Question 6

Research Question 6 related to the four open-ended questions in the demographic section of the questionnaire. The patterns of response were assessed in each of the four open-ended questions. In Question 23, the majority of the surveyors in both states were primarily concerned with purchasing new equipment, such as total stations, Global Positioning Systems, and software, and in hiring new employees. The hiring of new employees related to the results

section and showed that the majority of the sole-proprietorship companies had the greatest turnover rates.

Question 25 investigated whether they consulted with others before making major decisions concerning the operation of the company and, if so, with whom did they consult. In Tennessee, the majority (50.00%) of those respondents who answered this question indicated that they had consulted with other professional land surveyors in making business decisions, while Virginia reported that they primarily consulted with employees and family members. In Tennessee, those who responded to this question only consulted with outside experts 35% to 40% of the time. In Virginia, the respondents only used outside consultants 23% of the time. This related to the statistical analysis in Research Question 4 that showed reticence to consult with outside professionals.

Question 30 had the lowest response rate because it related to using or updating a business plan to manage the company. Only 32.08% of the respondent to this study indicated that they managed their company with a business plan. Question 30 asked who assisted those responding in developing or updating that plan. In Tennessee, only 16.67% of the sample responded to this question with those respondents reporting accountants and attorneys were used in developing the business plan. In Virginia, 30.43% reported accountants, attorneys, and families as primarily responsible for assisting in the development of business plans.

Question 32 asked the respondents what benefit packages they offered to employees of their companies. In both Tennessee and Virginia, the overall response was paid vacations and medical insurance. Virginia indicated an additional benefit of retirement plans in 50.00% of the respondents. This same benefit was indicated in only 9.09% of the respondents' companies in Tennessee.

Conclusions

This study viewed the leadership styles of owners of small land surveying businesses in the states of Tennessee and Virginia to determine what style was currently being employed by the majority of the respondents. In dealing with personnel, projects, and clients, the majority of the respondents were participatory in their leadership style. On the other hand, when the owners of the companies were faced with decisions related to the operation of their companies in an external environment, response tended to be more autocratic in nature. The results of this study indicated that the managerial implications were as follows: 1) all companies in this study were successful because they were still in business; 2) all the companies in this study reflected a team oriented approach in problem solving, a participatory style of leadership; 3) companies that displayed participatory leadership reported better retention of employees than companies who were autocratic in nature; and 4) overall, the companies in this study reported no clear cut leadership style, adapting their style to meet situations as they arose. In interaction with employees and in internal affairs of the firms, responses were primarily participatory in nature; however, when dealing with external affairs, such as seeking outside assistance or independent decision making, the respondents indicated a trend toward autocratic leadership. Therefore, the overall conclusion drawn from this study was that the owners of small land surveying firms who responded to the questionnaire were situational because they adjusted their leadership styles to meet the needs and demands of the current situation.

Recommendations

There are a number of recommendations for future study that can be drawn from the results contained herein. Some of those suggestions are:

- To conduct a follow-up qualitative study that would investigate each of the questions in more detail;
- To investigate employee benefit packages as related to certain demographic and leadership indicators found in this study;
- To expand the study to a regional or national scope; and
- To expand the study to other small businesses to determine if situational leadership is present or is only a factor among small land surveying businesses.

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APPENDICES

APPENDIX A

Pilot Test Evaluation Sheet

Questionnaire Evaluation

1. Briefly describe your overall reaction to the questionnaire.
2. Was the questionnaire clearly written and easy for you to follow? If not, please explain and note the question number.
3. How would you suggest changing or altering any question to be more clear and understandable?
4. How long did it take you to complete the questionnaire?
5. Was the questionnaire too long for the average professional to complete?

APPENDIX B

Cover Letter

Date

Surveyor's Name
Company Name
Address
City, State, Zip

Dear Professional Land Surveyor:

My name is Jerry W. Nave and I am an assistant professor in the Surveying and Mapping Science program at East Tennessee State University. In addition to being a professional land surveyor and my role as an educator, I am currently completing my doctoral studies at East Tennessee State University. The purpose of my research is to identify the types of leadership styles employed by owners of surveying businesses.

As an owner of a small business, I am sure that you are aware that the success of a business lies in the leadership skills of the entrepreneur. Therefore, I ask that you take approximately 5-10 minutes to complete the following questionnaire. Your responses will help to complete my dissertation and perhaps add to the information available to small businesses. Please read each question carefully and mark the response that best represents your leadership style. There are no right or wrong answers, so please do not hesitate to mark the statements frankly. The data from this study will provide a valuable look into the types of leadership attitudes and behaviors that makes a company such as yours successful.

You can be assured of complete confidentiality. The questionnaire has been numerically coded for mailing purposes only. This number has been added so that I may track the response rate and remove your name from the mailing list when you reply. This will allow me to follow up with surveyors who do not complete the questionnaire. Your name will never be placed on the questionnaire.

I would be happy to answer any questions you might have regarding this study. You may contact me by phone at (423) 439-7657 or by email at jwnave@etsu.edu.

Thank you for your assistance in this project.

Jerry W. Nave, MS, PLS
Assistant Professor of Surveying and Mapping Science
Doctoral Candidate
East Tennessee State University

APPENDIX C

Questionnaire

1. Are you a previous or current owner of a surveying business and a Professional Land Surveyor (PLS) in either Tennessee or Virginia?

Yes No

2. How long have you been in business as a surveyor?

1-5 years 6-10 years 11-15 years 16-20 years 21 or more years

3. What type of business do you operate?

Sole proprietorship Partnership Corporation LLC

4. How many employees did you have when you started your business?

1-3 4-6 7-10 11-20 21-50 51-100 101 or more

5. How many employees do you have currently?

1-3 4-6 7-10 11-20 21-50 51-100 101 or more

6. What is your educational background?

High School or GED Some College Associate's Degree
 Bachelor's Degree Post Graduate

7. In high school, were you on

A College Prep Curriculum A Technical Curriculum
 Other (please specify) _____

8. If you attended college, what was your major? _____

9. Which of the following courses have you taken at a college level?

Accounting Small Business Management Business Law
 Marketing Human Resource Management Finance
Other Business-Related Courses (please specify) _____

10. What is the population of your service area?

Less than 20,000 20,000-49,999 50,000-99,999
 100,000 or more

11. What principle services does your business provide? (Check all that apply)

Land Boundary GIS Commercial Development
 Government Contracts GPS Residential Development
 Engineering or Construction Layout
 Other (please specify) _____

12. How many years were you a PLS prior to owning a business?

1-5 6-10 11-15 16-20 21 or more

13. Has your profit margin increased over the last 3 years?

Yes No

14. If you answered yes to question 13, by what percentage did your pre-tax profits increase, on average, over the last three years?

15. How did you acquire your business?

Started it Bought an existing business Inherited it

16. Are you a member of a professional organization at

Local level State level ACSM
 Other (please specify) _____

17. Do you serve or have you served as an officer at

Local level State level ACSM Other

18. How many times per year do you attend

Local meetings State meetings ACSM meetings Other

19. Why did you select the current location for your business? (Check all that apply)

Home town Accessibility to population Quality of life
 Growth market Other (please specify) _____

20. What is your age?

Under 25 25-35 36-45 46-55 56-65 Over 65

21. What is your gender?

Male Female

22. What is your ethnicity?

Caucasian Hispanic Asian Native American African American
 Other (please specify) _____

23. What are the last 5 major decisions you made for your business?

24. Did you consult with others before making those decisions? Yes No

25. If you answered yes to number 24, with whom did you consult? (e.g., family, employees, attorneys, accountants, etc.)

26. Did you have a business plan when you started or acquired the business?

Yes No

27. If yes to question 26, have you updated that business plan? Yes No

28. Are you currently using a business plan to manage your business?

Yes No

29. Did you have help in developing or updating your business plan?

Yes No

30. If you answered yes to question 29, who assisted you in developing or updating your business plan? (e.g., family, employees, attorneys, accountants, etc.)

31. What is the average number of years that your current employees have been with your company?

0-5 years 6-10 years 11-15 years 16 years or longer

32. What type of benefit packages do you offer your employees? (e.g., vacation, sick leave, medical insurance, dental insurance, etc.)

This instrument is designed to provide you with the opportunity to express your opinions as the owner of a surveying business. There are no right or wrong responses, so do not hesitate to mark the statements frankly. Please **do not** record your name on this document. Read each statement carefully. Then indicate your response by circling: (1) Almost Never, (2) Seldom, (3) Sometimes, (4) Often or (5) Almost Always. Please circle only one answer that best fits your opinion.

1. I actively listen to different points of view from my employees concerning project decisions. 1 2 3 4 5
2. When I encounter a business problem, I consult with others to solve that problem. 1 2 3 4 5
3. I share my vision of the business with others. 1 2 3 4 5
4. When faced with a deadline, I ask my employees to work overtime to help complete the project on time. 1 2 3 4 5
5. When setting business goals for the next year's performance, I do not consult with others. 1 2 3 4 5
6. I act independently when it is necessary. 1 2 3 4 5
7. I allow my employees the latitude to solve problems on their own. 1 2 3 4 5
8. When faced with a deadline, I ask my employees to work overtime to help me complete the project on time. 1 2 3 4 5
9. I actively assist in developing rules and standards with my local planning commission. 1 2 3 4 5
10. In problem-solving or otherwise performing work in my business, I solve problems independently. 1 2 3 4 5
11. I do not seek assistance in preparing business plans for my company. 1 2 3 4 5
12. I actively seek outside professional help when confronted by clients' requests to perform work that I am qualified for educationally but not practically. 1 2 3 4 5

13. I listen to suggestions about the business provided by others. 1 2 3 4 5
14. When presented with work situations that require long hours with reduced sleep, I ask others for assistance in completing the project. 1 2 3 4 5
15. I actively participate in community service organizations. 1 2 3 4 5
16. I seek assistance from outside consultants in setting goals and directions for my business. 1 2 3 4 5
17. I do not give my employees the opportunity to make important decisions about their work. 1 2 3 4 5
18. I participate in other professional organization within my community (e.g., homebuilders association, civic clubs, etc.). 1 2 3 4 5
19. I believe that the best product can be produced by a team effort. 1 2 3 4 5
20. When my company needs to improve the quality of our service to clients, I seek outside assistance from others (e.g. vendors, efficiency experts, etc.). 1 2 3 4 5

APPENDIX D

IRB Letter



East Tennessee State University
Office for the Protection of Human Research Subjects • Box 70565 • Johnson City, Tennessee 37614-1707 • (423) 439-6053
Fax: (423) 439-6060

IRB APPROVAL - Initial Review (Exempt)

August 1, 2005

Jerry W. Nave
Box 70552
Johnson City, Tn 37614

Re: Leadership Styles of Entrepreneurs in Small Land Surveying Businesses
IRB#: c04-414e
EXEMPT

The following items were reviewed:

- Form 103
- Narrative
- Questionnaire / Survey

I reviewed the above-referenced study and find that it qualifies as exempt from coverage under the federal guidelines for the protection of human subjects as referenced as Title 45—Part 46.101. You are therefore authorized to begin your project.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the exempt status of your research project. If you feel it is necessary to call further IRB attention to an aspects of this study, please refer to the above-titled project and IRB number. I appreciate your bringing this project before the IRB for its concurrence of exempt status.

No Continuing Review is scheduled.

Sincerely,

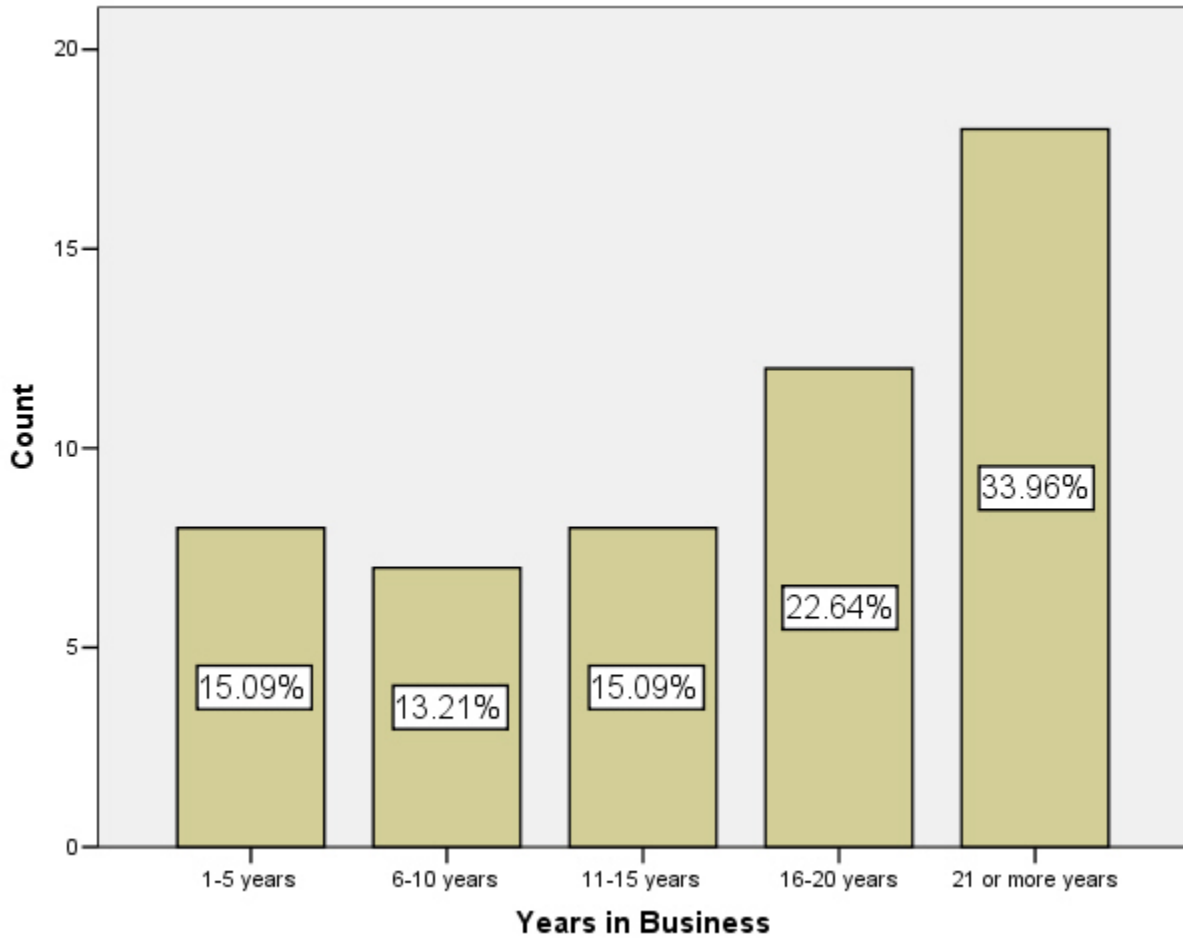
A handwritten signature in black ink, appearing to read "Andrea Clements", written over a light blue horizontal line.

Andrea Clements, Ph.D., Chairperson
ETSU Campus Institutional Review Board

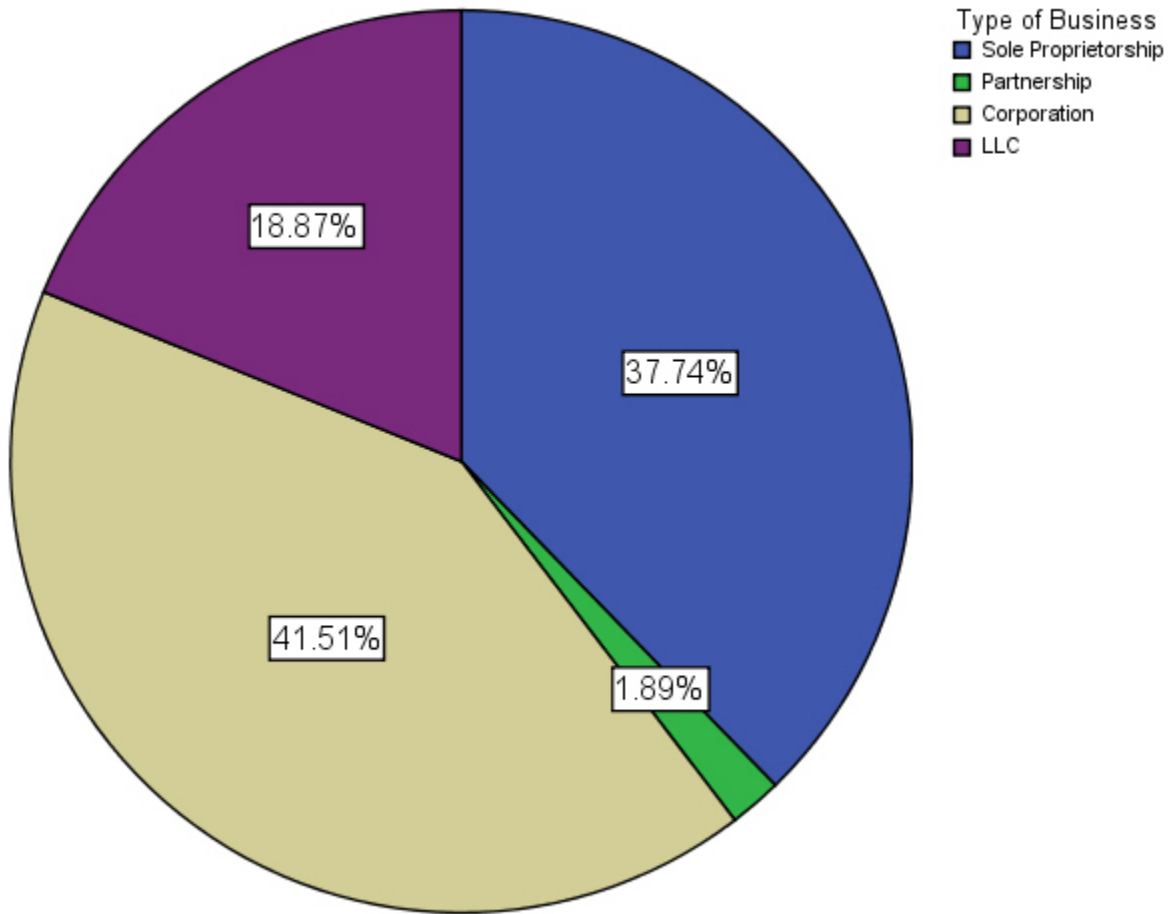
APPENDIX E

Demographic Data

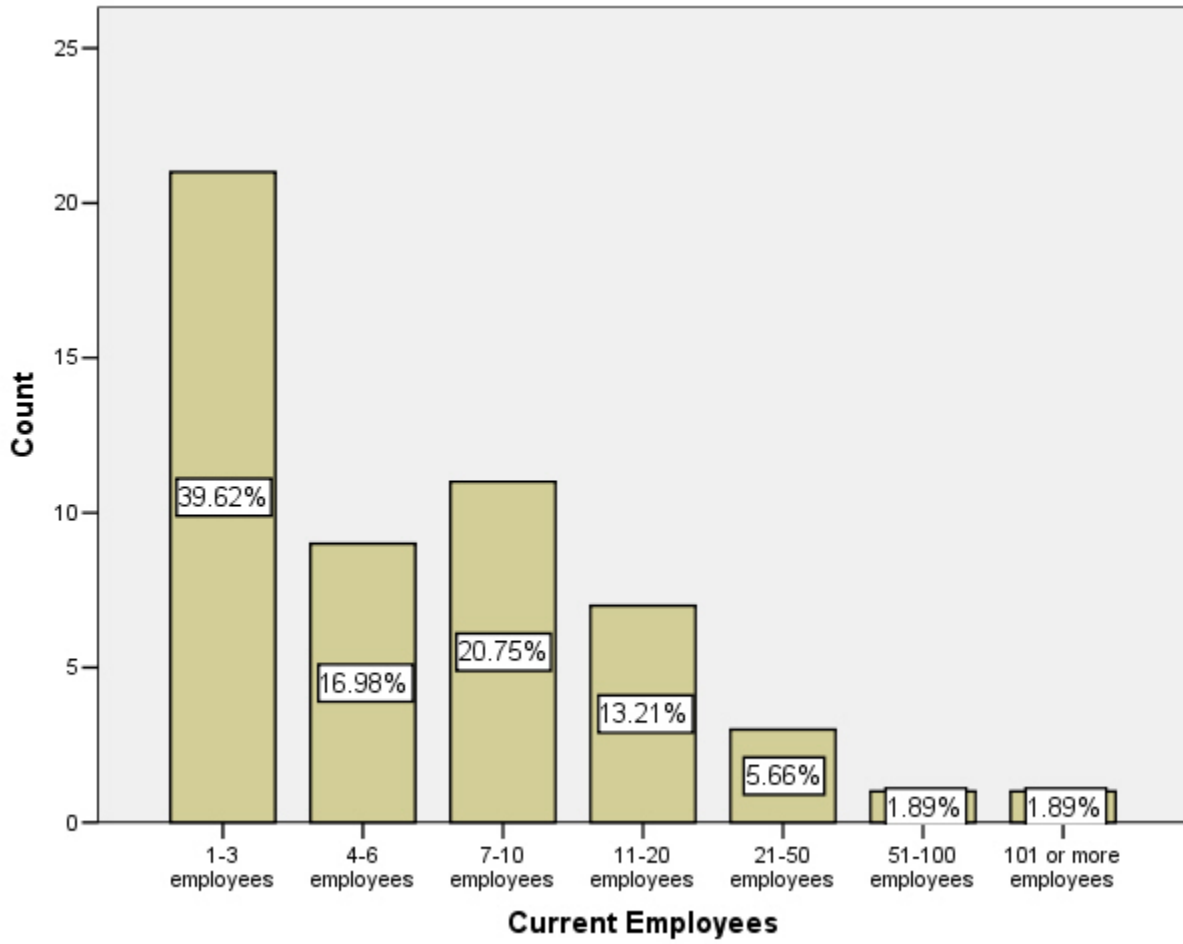
Number of Years Respondents Have Owned Business



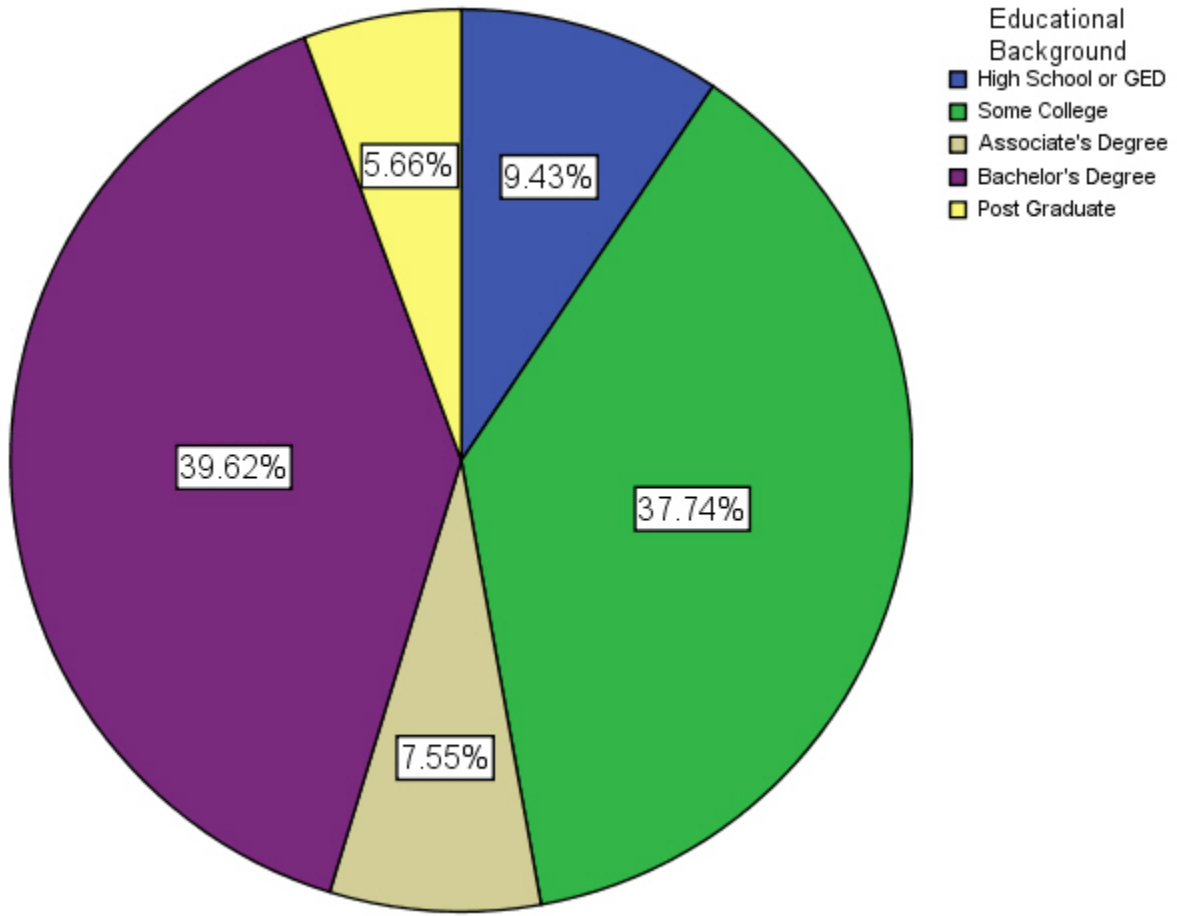
Business Structure of Respondents' Companies



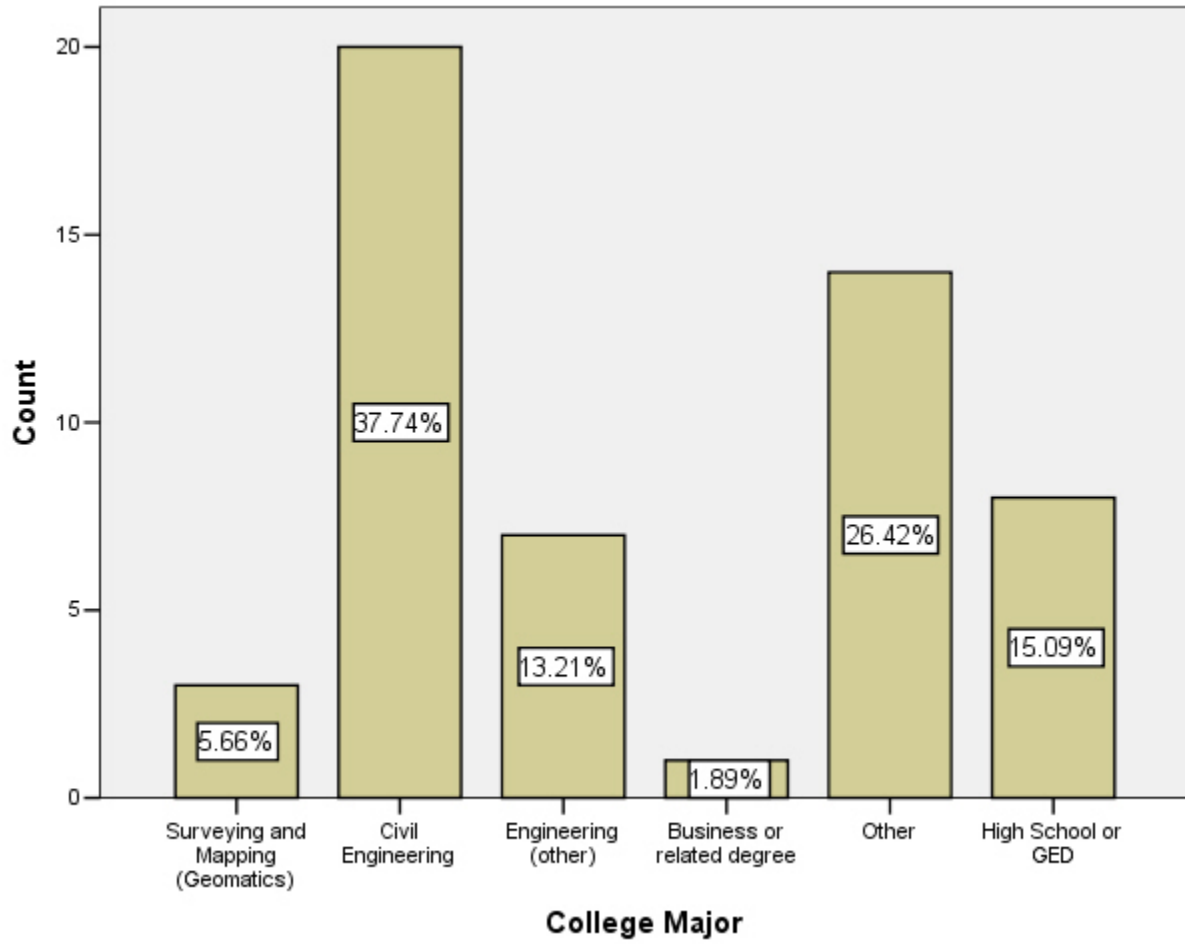
Current Number of Employee in Respondents' Companies



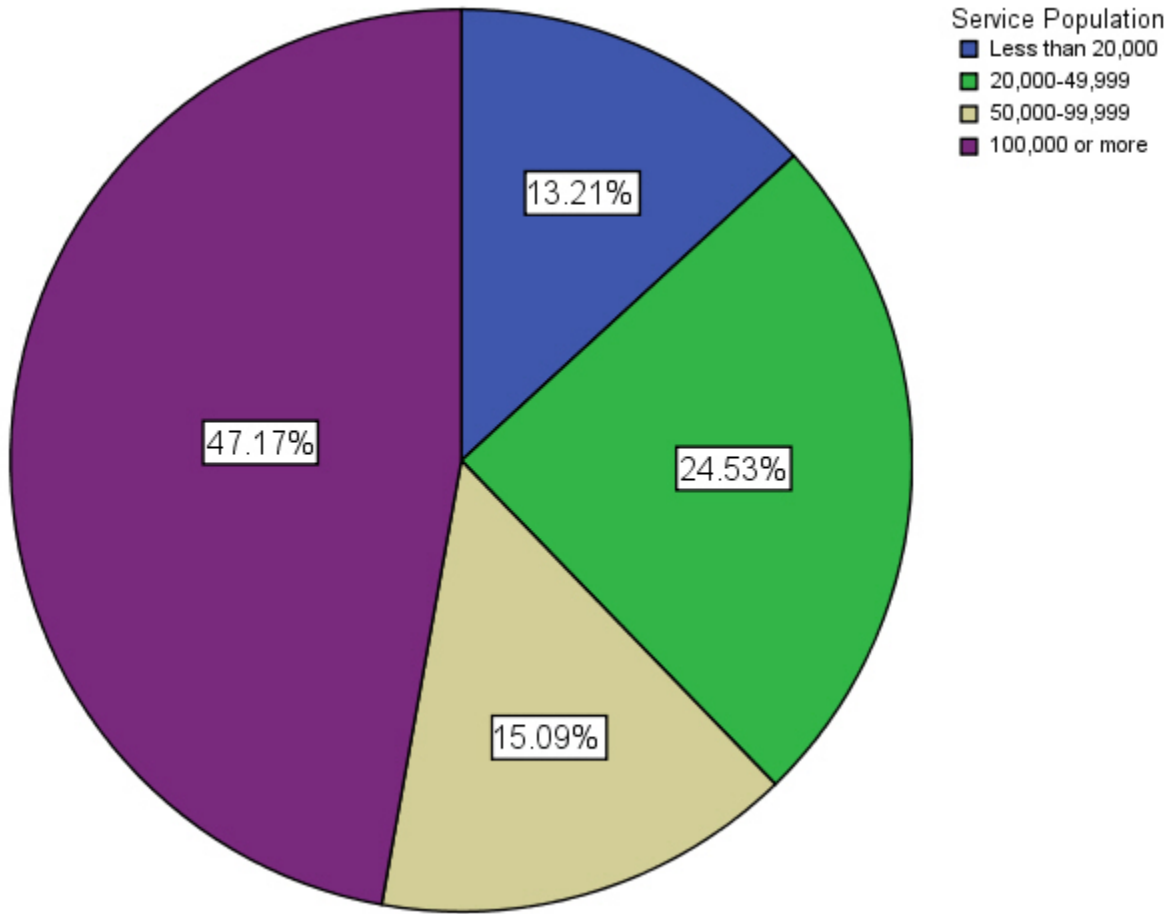
Educational Background of Respondents



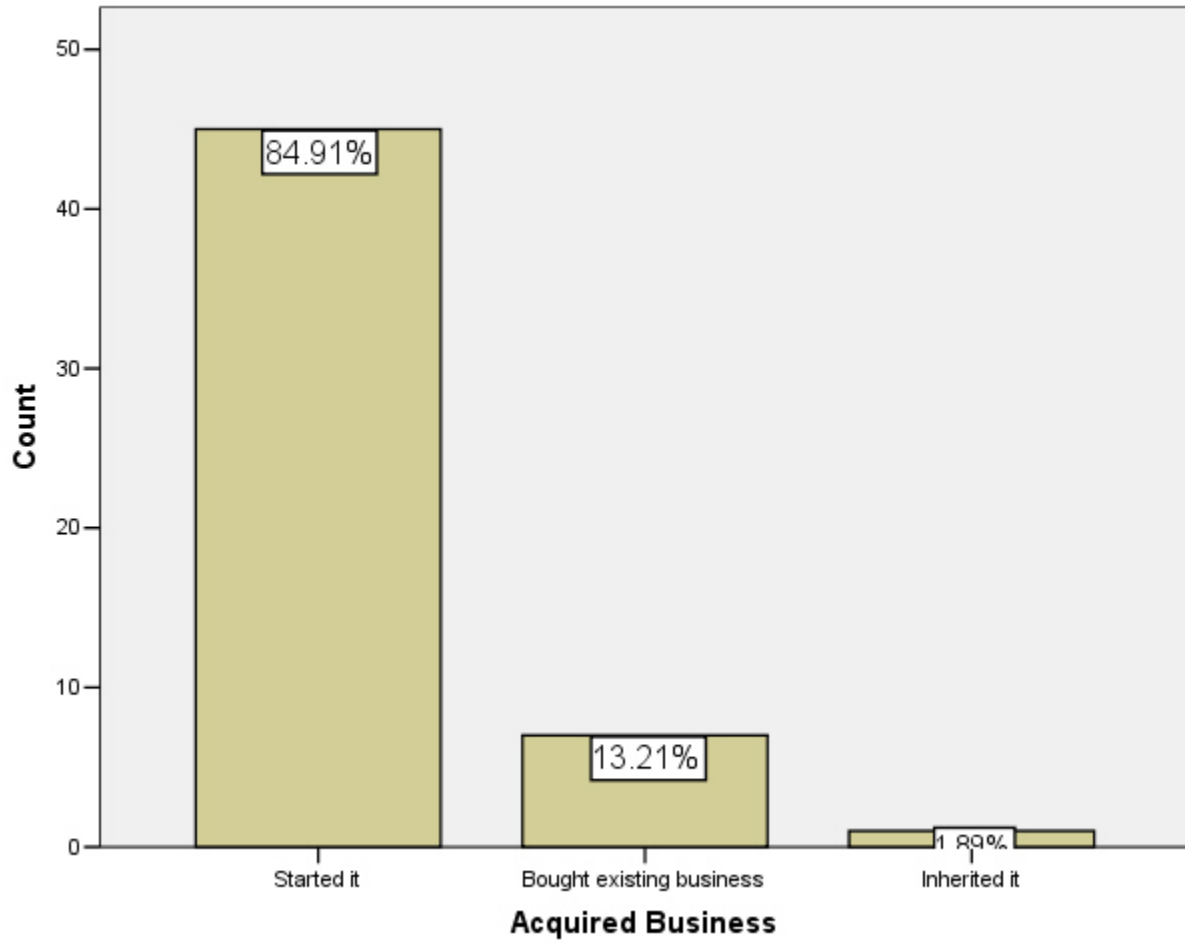
College Majors of Respondents with Post Secondary Degrees



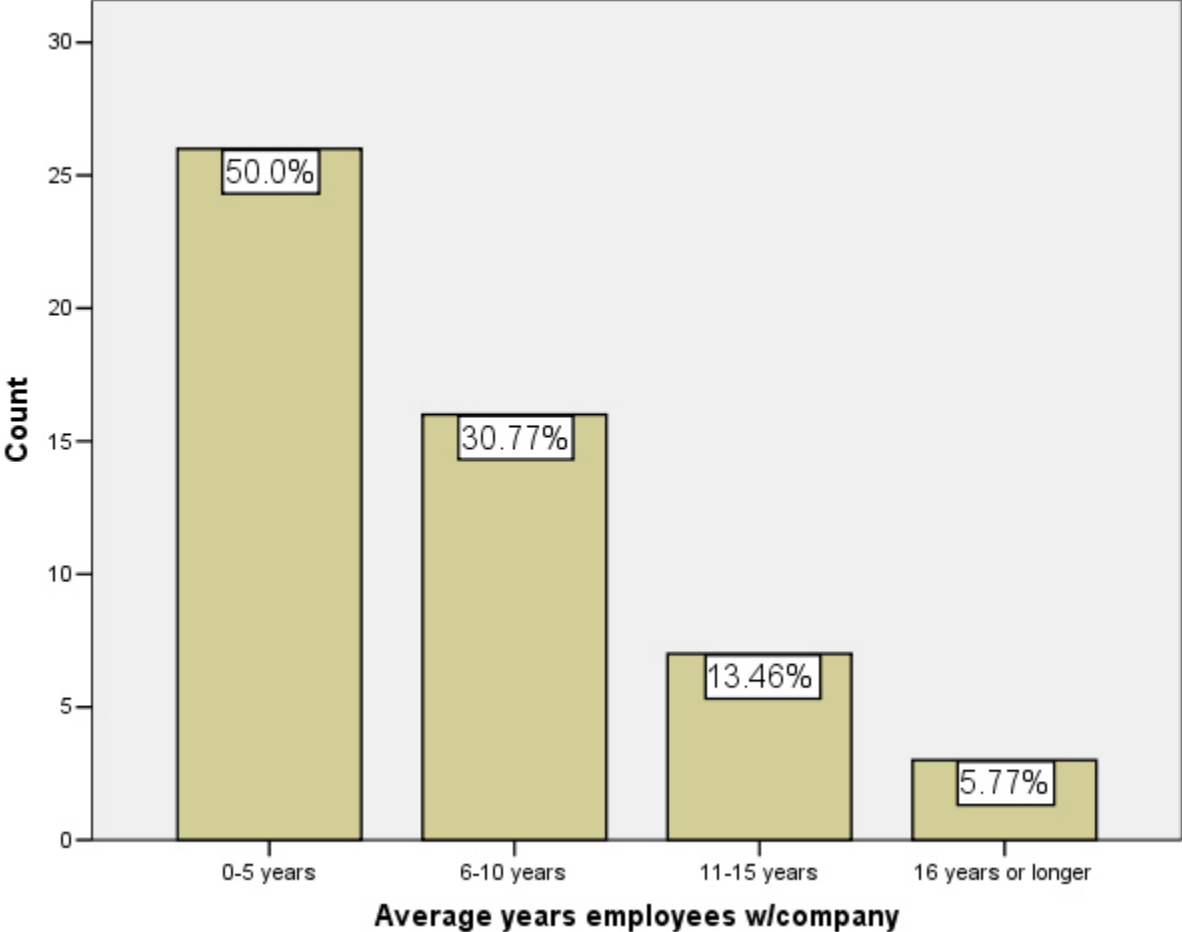
Service Population of Respondents



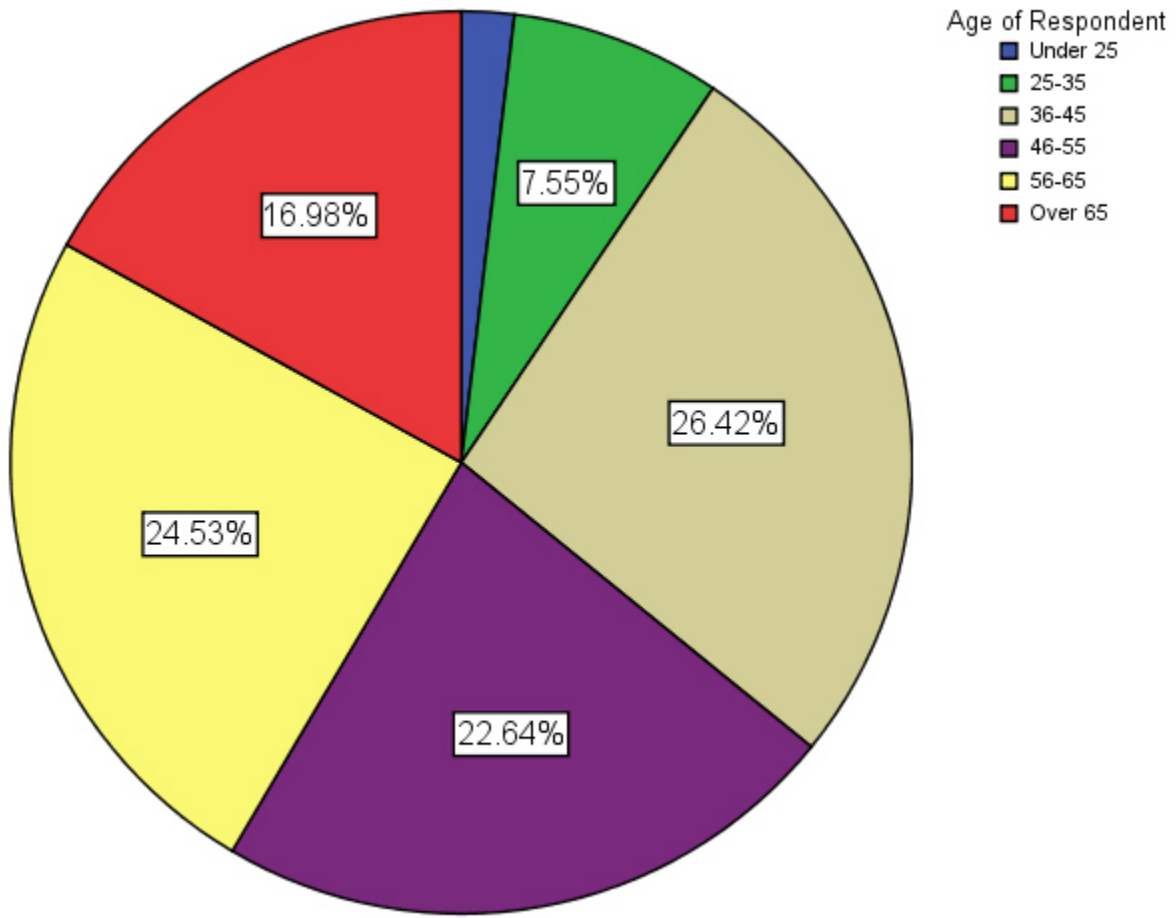
Method Used to Acquire Current Business



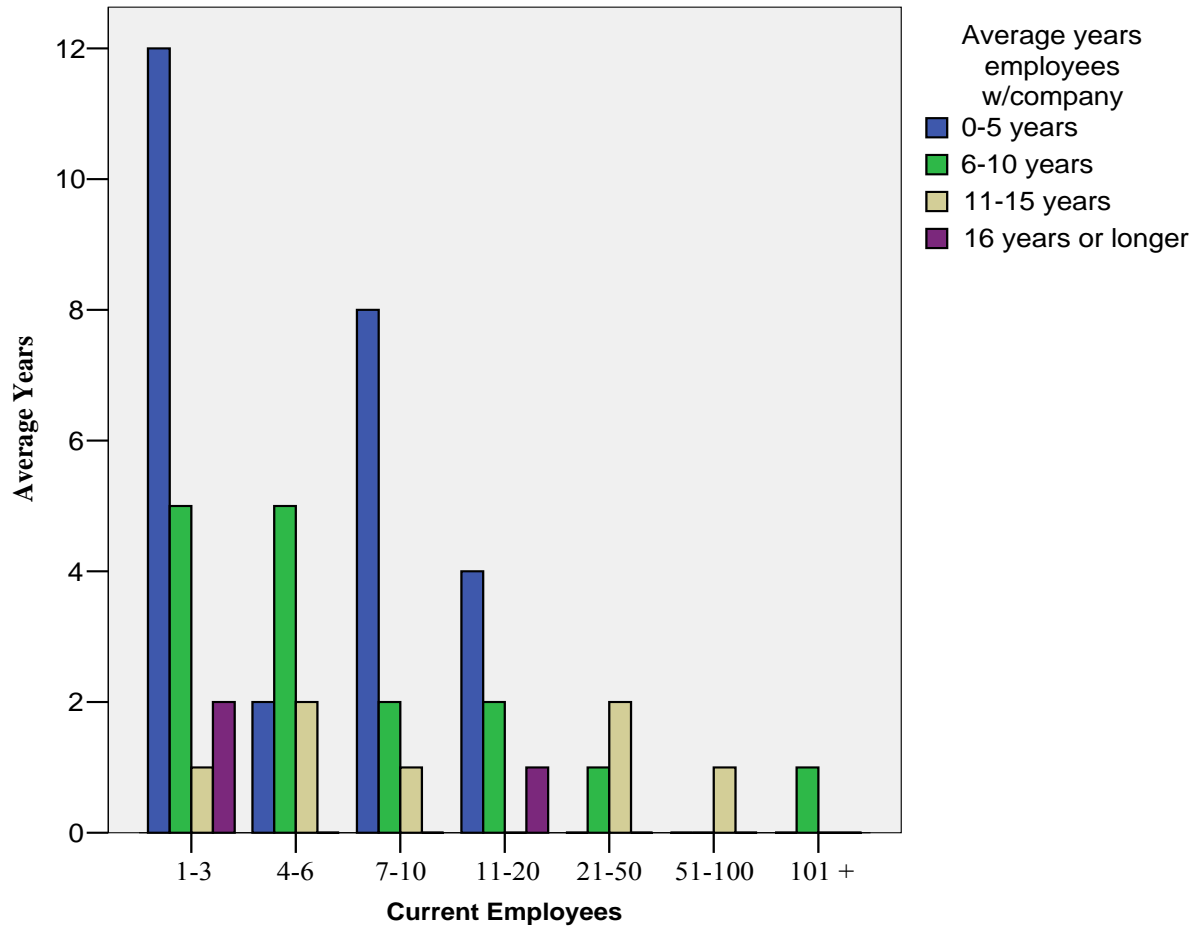
Average Number of Years Employees Have Been with Respondents Business



Age of Respondents



Relationship of Current Number of Employees to Longevity with Employer



APPENDIX F

Frequency Tables Leadership Style Questions

Frequency Table

QB1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.9	1.9	1.9
	3	10	18.9	19.2	21.2
	4	20	37.7	38.5	59.6
	5	21	39.6	40.4	100.0
	Total	52	98.1	100.0	
Missing	99	1	1.9		
Total		53	100.0		

QB2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	5.7	5.7	5.7
	2	3	5.7	5.7	11.3
	3	14	26.4	26.4	37.7
	4	21	39.6	39.6	77.4
	5	12	22.6	22.6	100.0
	Total	53	100.0	100.0	

QB3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	7.5	7.5	7.5
	2	9	17.0	17.0	24.5
	3	9	17.0	17.0	41.5
	4	18	34.0	34.0	75.5
	5	13	24.5	24.5	100.0
	Total	53	100.0	100.0	

QB4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	7.5	7.7	7.7
	2	5	9.4	9.6	17.3
	3	9	17.0	17.3	34.6
	4	18	34.0	34.6	69.2
	5	16	30.2	30.8	100.0
	Total	52	98.1	100.0	
Missing	99	1	1.9		
Total		53	100.0		

QB5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	30.2	31.4	31.4
	2	9	17.0	17.6	49.0
	3	15	28.3	29.4	78.4
	4	5	9.4	9.8	88.2
	5	6	11.3	11.8	100.0
	Total	51	96.2	100.0	
Missing	99	1	1.9		
	System	1	1.9		
	Total	2	3.8		
Total		53	100.0		

QB6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	1.9	1.9	1.9
	3	4	7.5	7.5	9.4
	4	6	11.3	11.3	20.8
	5	42	79.2	79.2	100.0
	Total	53	100.0	100.0	

QB7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.9	1.9	1.9
	2	3	5.7	5.8	7.7
	3	12	22.6	23.1	30.8
	4	19	35.8	36.5	67.3
	5	17	32.1	32.7	100.0
	Total	52	98.1	100.0	
Missing	99	1	1.9		
Total		53	100.0		

QB8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	9.4	9.6	9.6
	2	6	11.3	11.5	21.2
	3	6	11.3	11.5	32.7
	4	16	30.2	30.8	63.5
	5	19	35.8	36.5	100.0
	Total	52	98.1	100.0	
Missing	99	1	1.9		
Total		53	100.0		

QB9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	17.0	17.3	17.3
	2	11	20.8	21.2	38.5
	3	13	24.5	25.0	63.5
	4	8	15.1	15.4	78.8
	5	11	20.8	21.2	100.0
	Total	52	98.1	100.0	
Missing	System	1	1.9		
Total		53	100.0		

QB10

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	2	3.8	3.8	3.8
2	3	5.7	5.7	9.4
3	12	22.6	22.6	32.1
4	19	35.8	35.8	67.9
5	17	32.1	32.1	100.0
Total	53	100.0	100.0	

QB11

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	18	34.0	34.0	34.0
2	12	22.6	22.6	56.6
3	6	11.3	11.3	67.9
4	3	5.7	5.7	73.6
5	14	26.4	26.4	100.0
Total	53	100.0	100.0	

QB12

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	5	9.4	9.4	9.4
2	3	5.7	5.7	15.1
3	6	11.3	11.3	26.4
4	9	17.0	17.0	43.4
5	30	56.6	56.6	100.0
Total	53	100.0	100.0	

QB13

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	1	1.9	1.9	1.9
2	1	1.9	1.9	3.8
3	13	24.5	24.5	28.3
4	19	35.8	35.8	64.2
5	19	35.8	35.8	100.0
Total	53	100.0	100.0	

QB14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	24.5	24.5	24.5
	2	8	15.1	15.1	39.6
	3	11	20.8	20.8	60.4
	4	14	26.4	26.4	86.8
	5	7	13.2	13.2	100.0
	Total	53	100.0	100.0	

QB15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	20.8	20.8	20.8
	2	14	26.4	26.4	47.2
	3	7	13.2	13.2	60.4
	4	9	17.0	17.0	77.4
	5	12	22.6	22.6	100.0
	Total	53	100.0	100.0	

QB16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	25	47.2	47.2	47.2
	2	15	28.3	28.3	75.5
	3	7	13.2	13.2	88.7
	4	4	7.5	7.5	96.2
	5	2	3.8	3.8	100.0
	Total	53	100.0	100.0	

QB17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	28.3	29.4	29.4
	2	16	30.2	31.4	60.8
	3	15	28.3	29.4	90.2
	4	5	9.4	9.8	100.0
	Total	51	96.2	100.0	
Missing	System	2	3.8		
Total		53	100.0		

QB18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	26.4	26.9	26.9
	2	14	26.4	26.9	53.8
	3	6	11.3	11.5	65.4
	4	6	11.3	11.5	76.9
	5	12	22.6	23.1	100.0
	Total	52	98.1	100.0	
Missing	99	1	1.9		
Total		53	100.0		

QB19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.9	1.9	1.9
	2	3	5.7	5.7	7.5
	3	4	7.5	7.5	15.1
	4	10	18.9	18.9	34.0
	5	35	66.0	66.0	100.0
	Total	53	100.0	100.0	

QB20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	26.4	26.4	26.4
	2	10	18.9	18.9	45.3
	3	19	35.8	35.8	81.1
	4	5	9.4	9.4	90.6
	5	5	9.4	9.4	100.0
	Total	53	100.0	100.0	

APPENDIX G

Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
QB1	52	1	5	4.15	.872
QB2	53	1	5	3.68	1.070
QB3	53	1	5	3.51	1.250
QB4	52	1	5	3.71	1.226
QB5	51	1	5	2.53	1.347
QB6	53	2	5	4.68	.701
QB7	52	1	5	3.92	.987
QB8	52	1	5	3.73	1.330
QB9	52	1	5	3.02	1.393
QB10	53	1	5	3.87	1.057
QB11	53	1	5	2.68	1.626
QB12	53	1	5	4.06	1.336
QB13	53	1	5	4.02	.930
QB14	53	1	5	2.89	1.396
QB15	53	1	5	2.94	1.486
QB16	53	1	5	1.92	1.124
QB17	51	1	4	2.20	.980
QB18	52	1	5	2.77	1.542
QB19	53	1	5	4.42	.989
QB20	53	1	5	2.57	1.248
Valid N (listwise)	48				

APPENDIX H

Response of Subjects to Leadership Questions 1-20

Response of Subjects to Leadership Style Questions 1-20

	Almost Never	Seldom	Sometimes	Often	Almost Always
Question 1	1	0	10	20	21
Question 2	3	3	14	21	12
Question 3	4	9	9	18	13
Question 4	4	5	9	18	16
Question 5 *	16	9	15	5	6
Question 6	0	1	4	6	42
Question 7	1	3	12	19	17
Question 8	5	6	6	16	19
Question 9	9	11	13	8	11
Question 10	2	3	12	19	17
Question 11 *	18	12	6	3	14
Question 12	5	3	6	9	30
Question 13	1	1	13	19	19
Question 14	13	8	11	14	7
Question 15	11	14	7	9	12
Question 16	25	15	7	4	2
Question 17 *	15	16	15	5	0
Question 18	14	14	6	6	12
Question 19	1	3	4	10	35
Question 20	14	10	19	5	5

* The questions were worded in an autocratic manner in the question and those higher values in columns 1 and 2 indicate a participatory response.

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