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A STUDY OF SOURCES, ORIENTATIONS, WILL, AND ABILITY

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DEPARTMENT OF EDUCATIONAL LEADERSHIP AND POLICY STUDIES

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## **Dedication**

This dissertation is dedicated to the late Dr. Ervin Williams Jr. and Mrs. Ervin Williams Jr. Twenty-five years ago I told you that I planned on getting a Ph.D. when I asked permission to marry your daughter. I finally did it. Thank you for your support and for trusting me with your daughter.

This is also dedicated to Dr. and Mrs. Billy Crynes. Dad, thank you for breaking free from Tippecanoe and for supporting and encouraging me in all that I do. Mom, thank you for recognizing that I was smarter than what my grades reflected. It was you that realized that I am dyslexic; you got me the help that I needed and enabled me to reach my potential. I love you both.

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Philippians 4:13

## **Abstract**

All organizations consist of complex power relationships but few are as complex as institutions of higher education. Information is a key commodity in power relationships and at the center of this commodity in higher education is institutional research. Institutional researchers are skilled analysts that have the ability to influence decisions-making through the development and distribution of information. Yet, institutional researchers are not often included in the decision-making process.

Analysts, according to Mintzberg (1983b), have five sources of power by which they are able to influence decisions: the control of a resource, technical skills, unique knowledge, legal prerogatives, or access to decision-makers. But simply having one or more of these power sources are not enough to intentionally influence decisions, an analyst must also have the will and the ability to influence decisions.

This research sought to understand if institutional researchers have the power sources proposed by Mintzberg (1983b) and to see if institutional researchers also have the will and the ability to intentionally influence decisions. This was an exploratory quantitative research project that used an attitudinal survey to determine the presence of the power sources and to measure the participants' feelings toward the use of power as reported by the participants themselves. Participants were institutional researchers recruited from the membership list of the Association of Institutional Researchers. The survey asked participants to express their level of agreement with a series of statements related to the individual power sources, their orientation toward power, their opinion about the use of power, and their ability to use power to influence decisions. The final

step in this project was to conduct a regression to determine which variables contributed the most to the variances in the participants' ability to influence decisions.

The study confirmed that institutional researchers have access to all five of the power sources although at various levels of strength. However, not every statement within the power source measurement tool was found to be present in the power sources. All five of the power sources were associated with the variance in the participants' ability to influence decisions. The control and autonomy power orientation and the political connection power orientation were the most common power orientations; however, having personal charisma and political connections were found to contribute to the variance in the ability to influence decisions. The size of the institution for which the participants worked was also found to contribute to the variance in the ability to influence while the years of experience participants had at their institution was shown to have a negative relationship. In examining the differences in responses between subgroups by institutional size, institutional type, job description, managers by institutional type and managers by experience, the responses between managers and staff and between managers with more than 13 years of experience and those with less than 13 years of experience had the most differences in their responses.

## **Chapter I Introduction**

Organizations are complex social units that exist for a particular purpose and are based on intricate power relationships and political spheres of influences (Shafritz, Ott, & Jang, 2005). Few organizations are as complicated and diverse as institutions of higher education. These so-called cybernetic organizations (the most complex of all organizations) are characterized by having both tight and loose coupling, conflicting and ambiguous goals, centralized and decentralized administration, and internal and external competition for resources by the large number of subunits that keep the organization in balance (Birnbaum, 1988; Vires, 2009). A key commodity in the power relationships within higher education is institutional information that can be used for decision-making, issue identification, and defining the culture of the institution. According to Resource Dependency theory, information is a powerful resource and the individual or subunit that controls the information, possess a certain amount of power (Emerson, 1962; Pfeffer & Salancik, 1978). Institutional Research (IR) offices provide the most common source of institutional information throughout higher education and therefore possess a source of power as a result of controlling a valuable resource.

In today's tough economic and high pressured environment, corporations, small businesses, governments, and educational institutions are being held to a higher level of accountability than ever before. The public is demanding to know how tax money is spent and is expecting that every penny be spent as efficiently as possible and that waste be minimized. Decisions can no longer be made from instincts or by what action was taken in the past. Organizations are expected to make more rational "data-driven" decisions that will ensure the effectiveness and efficiency of the organization. Nowhere is

this more true than in higher education where tuition price is sky rocketing and government funding is decreasing (Donhardt, 2012; Knight & Leimer, 2009). Politicians, parents and students are demanding to know how their tuition and grant dollars are spent and want to know that decisions are made that are based on sound reasoning and solid evidence. As recent as 2006, The Commission on the Future of Higher Education, a governmental group charged with examining and planning for the future of higher-education and is often referred to as the Spellings Commission, demanded more accountability, effectiveness, and efficiency from all levels of higher education and proposed a major overhaul of the accrediting system (Spellings, 2006). In response, coalitions such as “Achieving the Dream” have started a movement toward data-based decision-making in community colleges and urge colleges not to make decisions without first thoroughly researching the issue and listening to what their data are telling them (ATD, 2005).

At ground zero in the accountability effort in higher education is the Office of Institutional Research where most institutional data are analyzed and information is created in order to make these data-driven decisions. According to the Association of Institutional Research (AIR, 2012, para.4). “Most of the important decisions made on campuses regarding an institution’s most vital programs and responsibilities are based on analytics produced by institutional research professionals.” Yet, despite being the ones who control the information resource by gathering or creating institutional information and interpreting the results of the research, institutional researchers are rarely a part of the decision-making process. Even though they are the analysts most familiar with the data and spend the most time working with the detailed information, on the surface, they



appear to have little or no power to influence decisions in higher education. In the business world, the equivalent of the institutional researcher is the business analyst who has been described by Mintzberg (1983) as having no authority to make decisions. According to Mintzberg (1983), in order to influence a decision in a desired direction, a person needs to possess at least one of the five sources of power: the ability to control resources; the possession of technical skills; the possession of a unique body of knowledge; having legal prerogatives; and having access to high level decision makers. In higher education, the institutional researchers create and control most of the institutional information, possess the technical skills to manage and operate databases, and possess an appropriate body of knowledge related to the internal and external issues concerning the institution. Quite often their data, reports, and projects are required by outside governmental agencies and finally, institutional researchers have access to high level administrators as well. By having these primary sources of power, institutional researchers should have the ability to actively influence the decision-making process either by directly participating in the decision-making process or in more subtle ways such as determining what issues are or are not brought to the attention of decision makers or by controlling the timing of the release of information and to whom it is released. This research sought to confirm and to determine at what level institutional researchers possess the necessary power sources, as described by Mintzberg, to influence decision makers both directly and indirectly and if so, what are their orientations toward the concept of power and their feelings regarding their role in the decision-making process.

## **Background**

Power has been called an incomplete and elusive concept that is multifaceted, difficult to describe, and difficult to analyze (Frost, 1987). A simple definition of power is the ability to get people to do something they normally would not have done. In this view, power is something that is intentionally and directly exercised. Power has also been described as the ability to limit action and decision-making in order to protect one's position. This "non-decision-making" power is often seen in the political realm. An example of this in higher education is having tenure that serves to protect academic freedom and therefore the position of tenured faculty members. Another definition sees power as influencing other persons, not by telling them what to do but by changing what the other person thinks they want. And yet another description of power is the ability to limit what issues are brought to decision-makers and what issues are not. This can be seen as consciously or unconsciously setting barriers to the decision-making process (Bachrach & Baratz, 1962; Frost, 1987; Mumby, 2001). Power can also be related to personal attributes, social structure and hierarchy, personal drive, and motivation. It can be seen as a commodity, an interpersonal construct, a probability construct, or a philosophical construct. Lastly, power can be seen as the ability to control a valuable resource (Emerson, 1962; French Jr., 1959; Goldberg, Cavanaugh, & Larson, 1983). In order to avoid influencing orientation toward power of the participants in this study, power remained undefined. It is enough to say the ability to control a resource, in this case information, creates the presence of power that can potentially be used in decision-making.

Most theories about power identify it as an attribute of a person, while Resource Dependency theory associates power with a position and the relationships surrounding that position. According to Resource Dependency theory, the relationships are mutually dependent where one person controls a valuable resource and the other person is in need of that resource. Thereby, the person controlling the resource has power over the other; yet, the person controlling the resource is dependent on the other person needing the resource. For example, person A owns all the food in town and person B needs food, therefore person A has some power over person B as long as B needs food from A. When person C moves to town and also has food, person B gains back power from person A because person B has the power to choose between persons A and C. Person A, therefore, was dependent on person B being dependent on him. Power can be found in the ability to control a resource as well as the ability to control the need for that resource (Emerson, 1962). Resource dependency, as it relates to IR, lies in the position of the institutional researcher and the ability to control information as a resource. IR controls information and has power in relation to those who need the information but only has power as long as the information is needed and valuable. By controlling information, IR has the power to delay projects and decisions, define issues or non-issues, portray departments in a positive or negative light, or to be subject matter experts when espousing its opinions, to name just a few of the possible uses of power related to information as a resource.

Mintzberg (1983b) also views power as positional and describes three primary sources of power in his book *Power in and Around Organizations* and two secondary sources of power. The first is the ability to control a resource, and is based on the

concepts of resource dependency theory. Information is a resource and institutional researchers are firmly in control of most of institutional-level information. They are in fact responsible for taking institutional data and creating information. While pieces of data and information exist throughout the institution, these data pieces are decentralized and only represent departmental or sub-unit information and therefore, partial information on the institutional level. IR is the subunit that gathers the decentralized data and compiles it into a clearer picture of the institution. The institutional researcher, therefore, has power to control when information is released, who has access to the information (at least initially) and more importantly if the information has a positive, negative or a neutral spin to it. To do this, institutional researchers must possess the second primary base of power, technical skills.

The technical skills of institutional researchers revolve around two main elements: data base management skills and statistical/ analytical skills. This system of expertise, according to Mintzberg (1983b) is the analysts' primary means of influence. Institutions very often have many complex databases and while institutional researchers may not have in-depth knowledge of each database, they must know how the databases interact with each other and where to obtain needed information. Very few other offices or departments on campus maintain this level of understanding and utilize these skills. Statistical/analytical skills are a different story. Institutions of higher education are filled with faculty members who achieved an advanced level of analytics in obtaining their terminal degree. However, as faculty members become more specialized in their fields, they tend to utilize specialized techniques. Institutional researchers maintain a broad array of statistical and analytical skills because of the diversity of projects on which they

work. This broad knowledge and skills base enables institutional researchers to define the research question, identify problem areas or departments and make recommendations as to what action should be taken (Matsen, 1993; Suslow, 1972). Because IR works with everyone and is familiar with most functions of any campus, institutional researchers represent a rare presence. Additionally, the statistical and analytical (qualitative and quantitative) skills that are needed for decision-making in the higher levels of administration are the skills at which institutional researchers excel.

Because IR departments are often placed near the top of the organizational chart and because they gather or create institutional information, they maintain a unique body of knowledge that few others on campus have (Knight, Moore, & Coperthwaite, 1995; Matsen, 1993; Saupe, 1990; Suslow, 1972; Walton, 2005). This is the third of Mintzberg's (1983b) requirements. Institutional researchers are required to be knowledgeable about the entire institution (internal environment) as well as the external environment. Knowledge of the external environment and the institution's relation to it is considered contextual intelligence while knowledge of internal matters is considered issues intelligence (Terenzini, 1999). Both contextual intelligence and issues intelligence are necessary for effective decision-making. In an organization known for having departmentalized professionals, having both forms of intelligences can be considered a specialized body of knowledge that only a few employees need to or care to possess. Whether or not this information is essential depends on its linkage to the decision-making process. If it is a data-driven process (based on numbers and statistics as opposed to being based on a feeling or intuition) and rational, it is considered essential. If decision-making takes a less rational approach, it is considered a less essential body of knowledge. Since

this knowledge is gathered in one place, it can be considered as concentrated and in short supply. Nowhere else is institutional-level knowledge gathered or created. Thus, it can also be considered as non-substitutable as well. To be sure, there are times and reasons when decentralized departments create and monitor their own data, usually when they are in a defensive posture or under accreditation review; however, they never maintain institutional level data nor do they usually interpret their data at the institutional level (Hearn, 1988). Because of this body of knowledge, it has been stated that IR has four faces: Institutional researchers are an information authority regarding the institution; they are a policy analyst as they review new policies and budgets; they are spin doctors as they report to external authorities; and lastly, they are impartial scholars and researchers as they study their institution and the discipline of institutional research (Volkwein, 2003).

The fourth of Mintzberg's (1983b) primary sources of power is that of legal prerogatives, which is perhaps the weakest of institutional researchers' sources of power. Much of the reporting work performed in IR is required by outside governmental policy through mandates and grant requirements. National statistical surveys such as the Integrated Postsecondary Education Data System of the National Center for Education Statistics and a constant barrage of questionnaires are the responsibility of IR but require information from multiple resources (Saupe, 1990). Institutional researchers do not have the legal power to enforce behavior; they can demand data from departments in order to complete their required work, but they are most often dependent on those with higher authority and legitimate power to enforce the departmental reporting requirements (French Jr., 1959). However, it could be argued that once the departmental reporting requirements are institutionalized, IR is then considered as having legitimate authority to

request specific reporting behavior. Since institutional researchers have access to and they can use higher level decision makers to help ensure their requests are fulfilled, they possess the final primary sources of power.

As previously mentioned, IR departments are often situated high in the organization chart. Often times reporting to the Provost or a Vice-President, institutional researchers have access to the decision makers who have legitimate power (Delaney, 1997; Knight, et al., 1995; Matsen, 1993; Suslow, 1972; Walton, 2005). Thus, if institutional researchers are lacking power themselves, they can use the power of their associations to influence behavior as needed. For example, if an academic unit is uncooperative with a data request from the institutional researcher, the institutional researcher may ask the Provost to request the needed data on behalf of the institutional researcher. However, in a normative organization characterized by strong decentralized subunits, the extent of legitimate power is dependent on the culture of the individual institution.

French and Raven's (1959) theory on the sources of social power is a popular one that relates power to the attributes of an individual. While this study is interested in positional power, there is much overlap between French and Raven's theory and that of Mintzberg's (1983b). Reward power, the ability to award desired behavior, and coercion power, the ability to change behavior by the threat of force, are the first and second of French and Raven's sources of social power. This is similar to Mintzberg's (1983b) control of resources because the release or withdrawal of a resource can be used to reward or coerce a person. For example, the release of information, particularly positive information, can be construed as a reward while the threat to release negative information

can be construed as coercion. Departments that are compliant with the needs of institutional researchers may have their request for data or projects completed more timely than non-compliant departments. By controlling the project list, institutional researchers have the power to determine where a request is on the project list, thus they can reward or punish a department or individual by where they place their work request on the project list. The ability to control the timeliness of projects creates the power to enable, delay, prevent, or promote the work of others (Dougherty & Kramer, 2005). If institutional researchers threatened to move a project or to report data in a manner that would reflect poorly on a department, institutional researchers would be using coercive power. This of course would be considered unethical, but nonetheless, a use of power. The ability to control information, the timing of its release and its positive or negative skew, creates the presence of both reward and coercive power for institutional researchers.

Legitimate power is French and Raven's (1959) second power attribute and is described as having power based on a title or position within an organization. It is related to two of Mintzberg's (1983b) power sources: legal prerogative and access to decision makers. IR located high in the institutional hierarchy can be conceived as having legitimate power in certain requests and situations because of the location of the office in relation to decision makers. An IR department that has a well established reputation and processes can be perceived as having legal prerogatives because of the tradition of the well-established reporting process. A new IR department or institutional researcher may have little or no legitimate power, access to decision makers or established prerogatives if it is not yet established in the organizational culture or it may have instant legitimate



power depending on its location in the organizational structure. Institutional researchers can also increase their legitimate power by having earned a Ph.D., served as faculty, and published research (Delaney, 1997; Knight, Moore, & Coperthwaite, 1997; Rourke & Brooks, 1966; Walton, 2005). This would not be legitimate power that comes from a title or position, but that the institutional researcher could be called a “legitimate” researcher based on qualifications and experience (part of being a “legitimate” researcher is having “expert” power, which is discussed in the next paragraph). However, these are personal attributes that come and go with the individual assigned to the IR position. Concerning tasks and reporting, a new reporting requirement or process may not have the same legitimate power as an established way of doing business. Institutional researchers may struggle to complete the new process because it is not yet considered a legitimate process in the institutional culture. But with access to decision makers, legal prerogatives and time, the new task or reporting process will be accepted as legitimate and important to the institution.

French and Raven’s (1959) expert power corresponds closely with Mintzberg’s (1983b) technical skills and unique body of knowledge as discussed previously. It should be noted that IR will possess expert power on the institutional level but may not be considered experts on specific units or departments by those specific units or departments. However, IR maintains symbolic power as a central authority for the entire institution that may trump departmental level expertise (Hearn, 1988).

Referent power, when someone likes and respects a person or wants to be associated with that person, is French and Raven’s (1959) social power that is least closely related to Mintzberg’s (1983b) power source. To whom IR reports and its location

within the organizational chart (access to decision makers) helps create referent power for IR, assuming that the person to whom they report is a trusted leader. Not necessarily because institutional researchers maintain a respected title or position, but because they are associated with a leader who is trusted and respected within the organization. An office that is further down the organization chart will not have the close relationship with decision makers, so the office loses the opportunity to cultivate or to be associated with the referent power of the leader. An office that has the ear of the provost or vice-president will gain referent power as others will view institutional researchers as individuals worthy of their attention (Knight, et al., 1995; Matsen, 1993; Suslow, 1972; Walton, 2005).

French and Raven's (1959) theory of social power focuses on the power related to the attributes of the individual whereas Mintzberg's (1983b) power sources focuses on the power related to a position, as does Emerson's (1962) Resource Dependency theory. This study was interested in the power related to the position of institutional researcher because of its permanency compared to power associated with an individual's attributes that leaves when the individual leaves. For example, institutional researcher A may be a charismatic leader who also controls a lot of information. Institutional researcher A leaves and is replaced by institutional researcher B, who has no charisma. The power related to charisma left IR when institutional researcher A left but the power related to the control of information is still present in the IR position with institutional researcher B. The charismatic characteristic is related to the person while the power source of controlling information is related to the position, which is the focus related to this study. Because French and Raven's (1959) social power theory can be found within Mintzberg's

(1983b) power sources, this study will use Mintzberg's (1983b) power sources and Emerson's (1962) Resource Dependency theory as its theoretical foundation instead of French and Raven's (1959) widely accepted social power theory.

There is power associated with the position of institutional research related to the control of information as a valuable resource. How power is used, if at all, depends on the institutional researchers' orientation toward power. According to Goldberg, Cavanaugh, and Larson (1983), people who view power as a positive force will be more aggressive in obtaining power and using it for their own purposes; people who view power as being related to resources will value the possession and control of resources; people who see power as an instinctive drive view power as a normal and instinctive drive within all humans; people who view power in a political sense will utilize political maneuvering in their work; people who relate power to charisma will provoke emotion and may take strong action to help achieve their goal; and people who relate power to control and autonomy will attempt to control others through rewards and punishment while maintaining their own autonomy. The institutional researchers' orientation may affect how they view their position as an institutional researcher and how they use their power related to the control of information as a resource.

Mintzberg's (1983b) "will and skill" statements must be briefly discussed. Mintzberg argues that analysts' only real interest in using power is to preserve their jobs. This is done by creating a need for constant change that leads to a constant need for analysis. For example, analysts may evaluate the effectiveness or efficiency of a particular unit and determine that changes are needed to increase efficiency. After the changes are made, they re-evaluate the unit to assess the effectiveness of the changes. At

this point, the analysts can then suggest more changes that will require even more analysis. Thus, the analysts' real interest is in using power to secure continual employment through constant analysis as opposed to promoting organizational goals or direction. If a unit no longer needs to be evaluated, the employment of the analysts is no longer needed. Kipnis (1974) has stated that power needs only arise when one person needs another person to act in a certain way. This is important to this study because there are many views, as will be discussed in the literature review, that believe IR should seek to actively influence decisions while others believe IR should not seek to influence at all. For the most part, the only action an institutional researcher needs another person to take is to provide timely data so that the institutional researcher can perform the required analytics. Some consider objectivity and rationality to be the hallmarks of the institutional researcher (Fincher, 1981; Knight & Leimer, 2009; Suslow, 1972). Therefore, institutional researchers are more likely to measure and assess programs than to try and influence change within programs as a means to secure their employment.

Despite IR having no agenda and needing to remain neutral in the decision-making process, there have been calls of institutional researchers to become an active third force in the process. Citing the need for a mediator and/or interpreter between faculty and administrators, Perry (1972, p. 742) believes that IR is needed to provide a "rational interpretation of those presenting different views of education." This call extends beyond negotiations with legislators, who Perry perceived as making more decisions for the institutions than the institutions make themselves. More recently, voices from within IR have called for institutional researchers to take a lead in workforce development programs and in developing new and marketable programs of study

(Voorhees, 2005). Others have called for institutional researchers to take on the role of Chief Information Officer or Chief Strategy Officers (Donhardt, 2012; Knight & Leimer, 2009). If institutional researchers were to take a more significant role in the decision-making process, they would need to abandon their neutral analytical roles. The advantage of this, from an institutional perspective, is that it would have the input of an individual who understands the data, has a broad perspective of the institution, and who has little to gain or lose in the decision, unlike a representative of an academic department might. The advantages to the individual institutional researcher are an increase in campus status associated with being a decision maker and perhaps a salary increase as well. The disadvantage to the institutional researcher is that the individual is playing a game with higher stakes. Partaking in bad decisions may put reputations and jobs at risk. A disadvantage to the institution would be the loss of a neutral opinion in the representation of the data.

What is clear from this discussion is that there is power related to IR by means of controlling information as a resource and that there is a basis for believing that Mintzberg's (1983b) theory of primary sources of power is applicable to the specialized subunit of IR in higher education. There are also differing opinions of how institutional researchers should use their power and that their views on the use of power may be related to their orientation toward power, which will become more apparent in the literature review. Therefore, it was necessary to proceed in researching the topic in order to better understand the presence of power in IR. The context in which IR offices operate, the available sources of power, the orientations toward power held by the institutional

researchers, the institutional researchers will or desire to influence decisions, and their ability to influence decisions will be the focus of this study.

### **Statement of the Problem**

As the cost of higher education continues to rise, the pressure on institutions of higher education to demonstrate effectiveness and efficiency of their teaching, research, service, student development, and administration continues to rise, not only from tuition-paying students and their parents, but also from state governments that provide funding for both public and private institutions and employers who hire college graduates. As a result, IR will increase in size and responsibilities, while the importance of the institutional researcher in institutional decision-making will also increase. Yet, very little is known about the power associated with the position of the institutional researcher nor the ability to influence decisions, the perceived role in influencing the decision-making process, and the orientation toward power of those who serve in that position. Research has been conducted on the power and politics of faculty and upper level administrators in higher education, but little research has been conducted in the area of IR; the position nor the practitioners. Although IR has been in existence for a while, it is an emerging field of study and a profession that is becoming increasingly more critical and important to many higher education institutions. Within the field of IR, there are conflicting opinions as to the role of institutional research in influencing decisions. This research addressed these two problems: the lack of research concerning power and IR and the conflicting opinions about the use of power by institutional researchers.

## **Purpose of the Study**

The purpose of this study was to determine the level of power related to the position of institutional researcher in relation to the contextual background in which practitioners work and the sources of power available to them. The additional purpose of this study was to determine institutional researchers' orientation toward power and their opinion(s) on how their power should or should not be used.

## **Conceptual Framework and Components**

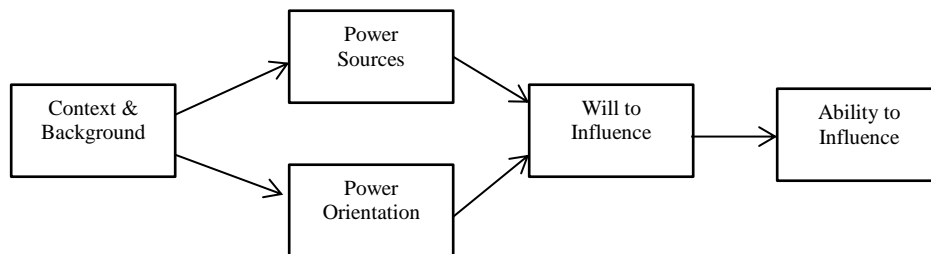
This research considered five conceptual components in trying to determine power related to the position of institutional researcher. First, the context and background of the position was considered, which includes the type and size of the institution in which the institutional researcher serves. Task and responsibilities, length of employment, education level achieved and years of service were also considered. However, because most institutional researchers handle many tasks and deal with a multitude of different situations on a regular basis, this study asked the participants to consider the totality of their work and situations.

The second conceptual component was the five sources of power identified by Mintzberg (1983b). This includes: having technical skills, having unique knowledge, having legal prerogatives, having access to decision makers, and controlling resources. The context in which the institutional researcher works has an influence on which power sources are present, if any. How the sources of power are used is influenced by the institutional researcher's orientation toward power.

Orientation toward power was the third component of this study. This includes seeing power as: a positive attribute, politically based, being related to resource

dependency, related to personal charisma, and a means for control and autonomy (Goldberg, et al., 1983). How an institutional researcher views power was thought to be related to context of the position and the available power sources, however; this does not guarantee that the institutional researcher has the ability or the will (desire) to use the available power.

The ability and the will to use power were the final two components of this study. The ability to use power was determined by the three prior components; the context of the position, the available sources of power, and/or the orientation of the institutional researcher toward power. Even though the context allows for the use of power and the power sources are available, the institutional researcher may not have the will or desire to use power to influence and may prefer to remain totally objective in their work. It is the intra-workings of these components that this research sought to identify. The following map is intended to further clarify the framework and flow of this research.





## **Research Questions**

The following questions guided this study:

1. Using Mintzberg's work, what did institutional researchers report as their primary sources of power: control of a resource, technical skills, unique knowledge, legal prerogatives, and/or access to decision makers?
2. How did the reported sources of power vary by institutional size, institutional type, job responsibilities, and experience?
3. What were institutional researchers' orientations toward power?
4. How did institutional researchers' orientations toward power vary by institutional size, institutional type, job responsibilities, and experience?
5. What were institutional researchers' feelings and attitudes about their role in influencing institutional decisions?
6. How did institutional researchers' feelings and attitudes about their role in influencing institutional decisions vary by institutional size, institutional type, job responsibilities, and experience?
7. Which variables related to power best explained institutional researchers' ability to influence decisions?

## **Significance of this Study**

This study hoped to expand the understanding of power in subunits of organizations, specifically in the profession of IR that is becoming more significant on many campuses. While much has been done with power and power players such as managers and executives in business literature, little attention has been given to the power of business analysts and support staff- those who have a direct influence on

information. In the area of higher education, the equivalent to the position of business analyst is the position of institutional researcher; almost no attention has been given to the study of power related to this subunit. Most studies have concentrated on faculty, higher level administrators such as deans, provosts, vice-presidents and presidents, or outside legislators; more research is needed regarding lower ranking staff in complex organizations, specifically, institutional researchers in higher education. Additionally, the majority of research on power in higher education has used case study methodology and therefore lacks generalizability. By using a survey methodology, this study fills a gap in the body of knowledge with more generalizable data.

If Mintzberg's (1983) primary sources of power were shown to be present with the position of institutional researcher, it would open the door for further studies focusing on power applied by those who manage and analyze knowledge and information, power in relation to resource dependency theory, and power of lower level actors and subunits in higher education. Additionally, this study allows institutional researchers to rethink and re-evaluate their role in the decision-making process in higher education and perhaps raise the profile of institutional researchers by identifying how institutional researchers are oriented toward power and how they believe their power should be used. And finally, this study sought to confirm or deny the application of Mintzberg's theory in this unique context.

**Chapter II**  
**Review of Literature**  
**Introduction**

The following literature review consists of four sections that offer a discussion of power as it relates to the position of institutional researcher in higher education.

Organizational theory begins the discussion and includes the collegial, bureaucratic, political, and cybernetic models of governance related to higher education. This section informed the research by providing background information on organizational types, how decisions are made and how it relates to IR. A discussion of the role of IR follows and includes the topics of data management, reporting, framing questions, and policy and decision-making. This section provides information that is related the power sources in IR. The next section focuses on power and effectiveness in institutional research. It includes topics such as: power as it relates to the institutional researcher's position, personal characteristics related to power, power in relation to location, the power of information, resource dependency, opinions about power in IR, and the barriers to its use. This section provides information useful for understanding sources of power, the institutional researcher's orientation toward power, and views regarding the appropriate use of power in IR. Lastly, this literature review discusses what little research has been conducted concerning power in higher education and how the research contributes to this study. It has been said that power is involved in every transaction within an organization, which is why it was important to begin with an understanding of organizational theory (Dougherty & Kramer, 2005). This final section contributed to all five components of this research.

## **Organizations**

To understand the role of IR within an institution of higher education, it is important to understand higher education through the lens of organizational theory. Higher education shares many of the characteristics of for-profit organizations and therefore is partially explained through each of the different organizational theories. Few, such as cybernetics, attempt to fully explain the complexity of higher education and how these institutions function. Diversity of institutions is a hallmark of the American higher education system, and no one theory will cover all of the different cultures and administrative styles within the system. Some administrations are almost like dictatorships while others are governed by an extremely strong faculty. This review only touches on the major theories: collegial, bureaucratic, political, and cybernetic. Attributes of each theory appear in various aspects of higher education: attributes of a bureaucracy can appear in community colleges as well as in subunits within a research institution such as the bursar's office; political attributes can appear anytime there is a competition for resources that can occur in any level of higher education; collegial attributes are present anywhere faculty are present; cybernetic attributes are more present in larger, more complex institutions and is perhaps the best model to explain higher education. Each organizational theory approaches decision-making differently. By understanding the organizational theories that help explain higher education, the issues facing IR departments as they relate to power and influencing decisions are better understood. Thus, the intent of this section is to develop background information and the context for the other components of this study; power sources, power orientation and the will and the ability of the institutional researcher to use their power. This section begins with a

discussion of the collegial organization and proceeds to the theory that best describes higher education, the cybernetic organization.

### **Collegial Organizations**

The collegial model of organizations has its roots in Human Resource models that view an effective and efficient organization as one that meets the needs of its members instead of focusing on production or politics. The members are, in fact, the functional element of the organization (Vires, 2009). In such an organization, members who share a common set of sentiments and values are considered equal. Higher education is often considered a collegial organization because of the democratic community of scholars that emphasize deliberation and consensus in decision-making. Universities and colleges have a layered system of subunits that share a general mission and set of values but have differing values and missions within the subunits that at times can seem conflicting (Baldrige, Curtis, Ecker, & Riley, 2000; Birnbaum, 1988; Vires, 2009). For example, the entire institution may agree on the value of education, but while a student affairs unit may focus on retaining students, an academic unit may seek to eliminate students who are not academically prepared for the academic unit's curriculum. These collegial organizations are loosely coupled with the external environment but more tightly coupled internally. Changes from an external force may affect only a specific subunit with which it interacts, but changes within the organization can affect all of the subunits (Birnbaum, 1988; Vires, 2009).

Administrators in the collegial system are generally elected instead of appointed and are considered first among equals. Their job is to create and maintain a sense of purpose for the organization, establish and maintain formal and informal communication

channels, and foster cooperation between the organization's subunits. Baldrige (2000) has described the administrator's role as listening, gathering expert opinions, facilitating, and negotiating. Power is decentralized as the collegial organization places emphasis on equality, consensus, and shared input of the subunits and not the administration (Vires, 2009). Administration is considered subordinate to the subunits and must follow the culturally established procedures when making decisions that will affect the focus of the subunits. The leadership is not expected to use coercion to achieve its goals but is to reflect the values of the subunits (Birnbaum, 1988). Social power found in the individual is more important in the collegial system than the legitimate power that can be found within a position (Vires, 2009). Institutional researchers may struggle with power because of their lack of social power, which is thought of as a personal attribute and not a positional attribute. An institutional researcher who lacks social power may be dependent on having access to decision makers or the control of resources if the institutional researcher wishes to influence decisions.

In a system that emphasizes deliberation and consensus, decisions are made using social exchange theories rather than a rational system (Vires, 2009). Because institutional researchers specialize in data, they excel in rational decision-making and can be de-emphasized in the collegial system. However, they can participate in the decision-making process by contributing needed information during deliberation or by providing feedback in the form of program assessment once a decision has been made and implemented. Data from IR in a collegial system is used to support a movement toward consensus but is not as important as the expertise and professional opinions of faculty who are participating in the decision-making (Saunders, 1983; Walton, 2005). Since higher education's emphasis

is on teaching, research, and service and not on reporting and decision-making, power lies in the faculty that carry out this mission. Institutional researchers could increase their power by having a Ph.D., publishing research and by having class room experience. These variables have been shown to be correlated with an increase in referent power and power of expertise (Delaney, 1997; French Jr., 1959; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005). Additionally, an institution that has a history of IR as a part of their decision-making protocol, creates the impression of legitimate power for the institutional research subunit, whereas a “start-up” IR department may have trouble getting an invitation to the decision-making table (Delaney, 1997; French Jr., 1959; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005). The main way people influence each other in a collegial system is through referent power and the concept of first among equals. Without having experience as a member of the faculty, institutional researchers may not have the social power to be considered an equal, and because of its uniqueness, there are very few positions in higher education “equal” to the institutional researcher. The power sources for IR appear to be limited in the collegial model as the emphasis is on shared governance and equality. However, if IR can control the information resources and develop unique knowledge, then institutional researchers can be considered a subject matter experts and be included in decision making. Their orientation toward power may lean toward personal charisma, which they may feel they do not have. There may also be a tendency for the IR staff to take a more objective approach to their reporting in order to allow the faculty to make decisions.

## **Bureaucratic Organizations**

Perhaps the most common theory used to explain an organization is the bureaucracy. The term itself conjures up images of red tape and inefficiencies, when in fact the bureaucratic structure was designed for just the opposite: to maximize efficiency through specialization (Vires, 2009; Weber, 2005). Efficiency is achieved through specialization and standardization of work. The bureaucratic organization is one of great hierarchical structure and order. Specialization of processes and responsibilities define jobs and lines of responsibilities, while the hierarchy defines the flow of communication and decision-making. Specializations can be very effective in some areas of education such as the office of the bursar, yet higher education is also full of necessary, redundant specialization such as advising. Qualification, rank, and status determine power and the ability to use it (Birnbaum, 1988; Weber, 2005). Decisions are made using the rational approach whereby the organization attempts to control as many variables as possible through standardization and base decisions on research and data in order to gain or maintain efficiency (Birnbaum, 1988). An example of this in higher education would be an admissions office that is highly selective and uses algorithms to predict student success. This allows the office to control the student variables and therefore increase the chances of retention and higher graduation rates. The more complex an organization becomes, the more specialized the departments become, which increases the need for a techno-structure. Within this techno-structure are the administrative units that include the analysts who provide the research and data for decision-making (Birnbaum, 1988; Mintzberg, 1983a, 1983b; Vires, 2009). Institutional researchers fulfill this role in higher education because they are a specialized subunit, often centralized, who provide research



and data for decision-making. However, higher education is known for being decentralized and highly specialized and is sometimes considered a Professional Bureaucracy (Mintzberg, 2000).

While traditional bureaucratic organizations base their specialization on tasks that are standardized, Mintzberg (2000) explains higher education as a professional bureaucracy that is based on the specialization of knowledge and loosely standardized tasks carried out by the faculty who have the freedom to work as they best see fit. Because of this combination of specialization and professionalism, there is less need for a large techno-structure to coordinate the work of the institution. Administration focuses more on issues outside of the organization than on disturbances within the organization (Birnbaum, 1988). The role of IR is focused on producing standardized data and routine reports (Saunders, 1983).

Power in a truly bureaucratic organization flows up the hierarchical chain and is very centralized, while power in higher education tends to be decentralized and lies with the professional faculty. The diversity of specialization makes it difficult for a centralized administration to supervise and manage. Additionally, the expertise of the faculty is in demand from organizations outside of the institution. Grants and professional organizations dictate much of the work of the faculty and can limit the influence of internal authority. Faculty who wish to take on administrative responsibilities are able to increase their power to influence by adding legitimate and specialized knowledge to their sources of power (Birnbaum, 1988; Etzioni, 2000; Mintzberg, 2000). Individually, faculty are limited in their power, but the collective organization of the individuals makes it possible for the faculty to gain control over administrative decisions (Etzioni, 2000;

Mintzberg, 2000). The implications for institutional researchers are that they must understand the relationships within the institution and be aware of the different issues of interest related to each college or department. If institutional researchers have access to higher level decision makers, they must understand when to use that resource to accomplish their tasks, and when not to while they balance the interests of the centralized administration and the faculty.

Rational decision-making in professional bureaucracy is more difficult due to the decentralization of power of the specialized units. Conflict occurs from the contradictions of a professional bureaucracy. The decentralized power prevents a true bureaucracy when the decentralized power attempts to make a centralized decision. If academic units attempt to collect their own data and manage their own variables (enrollment and retention for example) in order to apply a rational process, it can result in conflicting information as each academic unit seeks to understand and interpret their own data without regard to other academic units or the institution as a whole. Because of the potential of conflicting information, the information provided by institutional research must be complete, accurate, and objective for it to be used in decision-making on any level (Walton, 2005). While the office of institutional research is part of the techno-structure of professional bureaucracy, it has the potential to be a power player based on its ability to collect data and create information for both the subunits and the central administration. The ability to create information coincides with the ability to define the environment, identify internal disturbances, and create political alliances (Billups & Delucia, 1990; Birnbaum, 1988). The potential sources of power for IR existing in the

bureaucratic model included unique knowledge, technical skills, access to decision makers and the control of information as a resource.

### **Political Organization**

When an organization is described as being political, it generally conjures up images of conflict, which is rightly so as conflict is a major characteristic of political organizations. Loose coupling, decentralized power, and the absence of clear goals are also prominent characterizations of these organizations. While a bureaucratic organization focuses on production, political organizations tend to be focused more on setting policy and acquiring resources, and it is in these areas that the conflict occurs (Baldrige, et al., 2000; Birnbaum, 1988; Mintzberg, 1983b; Morgan, 2006; Vires, 2009). Public agencies, such as higher education, have a tendency to operate in a political model because they are not dependent on production for funding but receive most of their funding from outside interests. This dependence on outside resources attracts external parties who seek to influence decisions and engage in further politics (Mintzberg, 1983b). The competition for resources, and therefore politics, occurs internally as well. Administrators seek to maintain a stable organization, but the influences from outside sources create disturbances by introducing new regulations or increasing or decreasing funding (Mintzberg, 1983b). Because the political organization is a complex one with loosely coupled subunits, not every disturbance (disruption or threat to the status quo) affects every subunit. Thus, coalitions rise and fall, and alignments are constantly changing depending on current issues and needs of the subunits (Birnbaum, 1988; Mintzberg, 1983b; Morgan, 2006). The political model is necessary in higher education in order to obtain resources (funding and space for example) and to set favorable policy.

The complex and changing coalitions make it difficult for any one group to be totally satisfied with the decisions that are made. Thus, decisions aim to only be satisfactory and not perfect, often resulting in goals being set but rarely achieved (Morgan, 2006; Vires, 2009). Decision-making is rarely done by just one person, and it is only those parties that are interested in the issue who engage in the political process. It results in ever-changing coalitions and a dispersion of power (Baldrige, et al., 2000; Birnbaum, 1988; Vires, 2009). Institutional researchers need to understand the political system if they wish to be influential and become the basis of decisions (Saunders, 1983). As the issues change, coalitions realign in order to influence the decision, be it policy or resources, in their favor (Baldrige, et al., 2000; Birnbaum, 1988; Matsen, 1993; Mintzberg, 1983b; Morgan, 2006; Saunders, 1983; Vires, 2009). Coalitions form only when the groups will mutually benefit; however, when one group has more to gain from the pairing, that group tends to contribute more to the cause. Power then shifts to the subunit that is most able and most willing to positively influence the decision toward their desired outcome, and the larger the group, such as faculty, the more confounded the decision makers (Birnbaum, 1988; Saunders, 1983). Power associated with positions and titles lose their influence when power is dispersed, and the most powerful individual is the leader of the coalition at that particular time regarding that particular instance (Vires, 2009). Once a subunit engages in politics and in developing a mutually satisfying decision, that unit loses the right to complain and/or oppose the decision and must become a champion for the larger cause (Morgan, 2006).

Rarely do issues concern institutional researchers enough for them to engage in the political process for their own interests. The political process can dictate the choice

and priorities of issues to be addressed and who need to be involved in decision-making. However, they do act as a feedback loop once decisions are made by providing data and program evaluations. Data in the political decision-making process can be used in a variety of ways but are mostly used to support a coalition's agenda (Matsen, 1993). Decisions are not made rationally but are usually made through a give and take process that seeks to achieve a mutually satisfactory decision (Birnbaum, 1988). Data, then, are only one piece of the negotiated reality of the political environment (Matsen, 1993). The implication for institutional researchers is that they serve as a power tool that coalitions seek out for support. Administrators use the data to support decision and to create the perception of competence, persuade others, and to reinforce a political decision (Walton, 2005). Again, institutional researchers gain power through the ability to define the environment through the interpretation of data as well as using expertise and skill in data management. They also gain power by controlling information as a resource. In discussions that are more emotional and self-focused, IR can be a rational and objective voice (Suslow, 1972). To be fully engaged, institutional researchers need to understand who the key decision makers and coalition leaders are, the style of the decision makers, the issues at stake, and the formal and informal lines of communication (Saunders, 1983). Saunders (1983) recommends that IR stay away from too many negative or unpopular issues and understand exactly what problem or questions are being asked of them in order to be effective in a political system. Institutional researchers must spend time and energy on issues, be persistent, facilitate the participation of the opposition, manage unobtrusively, and volunteer to write the final draft in order to survive in this system (Saunders, 1983). The implication for this study concerning the position of institutional

researcher in a political environment is that the information the institutional researcher controls is a valuable resource. The institutional researcher has power through the ability to shape information and through the determination of the release of information. However, the institutional researcher may or may not decide to intentionally use that power to influence decisions. The sources of power (control of resources, access to decision makers, unique knowledge, and technical skill) are present, but its use is dependent on the institutional researcher's orientation toward power. For example, an institutional researcher who views power as being political may thrive in this type of environment. The political organization increases our understanding of the context in which power sources exist for IR and their dependency on the institutional researcher's orientation toward power. There appear to be more sources of power for IR and more opportunity for institutional researchers to decide to use or not use their power.

### **Cybernetic Organizations**

The cybernetic view of organizations is part of the school of thought that views organizations as systems (Vires, 2009). Regarding higher education, it is viewed as a complex system that is made up of both loose and tight couplings, conflicting and ambiguous goals, and with both a centralized and de-centralized administrative system. In order to deal with the complexity of the system and the conflicting goals, the cybernetic systems are made up of a large amount of subsystems and subunits. Institutional goals are usually vague due to the complex system. To simplify the goal setting and to add specificity, each subunit sets its own goals. The subunits respond to outside influences only as they pertain to their goals, resulting in a tight coupling. This allows those units not affected by the outside unit to maintain a loose coupling. However,

internal issues tend to have a tighter coupling with more of the subunits than do the external influences (Birnbaum, 1988; Vires, 2009). Because the subunits are responsible for responding to external influences, they are charged with the task of making slight adjustments to their subsystem when external influences cause a disturbance in the system. Only when the disturbances are significant does the central administration become involved. A system of social and structural controls helps the subunits to make minor adjustments and allows the cybernetic organization to run itself with little involvement from a centralized administration. Social controls are the culture of the university and subunits, meetings, missions, and symbols, while the structural controls include the rules, requirements, and organizational structure (Birnbaum, 1988; Vires, 2009). Because of the complexity of the couplings, institutional researchers must be aware of issues across campus and have a strong understanding of the stakeholders affected by their research and reporting. When they are included in decision-making, they can be aware of who should be involved because of their unique understanding of the institution.

Central administration in a cybernetic organization is tasked with designing communication systems, collecting data, responding to organizational crises, and subtly influencing the subunits. Because there are so many variables that can potentially affect an organization, central administration chooses a few variables that are significant to them and monitors only those variables while leaving other variables to be monitored by the subunits. The goals of central administration are achieved by obtaining funding, assigning the goals to the subunits, and then allowing them to carry out their tasks (Vires, 2009). As the number of central goals increases, so does the number of subunits and

therefore the number of decision makers. This then shifts the power from the individual administrator to the subunit (Vires, 2009). Institutional researchers help monitor the goals of central administration and when invited, help monitor the goals of the subunits. Often they gather the information from the subunits to develop a comprehensive picture of the whole.

Not only is the cybernetic organization complex in terms of its organizational structure, it is also complex in terms of its power structure because it combines the decision-making characteristics of collegial, bureaucratic, and political organizations (Vires, 2009). The centralized power stems from the bureaucratic structures found in the structural controls that are required to operate a university as well as the broader missions and goals of the university. Decentralized power can be found in the social controls, decisions made within the subunits, and in collective efforts of the collegial faculty when they engage in politics of the organization (Birnbaum, 1988; Vires, 2009).

The complexity and diversity within a cybernetic university presents ample opportunity for the IR department to utilize power and to engage in the decision-making process. Cybernetic organizations tend to be more interested in their inputs than outputs. This emphasis on inputs requires the help of IR to monitor what is coming into the university and make the involved subunits aware of changes or disturbances and irregularities (Vires, 2009). Outside influences tend to be interested in the outputs of the cybernetic organization, which also involves IR, as they evaluate programs and determine the success or failure of a subunit's efforts. Structural controls and the bureaucracy seek a rational decision-making process that calls on the expertise of IR, while the collegial and political aspect requires IR to engage in coalitions by supporting their cause with the



needed data and information. Lastly, because cybernetic systems are continually making adjustments to irregularities in the system, IR can be called upon to monitor and identify what are irregular and what are not. This apparent chaos caused by the irregularities requires IR to consider multiple perspectives and monitor ever-changing coalitions. Yet they must always believe that their data is based on reality and answers the appropriate questions as they relate to the decision makers' values and views (Matsen, 1993). Therefore, IR determines what gets attention and what does not (Birnbaum, 1988). It is the creation of information that determines the environment and to what the institution reacts (Billups & Delucia, 1990). The implication for IR in the cybernetic organization is that their power will not be consistent throughout the institution. In a situation that requires a rational decision, they may be quite influential, but perhaps not so influential in a collegial decision. The amount of power they have and how they use it will be determined by the situation and their personal orientation toward power. Regardless of the situation, all of the sources of power should be available to IR in the cybernetic organization. Because of the complexity of the decision making process, it was thought that the institutional researcher's orientation toward power might be a more significant variable toward determining the use of power in this type of organization than in the bureaucratic, political and collegial organizations.

### **The Role of Institutional Research**

In 1966, Rourke and Brooks (1966) referred to IR as being at the heart of the trend toward modern management techniques in higher education. They believed that the trend toward data collection and its use in decision-making may signify or forecast a shift in power within the institutions. Since that time, the role of IR has continued to evolve

but yet remains poorly defined. Saupe (1990) stated that it is impossible to categorize or number the possible contributions IR can make toward decision-making. He defines IR as research within an institution of higher education that provides information that supports planning, policy making, and decision-making. It is the combined characteristics of the institutional culture and the skills and goals of the director of IR that mainly determine the role of the researcher and the office (Matsen, 1993; Rourke & Brooks, 1966). The collection and distribution of data is a common role for institutional researchers as is basic and routine reporting for areas such as enrollment management, financial aid, and academic units (Knight & Leimer, 2009; Leimer, 2011; Suslow, 1972).

To understand the presence of power in IR or the potential use of power, it is necessary to have an understanding of the role of IR within the administration of the institution. This is somewhat challenging because of the variation in IR departments and the limited amount of research on the subject (Delaney, 1997). This section of the literature review informs the conceptual framework and components of this research by providing additional background information related to the context in which IR operates, identifying power sources, and opportunities for the use of power should the institutional researcher be oriented to do so. IR's role in reporting, framing and identifying of appropriate questions, and decision-making are discussed in this next section. But at the core of all IR functions are data and its management.

## **Data and Its Management**

The enormous amount of unmonitored information floating through society in general and organizations in particular has created a need for groups whose main responsibility is to capture, filter, sort, and distribute data. Knowledge management has become a \$12 billion industry and is very present in the non-profit world of higher education (Serban & Luan, 2002). In fact, institutional researchers, if they follow the trend in the for-profit world, may eventually have the opportunity to become “Chief Knowledge Officers” (Donhardt, 2012; Knight & Leimer, 2009; Serban, 2002; Serban & Luan, 2002). The roots of IR may lay in the tasks of appraising higher education, but today its tasks are dominated by the management of data and the creation of information (Leimer, 2011). While institutional researchers may not always be the host or administrators of data warehouses, they are all involved in determining the needs of their clients and then capturing, pulling, and reporting the data (Delaney, 1997; Leimer, 2011; Lyons, 1976; Matsen, 1993; Saupe, 1990). This data consists of information concerning courses, facilities, financial services, financial aid, staff, and students (Lyons, 1976). Additionally, IR must manage data sets that are acquired from outside the institution or dedicated internally for data specific purposes, as well as data fused together from a variety of sources (Serban & Luan, 2002). Finally, data can be individual and can be described as residing with a single person; data can be structural as established in manuals and policies; and data can be organizational as established in the learned culture and activities (Serban & Luan, 2002).

Matsen (1993) stated that IR maintains three roles related to data: provider, interpreter, and critic. As the provider of data, IR gathers and cleans the data needed for

both standardized and ad-hoc reporting. This data must present a meaningful picture of the institution (Saupe, 1990). In the interpreter role, IR organizes the data and provides meaning and/or conclusions appropriate to the questions asked and the group doing the asking. This requires institutional researchers to anticipate questions that may be asked of them and frame questions so that they provide the most benefit to the decision-maker. As a critic, institutional researchers look at the data from different points of view and attempts to discover new ones in an effort to aid in the decision-making process. Serban (2002) and Volkwein (2003) took the role of interpreter and critic further and called the institutional researcher a spin doctor, policy analyst, scholar, and information authority: all referring to the ability of IR to influence the use of data and the decision-making process.

Institutional researchers can improve the decision-making process only if they have quality data and a system to make sure the data is used effectively (Fincher, 1981). Executives expect high quality, comprehensive, objective, and accurate data and analysis and desire information more than raw numbers and percentages (Billups & Delucia, 1990; Ehrenberg, 2005). It is when the data are placed in context and given meaning that institutional researchers can truly improve the decision-making process (Fincher, 1981; Serban & Luan, 2002). However, quality and contextual data are only as effective as the decision-makers' inclination toward its use. Often times institutional researchers must undergo a process of educating the administration and faculty about what data sets are available, how they can be used, and the benefits of using them in a particular decision. Data education may be key to ensuring the effectiveness and influence of IR (Ehrenberg, 2005).

The use of data in a decision-making process is a reflection of the culture of the institution. A culture that does not include a rational component in the decision-making process may see little value in data, so the institutional researcher must understand the needs of the administration and strive to educate on the benefits of data. Data must be delivered in a way that meets the needs, style, and preferences of the decision maker (Walton, 2005). In a cybernetic and/or political system, institutional researchers must strive for objectivity and balance in their data presentation. Information that caters too much toward the views of administration will cause the faculty to view the institutional researcher as a member of the administration, but too much faculty influence can set the administration against the institutional researcher (Suslow, 1972). The bottom line for the institutional researcher is to understand who is involved in the decision being made, get involved in the framing of the question, and provide the data in an understandable and useful format (Billups & Delucia, 1990). After all, to help define a question is to help influence the decision (Saunders, 1983). Ultimately though, institutional researchers must remember that data are not the only components in a decision and institutional researchers' roles are complicated by many factors other than data (Walton, 2005).

The control and management of data discussed in this section provides the opportunity for IR to have power sources in the way of controlling information and having technical skills. The potential to be Chief Information officers provides a glimpse of how IR can partake in decision making should they desire too. The power orientations of controlling resources and political awareness related to the control of information and the ability to understand the needs of the decision makers. Lastly, the identification of

organizational culture as being a determinant of IR's role, emphasizes the importance of context in understanding IR's power.

## **Reporting**

While data collection and reporting are traditional activities of IR, some researchers believe the roles of IR have narrowed to focus almost exclusively on reporting and supporting the research needs of others. Because of decreasing budgets, institutions have put more effort into monitoring the effectiveness of their programs. The smaller budgets have also caused the centralization of IR because smaller academic and administrative units can no longer afford the cost of research. As a result, IR departments are overwhelmed with reporting duties and unable to carry out other roles such as program evaluation and environmental scanning. Because of the focus on data and reporting, IR has begun working with data warehouses and data management in an effort to gain efficiency in their reports and consistency in their data (Leimer, 2011). Most of the reporting presented by IR, beyond government-mandated reporting, is in the areas of planning, enrollment management, and student surveys. Power sources that can be present in IR can then include legal prerogatives, having unique knowledge and controlling resources. In addition to the heavy reporting work load, institutions are seeking more information on enrollment management and student surveys to ensure they are competitive and retaining their students (Delaney, 1997).

The purpose of IR reporting is primarily program evaluation, but all activities related to reporting are intended to improve academics and administration (Suslow, 1972). Institutional researchers must understand the characteristics of their customers and

the needs of the units they are serving in order to provide the most useful information (Billups & Delucia, 1990; Saupe, 1990). That includes threats to individual units and the system as a whole. Units that are not dealing with any threats or imbalances to the system can generally be left alone, but those units that have issues are identified and brought to light. When an imbalance occurs on the institutional level, institutional researchers can identify and encourage top level administrators, who are included as key-stake holders in the decision-making process, to open up lines of communication. Often time this includes broadening the group to include overlooked or neglected units (Fincher, 1981; Knight, et al., 1997). Saunders (1983) and Saupe (1990) referred to this reporting as “action research” that allows institutional researchers to act as agents of change. The ability to identify units that are “off track” can serve as a strong source of power. Often, it is those units identified by IR that are no longer fulfilling their mission or are unable to prove their contribution to the goals of the institution that lose their funding and support (Saupe, 1990; Suslow, 1972). Thus, the ability to frame the question properly and address the concern accurately is a powerful attribute of IR.

### **Framing Questions**

The ability to understand the needs of the various units on campus and properly frame questions requires IR to maintain a broad understanding of the institution. Having a good relationship and experience with multiple disciplines helps IR consider the different realities that exist within an institution. This enables them to maintain an objective reality, while at the same time represent the various other realities when considering research questions (Matsen, 1993; Suslow, 1972). Having multidisciplinary skills in management technology, education psychology, social sciences, and analytics enables

institutional researcher to utilize a variety of techniques in gaining understanding and setting research direction (Suslow, 1972).

The multidisciplinary approach allows the institutional researcher to pose questions and structure problems in a way that gains a broader scope of involvement across campus and identifies appropriate resources (Saupe, 1990). As previously mentioned, this may involve re-educating units as to what data sets are available to them and how the data set applies to their questions (Fincher, 1981). The ability to properly frame research questions is a technical skill that provides a source of power in IR as does the unique knowledge institutional researchers have when they have a multidisciplinary approach. This may also require a political orientation toward power. When decision-makers understand the multiple perspectives and realities across campus and are aware of the data that can help them answer questions, the information provided by IR can aide committees in their work and policy setting (Ehrenberg, 2005).

### **Policy and Decision-making**

Delaney (2009) argues that IR has always had a role in planning and policy making. While institutional researchers may not have been the source of the decision, their data and reports are at least an important part of the decision. Decisions are almost never made solely based on the work of the institutional researcher but are based on the academic and professional judgment of the decision makers (Saupe, 1990). However, as Rourke and Brooks (1966) point out, fact finding and decision-making are not mutually exclusive. The major studies and research produced by IR represents their very active role in policy formation (Suslow, 1972).



Institutional researchers' role in policy formation and decision-making is the area they can apply the most power. Of course, this is very much dependent on the culture of the institution in which they work. An institution that uses a rational approach to decision-making might ask staff from IR to be present at the decision-making table or an institutional researcher may simply provide data to the decision makers. In a more collegial environment, IR may not be viewed as a significant enough stakeholder to be included in the decision or they may be asked to bring a rational voice to the conflicting parties. Whatever the case, IR reflects the culture of the institution and the role of IR is set by the decision-making and policy formation processes established by the culture (Matsen, 1993). IRs must use their access to knowledge and seek the privilege of sitting at the decision-making table in order to be involved in the decision-making process (Serban, 2002). Usually, it is as a subject matter expert on the institution or higher education that the institutional researcher is involved in a decision and not as a researcher (Saupe, 1990).

Because institutional researchers generally have broad knowledge of the whole campus, they need to build a system of relationships in order to properly frame questions, collect the needed data, and have an influence on the decision. But having positive relationships is not enough; institutional researchers must also understand how relationships work across campus in the political realm (Serban & Luan, 2002). Suslow (1972) suggests that IR must have an attitude toward diversifying their skills in multiple disciplines in order to gain understanding of the college and to enhance their political relationships. But to truly enhance their ability to be included in the decision-making

process, the IR department must be located near, and report to, the higher levels of administration and have cross-campus responsibilities (Suslow, 1972).

Whether or not IR attempts to intentionally influence a decision in one direction or another is determined by the organizational culture and the individual researcher's characteristics; but the intention of IR is to promote action (Rourke & Brooks, 1966; Serban, 2002). This may be in the role of consensus building or by suggesting a possible course of action. Institutional researchers have expressed frustration in being unable to make suggestions or in being admonished for pushing too hard in trying to get their suggestions adopted. It more often seems to be the case, however, that institutional researchers only give their opinion or recommendation when asked: and it is not a part of their regular routine (Suslow, 1972; Walton, 2005). Institutional researchers can increase their chances of participation in decision-making: by getting more involved in committees and/or acting as a third voice or mediator during discussions by confirming or questioning anecdotal knowledge (Lyons, 1976; Suslow, 1972). The tendency for IR is to assume that decision-making is a rational process and that effectiveness is defined by rationality, but that is usually not the case (Saunders, 1983). An understanding of political relations, the organizational culture, and how their skills and out-puts can benefit the decision makers is required in order to influence decisions. The ability to influence decisions in a chosen direction is power.

This discussion of IR's involvement with policy and decision-making identified most of the power sources potentially found in IR. Control of resources is present in providing information, having unique knowledge relates to the campus-wide perspective that IR may have, and access to decision makers would be present in discussing policy.

The desire to engage in policy-making may be influenced by the individual institutional researcher's orientation toward seeing power as positive as well as seeing it as political.

### **Power, Influence, and Effectiveness in Institutional Research**

Power is a topic rarely discussed in relation to IR but is often alluded to. Terms such as influence and effectiveness are more often discussed but usually remain undefined. There has been very little research on power in higher education at the departmental or individual level and even less on the power of IR (Thompson, 1990). A sociologist may view power as a hierarchical social structure, a psychologist understands power as an individual's internal drive and motivation, while a social psychologist will view power as the ability of one individual or group to influence another individual or group (Goldberg, et al., 1983). Power exists on the surface of an organization but also throughout the organization embedded in the social system (Frost, 1987). This section contributes to the conceptual framework of this study by reviewing themes from the literature that hint at the presence of power, identifying some sources of power common in IR, and orientations toward power as they relate to institutional researchers. Beginning with a definition of power and effectiveness, the section will then discuss some of the sources for power in IR and, finally, some of the limitations and barriers to power.

#### **Defining Power and Effectiveness in Institutional Research**

Thompson (1990) defined power as the ability to get people to do something they might not have otherwise done. This usually involves a specified and desired course of action, but specificity is not truly necessary to change another person's course of action.

The ability to change or set a person's or group's direction, in any direction- specified or unspecified- other than what they were intending to go, is reflection of power and influence. Power can be used consciously or unconsciously to cause action or to prevent action (Bachrach & Baratz, 1962; Frost, 1987). It can be used to create new situations or to reinforce existing situations, it can be used or not used, and lastly it can be based on a person or a position (Emerson, 1962; Mumby, 2001).

Power is an invisible, elusive construct that is only measurable as a theoretical construct, which is why there has not been a lot of research on power, even though every interaction that occurs within an organization involves a component of power (Dougherty & Kramer, 2005; Goldberg, et al., 1983; Thompson, 1990). When discussing IR's ability to influence a decision, it can never be proven that the same decision would have been made without the influence of IR (Rourke & Brooks, 1966). What is known, however, is that information is power and information is seen as a commodity (Bahniuk, Hill, & Darus, 1996; Farley, 1987; Frost, 1987; Morgan, 2006; Pfeffer, 1981). This is evident by the way information is sometimes withheld or released at certain times and in certain quantities. When institutional researchers create and provide information from their data and reporting, they are providing power to the recipient (Rourke & Brooks, 1966). If a person can control information and keep others dependent on him or her for information, that person can control and influence the decision-making process (Saunders, 1983). Dependency is a key concept related to power and is based on relationships (Casciaro & Piskorski, 2005; Emerson, 1962). When one is dependent on another person for a particular resource, the person controlling the resource maintains a certain level of power over the one in need. When knowledge and data are the resources in demand, IR becomes

more powerful. Because of the connection between power and information, IR can be the provider of power (Hearn, 1988). Dependency may be less of an issue in higher education because individual units and professionals can perform their own research and create their own information (Thompson, 1990). However, as previously mentioned, the centralization of institutional research because of the increased demand for reporting and shrinking budgets, the dependency on IR for information has increased (Delaney, 2009; Leimer, 2011). Rourke and Brooks (1966), in the formative days of IR, wrote of a shift in power because of a change toward new management techniques. The current emphasis on accountability and quality in higher education today is again placing more power and influence with institutional research. The concept of controlling information is one of the sources of power and also a type of power orientation. An institutional researcher who believes in power is gained by controlling resources will seek to do so by controlling the release of information coming from IR.

But power is not generally a term used within institutional research; instead, effectiveness is more often used. The problem is that the term “effective” is just as vague as the term “power,” and defining it has been an ongoing process (Knight, et al., 1997). Being effective might simply refer to one’s ability to perform one’s work or it might mean the ability to influence policies and decisions. In case of the latter, effectiveness is often related to rationality. When institutional research provides data-driven reports, it increases the likelihood that the outcome for a particular decision will be the most rational one; therefore, institutional research could be considered effective (Billups & Delucia, 1990; Saunders, 1983). Billups and Delucia (1990) also believed that in order for institutional research to be effective, institutional research must move from being

reactive to the needs of the institution, to a more proactive role- one in which the institutional researcher is an “information activist.” The information activist is one who takes the initiative in research and identifies areas of potential improvement. One who sees IR as information activists will probably have a power orientation toward viewing power as a positive attribute and also have the will and desire to use their power.

Regardless of whether or not the institutional researcher is proactive or reactive, the researcher is rarely effective without data. Power, in the situation of the institutional researcher, is related to the position and access to the control of data and information. The personal ability to influence is only relevant in some relationships so the researcher’s ability to influence is dependent on both the organizational culture and structure and, to a certain extent, the institutional researcher’s personal characteristics (Emerson, 1962; Knight, et al., 1995; Walton, 2005).

### **Power and Personal Characteristics**

Institutional researchers who most consider themselves to be effective and influential in their jobs tend to hold a Ph.D. (area of specialty is irrelevant), serve as the assistant director, and have held the position for a significant period of time. Having a Ph.D. increases the likelihood of being involved in policy making and planning. Larger institutions are more likely than smaller ones to have Ph.Ds. on their institutional research staff. An institutional researcher who has been with the institution for a longer time and who has been in institutional research for a while, five years for example, has more influence in the decision-making process than those who are new to the institution (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005).

Additionally, Billups and Delucia (1990) found that having good presentation skills,

acting as a facilitator in discussions, and being a team player increase the effectiveness and influence of the institutional researcher. Having people skills and a sense of community are also important for institutional researchers. The power orientations that are most closely related to this topic are charisma and political. Institutional researchers with charisma or political orientations will use their people skills to influence decisions.

Utilizing their people skills, institutional researchers must build a network of relationships across campus. Having cross-campus responsibilities increases the chances of developing this network (Serban & Luan, 2002; Suslow, 1972). Good political skills help institutional researchers maintain productive formal and informal relationships and are imperative to having a good relationship with the decision makers on campus (Delaney, 1997). Positive relationships help institutional researchers understand the decision-making process, the expectations of the leadership team, and the audience they are trying to influence (Billups & Delucia, 1990; Knight, et al., 1995; Matsen, 1993). However, the personal characteristics of institutional researchers are not the focus of this study but do provide some contextual information for this research. Personal characteristics leave when the person leaves, but the power related to the position remains. How institutional researchers use the power associated with the position depends on their orientation toward power.

### **Power Orientation**

Power orientation refers to how people assign meaning to power and is a reflection of their past experience (Bahniuk, et al., 1996; Goldberg, et al., 1983). Orientation toward power is considered a relatively enduring trait that will predispose

people to how they choose to gain and/or use power (Bahniuk, et al., 1996). People may be oriented toward power in six ways: People who see power as good and as in instinctive drive may be aggressive in pursuing power; people who view power as political will seek power through a political relationships and processes; people who view power as an issue of resource dependency will seek to gain and control resources to preserve or increase their power; one who views power as charisma will believe that power is related to the individuals who are able to make an impact on a situation whether they intend to or not; and lastly, people who see power as control or autonomy will view power as the ability get others to do as they wish and in doing so, the person who gains power also gains independence and autonomy (Bahniuk, et al., 1996; Farley, 1987; Goldberg, et al., 1983). Power orientation was included in the conceptual framework of this study in order to gain an understanding of how institutional researchers might seek to gain and use their power if there is a difference between institutional research related to the different types of higher education, reporting structure, and job title. It was thought that a common consensus may provide insight as to which direction the profession of institutional research may go in the future.

### **Power and Location**

The reporting structure of the institution and the location of the institutional research office also influence the power and effectiveness of institutional research. Naturally, an IR office that reports to the president will have more influence than one that does not (Knight & Leimer, 2009; Knight, et al., 1995; Matsen, 1993; Suslow, 1972; Walton, 2005). Delaney (1997) found that more than 50% of institutional research offices report to various administrators; within that 50%, 14% reported to a president and another



14% reported to an academic dean. Institutional research at larger institutions tended to report to a president or vice-president while institutional research at smaller schools tended to report to various other administrators. The location of the office affects the work and responsibility of institutional research. An office that reports to a higher level will have a broader scope of responsibility and influence while an office that reports to a specific subunit (enrollment management for example) may only deal with issues related to that department (Leimer, 2011). Reporting to the higher levels of the institution indicates institutional research as being of central importance to the effectiveness of governance (Saupe, 1990). When IR staff reports to the president, they can be seen as the president's "right-hand-man" and is often a member of the president's cabinet (Matsen, 1993; Rourke & Brooks, 1966). However, as Suslow (1972) points out, institutional research must have a degree of independence if it is to remain objective. Working too closely with the administration will create the impression that they are administrators and may strain their relationship with the faculty and create credibility issues. Serving on a faculty committee, teaching, and having a PhD can help balance the relationship and ability to influence faculty (Rourke & Brooks, 1966; Saunders, 1983; Suslow, 1972). The location of the IR office and the reporting structure directly relates to having access to decision makers as a source of power and possibly the political power orientation.

### **Power and Information**

Of course the location of the office is of little importance if the data and reporting are not objective (without influence of feelings or opinion) and accurate. The number one strength of IR is the ability to provide and analyze information, which is considered as a unique expertise (Knight & Leimer, 2009; Leimer, 2011; Matsen, 1993; Saunders, 1983;

Terenzini, 1999). Power related to information is related to the power sources of controlling information and having a unique expertise. It is not enough to be able to provide numbers and percentages; effective institutional researchers interpret the data and provide analysis. While quantitative data is usually more powerful in decision-making than qualitative data, especially in a rational process, an institutional researcher must have skills in qualitative research as well (Leimer, 2011; Walton, 2005). Analytical, presentation, and people skills must be accompanied by organizational intelligence. A broad understanding of the institution is necessary to place the data into context, properly frame questions, identify assumptions, and make appropriate recommendations. Institutional researchers must have knowledge of internal and external issues as well (Knight, et al., 1997; Saupe, 1990; Terenzini, 1999). Most departments understand the issues related to their specific objective, but only a few individuals on campus possess an understanding of the broader issues and how they affect all of campus. Institutional researchers are such individuals.

This broad knowledge base enables the institutional researcher to properly frame questions and make recommendations in the appropriate context. When data are understood in context, information is created (Serban & Luan, 2002). By applying a systematic approach, institutional researchers can analyze the data and take advantage of their understanding of campus issues to create new and useful knowledge (Matsen, 1993). With the new knowledge comes the ability to submit recommendations and influence decisions (Rourke & Brooks, 1966). By creating new knowledge and making recommendations, institutional research engages in social construction that can define the institution based on its strengths and weaknesses, both internally and externally, by

identifying effective academic and administrative units and those that are not (Matsen, 1993). Rational decision-making relies on objective data, but it is nearly impossible to interpret data without a subjective component. For example, by simply stating that 40% of students failed a math course, the institutional researcher was subjective in presenting the negative aspect of the data. A more objective would identify that 60% passed and 40% failed. Administrators do not always trust data from just anyone, so when IR becomes a trusted source, they have the power to help define reality for the institution (Matsen, 1993).

Part of defining reality is identifying early indicators of problems and reporting threats to the stability of the institution (Fincher, 1981; Knight, et al., 1997; Saupe, 1990). For example, identifying an issue with the number of students taking and failing remedial math, the institutional researcher can identify a possible threat to the retention and graduation rates as well as the number of college level math instructors needed for the next semester. When the institutional research staff have the audience of the president or other high ranking executives, they stimulate interest and activity in the troubled area. If a unit is struggling, institutional research can influence whether the unit gets more funding or is eliminated based on a report and/or recommendations from IR (Knight, et al., 1997; Suslow, 1972). Every action an administrator takes can be influenced by a report or study from institutional research. For example, how the report structures the problem can influence who is involved in the problem as well as the solution. A student retention issue might involve enrollment management and recruiting, but if institutional research identifies that the retention problems are related to developmental math, then the math department is also involved. To control the information is to control the decision-making

process (Suslow, 1972). A smaller institutional research office removed from the decision-makers will not have this influence (Fincher, 1981; Suslow, 1972). However, in a political and cybernetic system, decisions are seldom rational and often made without the use of institutional research (Birnbaum, 1988). Often times, it is after the decision is made that institutional research is called upon to provide data to support the decision. And just as often, institutional research is called upon to provide data that can be used to persuade a decision maker, to refute an accusation, or to increase the power of a smaller player in a political conflict (Rourke & Brooks, 1966; Walton, 2005). Using data and information symbolizes a rational decision and allows institutional research to have at least a symbolic value within the culture of the institution (Hearn, 1988). These are further examples of how controlling information and having unique knowledge serve as power sources for IR or the decision makers. Rather than provide the information necessary for decision-making, the information from IR becomes an after-the-fact justification and is thus a means of enforcing or upholding power.

### **Resource Dependency**

Resource dependency theory holds that individuals or organizations that control a resource that is valuable to another individual or organization has power over that individual or group. To have power, the resource must be valuable, irreplaceable, and uncertain (Casciaro & Piskorski, 2005; Emerson, 1962; Frost, 1987; Morgan, 2006; Pfeffer, 1981). Additionally, one who controls the resource must be able to control access to the resource and the release of the resource in terms of timing and quantity (Morgan, 2006; Pfeffer, 1981). However, power related to resources is based on a mutually dependent relationship. One party is dependent on the other to supply the resource, while

the party that controls the resource is dependent on the other to need the resource. In fact, the party in need of the resource can increase its power by finding another supplier for the resource and decrease its dependency on the original supplier (Casciaro & Piskorski, 2005; Emerson, 1962; Frost, 1987; Pfeffer, 1981). These relationships may also be symbiotic within an organization where one department is dependent on the output of another department (Pfeffer, 1981). Frost (1987) has referred to organizations as a grouping of mutually dependent relationships. This is true with institutional research where the resource is information and they have mutually dependent relationships with other departments. Institutional research needs data from the individual departments, while the individual departments need the institutional information from institutional research.

Ultimately, though, institutional research is the department that controls institutional information and therefore has the related power source as well as the potential of having the resource dependency orientation toward power. The ability to control information is one of the strongest personal characteristics related to success (Bahniuk, et al., 1996; Pfeffer, 1981). Resource dependency, however, does not view the control of resources, in this case information, as a personal characteristic. Power is based on a relationship, not a person. It is based on the position, not the person. Personal attributes may or may not be relevant in a particular relationship but the need for a resource is always present (Emerson, 1962). Through the position of institutional research and the control of the information resource, an institutional researcher can influence decision-making in four ways: controlling the premises, controlling the process, identifying the issues and defining the situation, and being a subject matter expert.

Controlling the premises involves determining what gets talked about and what does not. Controlling the process involves identifying who are involved and who are not. Identifying issues and defining the situation involves deciding what issues get brought to light and how good or bad is the situation. Lastly, being an expert involves knowledge and preparation of a situation and how to research problems (Morgan, 2006). Because resource dependency theory explains power related to the ability to control resources and views power as positional and not personal, it is important to the conceptual framework of this study.

### **Opinions about Power and Barriers to Its Use**

Opinions about the use of power in IR develop the portion of the conceptual framework concerning the will of institutional researchers to use their power. Even though IR may have five sources of power at their disposal, they may or may not have the desire to use the power to intentionally influence decisions. There are two schools of thought concerning IR and power: those that think IR should actively try to influence decisions and those that do not. Saunders (1983) stated that the objective of IR is institutional influence, and he is not alone. Institutional researchers have been called to be change agents with research that is action-oriented by identifying issues and providing plausible solutions (Delaney, 2009; Donhardt, 2012; Knight & Leimer, 2009; Serban, 2002). In times of institutional difficulty, IR can be a powerful and necessary resource for decision makers, but institutional researchers are often frustrated by their limited influence on policy (Hearn, 1988; Knight & Leimer, 2009). Billups and Delucia (1990) point out that data that are not considered in the decision-making process are useless and call for institutional researchers to know and understand the decision makers and work to

create a bias toward the use of data and institutional reports. They believe marketing institutional data sets and getting involved on committees are an important part of the institutional researcher's job. IR, according to Perry (1972), should be a third voice in planning and management. Institutional researchers should be involved with interpreting and articulating information and providing a rational opinion. Saunders (1983) agrees with this notion and adds that institutional researchers should be involved in policy making and process development. Saunders (1983) also suggests ways to have more influence. He states that it is important for institutional researchers to spend time and energy on significant issues and be persistent with their suggestions. Focusing more on substance instead of status and facilitating involvement of the opposition in an issue will increase the respect and acceptance of institutional researchers at the decision-making table. Lastly, Saunders (1983) recommends volunteering to write the final draft of committee reports as a way to build relationships.

Others in the field of institutional research have advocated for IR to create a whole new level of influence. Donhardt (2012) calls for an increase of positions such as Chief Institutional Research Officer and Chief Information Officer that reports to executive boards and coordinates the information infrastructure of the entire institution. Knight and Leimer (2009) call for the institutional researchers to act as Chief Strategy Officers who engage in all levels of assessment, strategic planning, and information functions. They recommend this position act as members of the president's cabinet. This then utilizes the power source of having access to decision makers. How institutional researchers use their power will depend on their orientation toward power. Those who feel called to be action-oriented in their research may view power as natural and good

and that power should be used for positive influence. Other institutional researchers may utilize their political orientation to gain access to decision makers.

There are plenty others who believe IR should not be concerned with power. This does not mean they do not have power, but that they may not have the will or desire to use it. Perry (1972) states that IR, as a profession, lacks any real philosophic orientation to lead them, which results in differing opinions about the role of IR. Those against IR influencing decision-making argue that institutional researchers have no leadership skills, lack the motivation to lead, and should not seek to develop leadership skills (Fincher, 1981). The most common anti-power belief is that IR should remain neutral and objective and stick to the “housekeeping duties” of basic fact-book reporting and the likes. IR can be instrumental in the decision-making process but IR must remember that they are not the source of the decision and should not push to monopolize decision-making (Rourke & Brooks, 1966). Suslow (1972) suggested that IR is already plenty involved in the decision-making process through their research projects and reporting and should only state their preference or recommendations when asked. He believes that institutional researchers can get in trouble by not removing themselves from the decision-making process at the right time. This creates a conflict with their objectivity. After all, IR, Suslow feels, should remain objective: if their goal is to set direction, they should go into administration. Saupe (1990) was perhaps the most clear regarding the role of IR. He wrote that the work of IR should be free of personal philosophy, politics, or desired results and that IR has served its purpose when it has provided information and stimulated reflection. When asked for an opinion on an issue, institutional researchers should discuss no more than their expertise and experience allows them.



There are also several barriers to an institutional researcher's ability to use power; most are related to a lack of skills, qualifications, or institutional structure. Within the conceptual frame work of this study, this applies to the ability to use power. Institutional researchers may have the five power sources available to them, and they may have the desire and will to use that power, but they may not have the ability to influence decision. Contextual knowledge of the issue is an area where institutional researchers feel under qualified (Knight, et al., 1997). Even so, they still have more institutional and contextual knowledge than most people on campus. Qualifications of the institutional researcher vary from each individual but often include skills in the area of technology, analytics, leadership, and presentation (Billups & Delucia, 1990; Saunders, 1983). Where institutional researchers fail most often is in allowing gaps in communication of data, not keeping up with shifting goals of the institution, not grasping new technology, and not understanding the needs of the institution and the administration. Presenting data and reports in a format that is not consistent with the decision-making style of the leader and the institution results in unused and wasted information and strained relationships (Billups & Delucia, 1990). Serban (2002) points out that failure to properly manage data warehouses and information hinders the reporting process and reputation of IR. Not having a Ph.D., having no faculty experience, and not being tenured can limit institutional researchers' ability to influence faculty in addition to being too closely associated with administration (Delaney, 1997; Rourke & Brooks, 1966; Saunders, 1983). Lastly, reporting to lower levels of administration or being housed within specialized subunits limits institutional researchers' access to decision makers and leadership (Delaney, 1997; Knight, et al., 1997; Serban & Luan, 2002). Without access to the

decision makers, it is difficult to influence much of anything. The barriers to using power demonstrate some of the struggles IR may have if they are missing some of the power sources or if their orientations toward power do not match the culture of the institution.

### **Research on Power in Higher Education**

Research concerning the power of the individual is difficult because power is invisible and can only be measured as a theoretical control (Thompson, 1990). This final section of the literature review focuses on what little research has been conducted regarding power in higher education. It begins with research about power in general, moves to research focused on power orientation and concludes with research that has been conducted on power in higher education. Woven throughout this section are comments on how the research relates to IR and how it contributes to the conceptual framework of this study.

Mechanic (1962) in his article entitled “Sources of Power of Lower Participants in Complex Organizations” defines power as any force that induces behavior that otherwise would not have occurred. By this definition, it could be argued that the outputs of IR have the potential to act as a power force. For example, an assessment report that reflects poorly on a program may result in a change in behavior that otherwise would not have occurred. Power used in this method may reflect an orientation toward using power for control and autonomy. Mechanic also states that the way for subunits to achieve power is to control resources, which supports the concept that IR has a source of power in controlling information as a resource. An interesting concept from Mechanic’s article is the idea that it is impossible to compare power of individuals at different levels. Thus, it

may be difficult to compare the power of a faculty member to that of an institutional researcher or staff in IR to the director. Therefore, this research only focused on IR staff and directors.

Basing his research on the work of French and Raven's (1959) social bases of social power, Cobb (1980) measured the relations between power base utilization and informal influence. Cobb found that, among work unit peers, legitimate authority was the most used source of power while coercive power was the least. Expertise and reward power were used to influence in an up and down direction while referent power was used in a lateral direction. This research will not examine the use of power within the IR office but on how it is used outside of the office. Still, Cobb's work is beneficial by demonstrating the directional use of power. It could be expected that the IR staff would perceive themselves as using their expert power mostly to influence higher management and lower staff positions while using it to a lesser extent with their lateral equivalents. One reason for this is that institutions of higher education have very few analyst positions and those can usually be found in the IR office. Some institutions may have analysts in specific areas such as enrollment management or assessment, but those analysts serve a much narrower function within those departments so there are limited opportunities to use lateral power. Cobb's (1980) work relates to the concept of using technical skill and unique knowledge (expertise) as a power source.

The application of contingency theory helped Boeker (1989) determine how the environment helps to develop and institutionalize subunit power. He found the environment in which the subunit was founded is a powerful determinant of its structure but that the ever-changing market also influences its power. Other factors that affect the

power of the subunit are the expertise of the founder and the age of the organization. In an age of accountability where institutions of higher education are being asked by politicians and the public in the external environment to prove their value and justify their costs, IR takes on a more important role. This does not necessarily mean an increase in the power of the IR subunit will occur. However, using Boeker's findings regarding the founder and the environment, it could be argued that if the IR office had very little expertise power and no real demands from the external environment when it was created, the IR staff would have had little power and would not have been institutionalized as an influential power player. Of course, the opposite would be true as well. Boeker's study implications for this study is that the context in which institutional researchers work, has an influence on their power sources and how they believe their power should be used.

One of the most intriguing articles concerning the measurement of power was a piece written by Keith Provan. In "Recognizing, Measuring, and Interpreting the Potential/Enacted Power Distinction in Organizational Research," Provan (1980) introduces the concept that power should be studied and measured as both potential power and enacted power. Potential power is the capacity of one social actor to influence another that is not acted upon. While this article is not empirical research, Provan makes a convincing argument for measuring both types of power. The implication for this study is that power may exist within IR, but that does not mean the IR staff are willing to use it. This researcher attempted to measure the presence of power in the position of institutional researcher by determining the strength of the power sources and to determine if that power is used to influence. The use of power to influence is dependent on the individual's understanding of power and orientation toward power.

Goldberg, Cavanaugh, and Larson (1983) sought to understand meaning as defined by the individual, which is part of the conceptual framework of this study. They understood that power is an elusive concept, so they sought to determine how individuals respond to the term “power.” Through their review of literature, they developed the Power Orientation Scale (POS). The POS rates persons in six different power orientations: those who see power as (1) good, (2) a natural drive, (3) related to dependency of resources, (4) a political tool, (5) a charismatic characteristic, and (6) a way to control and gain autonomy. The authors of this study believe that one’s orientation toward power will be reflected in one’s communications and actions (Goldberg, et al., 1983). The POS constructs were used as a way to measure institutional researchers’ feelings, or orientations, toward the power they have as institutional researchers. It was hoped that the orientation would provide insights as to what institutional researchers do with their power and how they believe their power should be used.

Bahniuk, Hill, and Daris (1996) used the POS in their study of power-gaining communication strategies as they relate to career success. Although they used other measurements in addition to the POS, they found that the POS had a significant overall relationship with career success. Participants who viewed power as good perceived themselves to be successful in their careers, while participants who viewed power as political actually attained success as measured by titles, income, and responsibility (Bahniuk, et al., 1996). There are no real implications for this study other than providing background information for the POS used in this study.

In her study concerning the differences between power orientations and communication styles of nursing managers and nurses, Farley (1987) used the POS as a key research tool. She found that nurses and their managers did in fact have different orientations toward power. Managers were found to be statistically different from nurses in the orientations of power as good, power as political, and power as control and autonomy. This would indicate that managers would tend to be more aggressive in seeking power, use political tactics to do so, and be motivated to seek control and autonomy over their responsibilities. This study and the previous one are examples of what I hoped to find in this research. Specifically, is power orientation related to how institutional researchers perceive their role in decision-making and how does power orientation differ by institutional type, organizational structure, and job title? This review now turns to the examination of the literature that addresses power in higher education.

In addition to calling IR to action in his article “Institutional Research: Vital Third Force in Higher Education,” Perry (1972) identifies three power sources within IR offices: access to databases, continuous training, and expertise in interpretation. He argues that IR staffs have a combination of management skills and knowledge of academia required to be active participants in the decision-making process. Additionally, he believes IR focuses too much on studying what is wrong with the institution and needs to focus more on what it is doing right. By doing so, IR staff can offer more positive solutions to problem solving and be more active in decision-making. This non-empirically based article offers hope for impact but only a few solutions on how IR can be more influential. Additionally, Perry identifies only three forces in education - faculty, administration, and IR - and only briefly mentions one external influence, legislators. In

reality there are countless influences on education; still, IR can provide a rational base for decision-making as he mentions. The implications for this study are that the unique knowledge and technical skills that IR staff may have can be considered a power source. A possible power orientation identified in Perry's (1972) work is viewing power as a natural desire that can be used for positive influences.

Delany (2000) conducted research similar to this research project. In her study entitled "Institutional Researchers as a Leader in Policy: Prospective and Possibilities" she asked two questions: How effective are institutional researchers in influencing policy? What factors make institutional researchers more effective in the policy areas? The implication for this study is that some institutional researchers may not have the ability to influence decisions. Delany used no theoretical basis for her research but simply measured the self-perceived effectiveness of the institutional researchers and their stated characteristics. She found that IR staff perceive themselves as more effective if they had been employed for a greater number of years, held a Ph.D., were at least associate directors and reported to the president. A more autonomous office is also perceived as being more effective. This research does a good job of identifying characteristics of the individual but fails to address the position of institutional researcher. Thus, if the person is removed, the influential characteristics are also removed and there is nothing left to determine the power of the position. However, if the IR staff view personal characteristics as being important to having power, they may view power as being oriented to charisma.

In the same theme as policy influence, Heim and Keith (1991) addressed the faculty as participants in policy making. Of course, their focus is on faculty while this

study focused on IR, but much of their work can be applied to IR. They found that how closely the department's function is related to the institution's mission affects their level of influence. This concept is certainly applicable to the IR office. External support of a department is also a factor. This can mean external funding or political policy support. While IR may not bring in external funding, they often work closely with states' Department of Education in reporting and special project work. Similar to external support, departments that have an effect on policy-making such as education or political science gain additional power if their research does in fact influence policy. Institutional researchers, however, usually are not able to conduct research at this level. Additional factors of influence include the status of the department's graduates in society, which of course does not apply to IR, and the faculty's participation in institutional government. IR staffs have the potential to participate in many committees that help make decisions, and their work is often considered by these committees. Heim and Keith's (1991) research relates to this research in that there are those who work in the IR profession who believe that IR should be involved in policy-making, which would require the necessary power sources and a political power orientation.

“Universities as Organizations: A Research Approach” by Gross (1968) focuses on defining universities as organizations based upon their goals. What is beneficial to the study of power in IR is his methodology even though it offers little in the way of contributing to the understanding of power. His survey asked faculty to rate the goals they thought should be most important and those goals that actually are most important. While Gross's (1968) research does not contribute to this study, this is an area of potential study for power in IR: A gap analysis between what institutional researchers



perceive as their power of influence to be compared to what they say their power of influence is. It is worth noting that a review of the list of important goals found in Gross' work demonstrates that IR has some sort of impact on several of the goals whether it be reporting information or providing analytical work for the goal. University prestige, quality improvement, and assessment are a few of the goals involving IR.

Another research project that focuses on faculty was conducted by Salancik and Pfeffer (1974): "The basis and use of power in organizational decision-making: The Case of a University." Salancik and Pfeffer define a subunit as an academic unit and note the significance of the subunit's ability to provide resources to the university as a whole. Power and resources go to those units that generate resources. Their empirical study identified research funding as the best predictor of power but also mentioned that subunits can increase their power by participation on committees and university governance. Like most research that focus on universities, this one remains focused on the academic subunit and ignores the support staff subunits. Institutional researchers do have opportunity to obtain grants but rarely have the time to pursue them. More often, they are providing data and information to grant writers so that they may obtain the funding/resource. However, because IR staff participates in institutional committees, a question regarding their involvement was been added to my study. Committee work is also a way that IR can gain access to decision makers and strengthen their power sources.

In Bess' book *Collegiality and Bureaucracy in the Modern University* (1988), he addresses all of the concepts of power sources previously mentioned in this paper. Bess introduces two noteworthy contributions applicable to this study. The first is a discussion of rationality that provides background and context to this study. One of the

characteristics of professional and collegial organizations is a trust and belief in the rationality of decision-making. This being the case, institutional researchers should hold a level of legitimate power as rational decisions must be based on known information that comes from IR in many situations. The second contribution Bess makes to this study is the idea of IR being involved in coalitions. At universities where the faculty forms a strong coalition, the institutional researcher may not be as important a resource to them and may be more important to the administration. At a community college, which is generally more bureaucratic, IR may be used to justify and further enhance the bureaucracy and reduce coalitions or IR may be recruited by faculty to provide supportive data (Mintzberg, 1979). As the producer of institutional knowledge, it is easily conceivable that institutional researchers would be sought after as part of a coalition: not only because of their influence on and access to information, but because of their access to high level decision makers. This work implies that IR has sources of power in having access to decision makers and controlling information and that a political power orientation would be effective way to utilize power.

Buorgeois and Nizet (1993) identified the means of influence in a professional bureaucracy in academic decision-making. Their case study of a Belgian university focused on monetary resources, information, time, rules, coalitions and language, and symbols as sources of power. They further cite legitimate and coercive power as a way of influence. Their contribution to the field is in the way they combined the source and the method to create 14 combinations of power. They found that legitimate power is used more than coercive power and that legitimate/expertise power was the most powerful combination followed by legitimate/information. The equivalent of legitimate/expertise

power would be the power sources of access to decision makers/technical skills/unique knowledge. While this research does not combine sources, it does seek to determine which power sources are most prevalent. If institutional researchers were proven to have different sources of power and in fact use that power to influence others, Bourgeois and Nizet's combined power method may be a good tool for explaining power in IR in future research.

In one of the few research articles that focuses on IR, Knight and Leimer (2009) researched job satisfaction of institutional researchers and their intention to remain in the profession. This study, which consisted of a literature review, a survey, and frequency counts, found that one third of institutional researchers were planning on leaving their jobs. Increasing demands for work and decreasing research were some of the factors related to the desire to leave. But the study also identified issues related to this research project. Institutional researchers have a need to feel that their work is recognized and valued by their institution and that their work has a tangible effect on decision-making, planning, and policy formation, in other words, the power to influence. Participants self-identified that they preferred influencing decisions through their expertise and saw themselves as being objective. Participation in decision-making was a factor in job satisfaction and lack of participation was a factor in the desire to leave their job. This study also identified that institutional researchers have technical expertise that is in high demand and that also leads to their desire to leave. The authors recommended exposing institutional researchers to senior administrators, expanding their responsibilities to include strategic planning and assessment, and acting as chief strategy officers. The implications for this study is that institutional researchers have the desire and will to

actively influence decisions, they possess expertise power that is related to having technical skills and unique knowledge, and should have access to high level decision-makers, all of which are power sources that are a focus on in this study.

The last article in this literature review also focuses exclusively on IR and the factors that result in the decentralization of institutional research functions. Hearn and Corcoran (1988) confirm that the information generated by IR is in fact a source of power and that administrative and academic departments seek to use it. Control of this information provides power to these departments, especially if the department is struggling or feels threatened or under accreditation review. By attempting to perform their own institutional research, they can control their own image and use data as needed to support their causes. Other factors that lead to decentralized IR functions include IR staff who leave and continue to apply their skill and expertise out of habit in another part of the institution, management who value data and seek to manage their own, and technology that makes it easier to conduct research within the department. Hearn and Corcoran (1988) also note that a centralized IR can serve as symbolic power by creating the impression that decisions are made rationally by upper management. Although this is a case study of a single university, by demonstrating how information power is sought out and attempted to be controlled by other subunits, it demonstrates that information is a source of power for IR. My study includes the control of information as a power source and a power orientation.

## Summary of Literature Review

This literature review provided contextual background needed to understand the different organizational types and their decision making styles in which institutional researchers work. Institutions of higher education are complex organizations that have characteristics of collegial, bureaucratic, political, and cybernetic organizations that influence the power sources available to IR. The size and type of the institution, IR responsibilities, and the levels of committee participation are included in the research survey. Miztberg's (1983b) five power sources were identified in the literature: access to decision makers, control of information, unique knowledge, technical skills and legal prerogatives. The context of the organization influences which power sources are available; however, how power is used is dependent on the institutional researcher's orientation toward power. Orientations identified in the literature include; seeing power as a natural and positive attribute, as being political, as being related to resource dependency, personal charisma and the need for control and autonomy. The literature also identified different viewpoints as to the role of IR and how power should be used. The will and desire to use power is related to the orientation toward power and the power sources as is the ability to use power. These key points, back ground, power sources, power orientation, desire to influence and ability to influence form the conceptual frame work of this study.

The literature on power discussed in this section identifies sources of power within universities or subunits of larger universities and mostly focuses on case studies or a survey of employees within a single university; therefore, it is difficult to generalize their findings to the larger sample. My study fills in the knowledge gap by focusing on IR

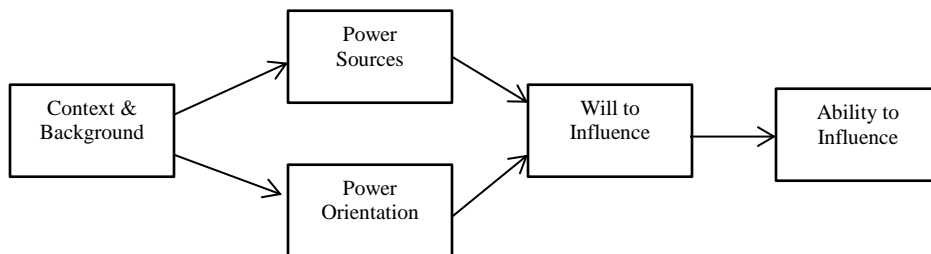
while using survey methodology with stratified random sampling techniques. Thus, the sampling was more representative of the United States' higher education system and therefore more generalizable.

## **Chapter III Methodology**

### **Introduction**

The purpose of this study was to gain an understanding of power related to the position of institutional research. The study was necessary because of the increasing demand for the assessment of productivity in higher education and justification for increases in the cost of higher education that has increased the responsibility and visibility of institutional research and the importance of data/information produced by institutional research. Very little research has been conducted concerning institutional researchers who have the ability to control information but who traditionally have little interest in obtaining or using power, which created the need for this research. The conceptual framework for this study consisted of five parts. First, the background of the IR department and the institutional context in which they work was thought to influence the sources of power available to them. Second, Mintzberg (1983b) proposed that analysts have five sources of power at their disposal: control of a resource, technical skills, unique knowledge, legal prerogatives, and/or access to decision makers. This research sought to understand if institutional researchers have these sources of power. Resource dependency theory was applicable because institutional researchers gather, produce, and distribute data and information internally and externally. Therefore, it was presumed that institutional researchers would have the ability to influence information used in decision-making. The third concept of this research considered institutional researchers' orientations toward power. Power can be defined, gained, and used in multiple ways, even within the same or similar institutions. As previously mentioned,

power was not defined in this study; instead, this study sought to understand how power was understood by the institutional researchers in this sample. Potential power orientations included seeing power as good, as resource dependency, as an instinctive drive, as political, as charisma, and as a means of control and autonomy (Goldberg, et al., 1983). Orientations toward power was thought to have an influence on determining if institutional researchers have the will and desire to use their power to influence decisions. The will and the ability to influence decisions were the fourth and fifth concepts of this research. Mintzberg (1983b) believes that analysts, such as institutional researchers, have very little interest in using their power to influence decisions. Therefore, analysts need both the will and the skill to be able to use their power. However, professionals in the field of institutional research have demonstrated varying views as to the role institutional researchers should take when it comes to influencing decisions, indicating that some have the will to influence decisions and some do not. The graphic below reiterates the conceptual framework used for this study.



Survey research utilizes questionnaires to gather information from a large population for the purpose of understanding and summarizing the self-reported characteristics, attitudes, and opinions of the group and was therefore appropriate for this study (Ary, Cheser Jacobs, & Razavieh, 2002; Mertens, 2005). The population of interest



was institutional researchers, and it was their opinions and attitudes toward power as well as the presence of power sources that I sought to understand. As I did not measure attitudes toward power over time, a longitudinal survey was not necessary. Instead, a cross-sectional survey approach was appropriate in order to capture a snap shot of a sample of the population at a single point in time. It was hoped that a larger sample size would offset the potential problem of potential biases and dishonest answers by the respondents (Ary, et al., 2002; Mertens, 2005). The study was intended to be descriptive as the subjects self-reported their own attitudes and beliefs. The cross-sectional design allowed for the examination of the differences between various groupings (institutional size and type for example) of institutional researchers and utilized both descriptive and inferential statistics (Ary, et al., 2002).

### **Research Questions**

As discussed, institutional researchers have power based on their ability to influence data and information. As analysts, they would also have additional sources for power, according to Mintzberg (1983b), though they may or may not have the will or interest to use their power to influence decision. The following research questions were answered in this study in order to understand institutional researchers' power, their orientations toward power, and their feelings toward the use of their power:

1. What did institutional researchers report as their primary sources of power: control of a resource, technical skills, unique knowledge, legal prerogatives, and/or access to decision makers?
2. How did the reported sources of power vary by institutional size, institutional type, job responsibilities, and experience?

3. What were institutional researchers' orientations toward power?
4. How did institutional researchers' orientations toward power vary by institutional size, institutional type, job responsibilities and experience?
5. What were institutional researchers' feelings and attitudes about their role in influencing institutional decisions?
6. How did institutional researchers' feelings and attitudes about their role in influencing institutional decisions vary by institutional size, institutional type, job responsibilities, and experience?
7. Which variables related to power best explained institutional researchers' ability to influence decisions?

### **Participants**

The participants for this study were institutional researchers employed in public and private not-for-profit institutions of higher education that reflected the diversity of institutions and their various backgrounds from research institutions to community colleges, from departments with ten practicing professionals to departments where there was only one. Participants were first grouped according to the Integrated Postsecondary Education Data System (IPEDS) classification in order to examine differences. Two groups emerged: institutions with less than 5,000 compared to institutions with 5,000 students or more, and public four-year or above institutions compared to private non-for-profit four-year or above institutions (NCES, 2011). For-profit institutions were not included in order to focus on analysts (institutional researchers) who were not influenced by the need of the organization to earn a profit, although comparing for-profit institutions with non-profit institutions would be interesting for future research because of the

difference in organizational goals, processes and inputs. The next subgrouping did not use IPED classifications, but instead, compared IR staff, analysts, and/or researchers to IR managers based on how they self-identified their most descriptive role and responsibilities. The final two comparison subgroups examined only IR managers: IR managers who work for public, 4-year or more institutions compared to IR managers who work for private non-profit, 4-year or more institutions, IR managers with 13 or less years of experience in IR compared to IR managers with 13 or more years of experience in IR.

Potential participants came from the membership list of the Association of Institutional Researchers (AIR), the national professional organization for this field. AIR is the largest institutional research professional group with over 4,000 members internationally, although this study included mainly institutions within the United States. The primary purpose of AIR is to “support the members in their collecting, analyzing and converting data into information that supports decision-making in higher education” (AIR, 2012). For over 50 years, AIR has been helping institutional researchers work behind the scenes to support leaders in wise programming and fiscal decisions (AIR, 2012).

To qualify for the study, AIR members must have self-identified themselves as having experience working in IR or a related field in higher education on the first page of the survey invitation. AIR members who self-identified as “manage/staff- assessment” were included if they self- reported having duties that include the following: “supervision of other professional institutional research staff,” “institutional research for internal decisions and institutional use,” and “institutional research for external reporting.”

Assessment staff who do not have institutional research responsibilities were not included in order to create a more manageable and homogeneous population.

### **Sampling**

This study intended use a stratified random approach as the sampling activities begin with an identified group, institutional researchers who are members of the Association of Institutional Researchers (Mertens, 2005). The professional association formed the sampling frame, and this researcher worked closely with AIR's administrative personnel to gain access to their membership and to ensure compliance with AIR policies. Having access to the target population established population validity (Mertens, 2005). While the potential participant list was randomly selected by AIR using their membership list, AIR was not able to do a stratified random sample. However, the participants were still divided by institutional sector and size according to IPEDS (NCES, 2011). Two examples include: a grouping which consisted of institutional researchers associated with private not-for-profit, four or more years institutions and a grouping which consisted of institutional researches associated with institutions that had populations of 1,000 to 4,999 students. There were 12 potential groupings; however, there were a total of 5 groups in the final analysis. The sampling unit was the individual. Using the rule of thumb as described by Mertens (2005), the study originally sought a minimum of 30 subjects from each subgroup for a total of 360 subjects based on the previously mentioned IPEDS institutional classification and size; that sample size was not achieved. See the results section for information about the final sample size and groupings.

## **Instruments**

After submitting the original survey instrument to a peer review by institutional researchers in the Oklahoma Association of Institutional Researchers and Planners (OKAIRP) and a blind peer review by members of AIR, the survey was shortened and modified based on their recommendations. Reviewers felt the length of the survey would result in a low yield, possibly less than 100 respondents. AIR also felt that a survey that was too lengthy would offend their members and might hinder the ability to conduct future surveys. This researcher listened to the feedback from the reviewers and worked with AIR to reduce the survey to a length AIR felt more comfortable with, yet still meet the needs of this research.

The original survey began with general questions related to power and institutional research. These questions were designed to capture the participants' interest and to help with the reliability of the survey as explained in the reliability section of this study. This initial section was deemed redundant and added to the length of the survey and so was removed from the final survey knowing that it could create a less reliable survey. Like the original instrument, the final research instrument consisted of a four-part survey. The first portion was developed by this researcher and was designed to gather information regarding Mintzberg's five power sources. The next was also developed by the researcher and was designed to measure the participants' ability to use power, and their attitude regarding the use of power. This was followed by a measure of the power constructs developed by Goldberg, Cavanaugh, and Larson (1983) in their "Power Orientation Scale" (POS). The forty question POS instrument was not used in the final survey; instead, a single question based on the POS constructs was used. The last section

consisted of demographic questions designed to capture the background and demographic information of the participants.

The new survey began with the questions designed by this researcher to measure institutional researchers' power sources as defined by Mintzberg (1983b). This section originally used a ten point rating scale in which respondents were asked their level of agreement with a series of statements; however, responses from the peer review indicated that they were uncomfortable with a scale of this range. The final survey used a six-point scale with responses ranging from one to six: 1= strongly disagree and 6= strongly agree, with no neutral options. Statements for this section were drawn from the literature review. The statements were confirmed by other institutional researchers in the peer review process.

“Control of resources” power source was measured by 11 statements revolving around the participants' experience in gathering, manipulating, and distributing data and information. This measure maintained its original length because shortening it would require the loss of information or the creation of double-barreled questions. The power source of “technical skills” was reduced from 11 statements to 8 and asked about the skills common to IR, such as the ability to work with statistical methods. Redundant questions asked in the negative form were removed. Ten statements made up the original section for the “unique knowledge” power source that focused on the participants having a greater understanding of the institutional issues than most of the faculty and staff on their campus. Only five statements were used in the final survey. Statements about legal requirements and grant requirements measured the “legal prerogative” power source. Five statements from the original six were used to measure this power base. Finally, four

of the original eight statements made up the section measuring the “access to decision makers” power source. However, two questions that were part of the original background section were added here. This group of statements and questions focused on the participants’ ability to meet with high level decision-makers and the participants’ reporting structure. Each power source measure originally included at least one negative statement that was intended to increase the reliability of the responses (Suskie, 1996). However, because the development of a research tool was not the intent of this research, these were removed in order to shorten the survey at the risk of some reliability. Mean scores and standard deviations were reported for the individual statements as well as the collective power source. The mean scores and standard deviations for the collective power base were calculated using all the questions related to that particular power source.

The same process was used to measure institutional researchers’ ability to influence decisions. Again, the tool consists of a series of statements to which the participants are asked to express their level of agreement using a rating scale: Strongly Disagree=1 to Strongly Agree=6. This section consisted of 16 statements, two of which are stated in a negative form. Statements were developed from the literature review and reflected ways IR can influence decisions. Two examples are; “My data are often used in decision-making” and “I help identify excellence/success on campus.” Mean scores and standard deviations were also be reported for the individual statements and for the entire section.

The next section of the survey sought to measure institutional researchers’ feelings and attitudes toward the use of power in their role as institutional researchers. Once again, this section was made up of a series of statements in which the participants

were asked to express their level of agreement using a rating scale: Strongly Disagree=1 to Strongly Agree = 6. All perspectives identified in the literature review were represented in the statements. Therefore, the 13 statements, reduced from 15, reflected both the aggressive opinion and the more objective view. A statement such as, “Institutional researchers should be change agents who provide solutions to problems” represented the more aggressive opinions while a statement such as, “ The work of IR should be free of personal philosophy and politics” represented the more passive or objective view of IR work. Like the previous sections of the survey, the mean scores and standard deviations were reported for the individual statements and for the entire section.

The next section of the survey represented the constructs of the Power Orientation Scale (POS). “Power orientation refers to the meanings that a participant assigns to the term ‘power’ ” (Goldberg, et al., 1983, p. 90). Power orientation is important in understanding how a person views power and how the participant might act or choose not to act in pursuit of power or in the use of power. For example, if an institutional researcher views power as being related to political connections, it could be expected that the institutional researcher would have a very strong understanding of the political network within the institution and, therefore, seek to have access to high level decision makers if the institutional researcher, in fact, wish to gain or use power. The POS, as designed by the original authors, consists of 40 questions and used a six-point Likert scale as follows: 1= I disagree very much, 2= I disagree on the whole, 3= I disagree a little, 4= I agree a little, 5= I agree on the whole, and 6= I agree very much. For scoring purposes; 1=-3, 2=-2, 3=-1, 4= +1, 5= +2, and 6= +3. Six power orientations were derived from the survey. The orientation of “power is good and positive” is measured by



five questions with the lowest possible score of five and the maximum of 35. The “power as a resource dependency” orientation consists of four questions with a minimum score of four and a maximum of 28. “Power as an instinctive drive” is measured by three questions and has a minimum score of three and a maximum of 21. The orientation of “power as political” is measured by only two questions and has a minimum score of two and a maximum of 14. The “power as charisma” orientation also has only two questions and a minimum and maximum score of two and 14. The last orientation of “power as control and autonomy” is measured by four questions and has a minimum score of four and a maximum of 28 (Goldberg, et al., 1983). In order to make the survey significantly shorter, the full POS was replaced with one question that asked the participants to rank six power orientation statements, derived from the POS, in an order that best represents their understanding of power; a ranking of one represented the statement with which they most identified, a rank of six was the least. The frequency and percentage were reported for each orientation, and comparisons were made between groups.

The final section of the survey included the demographic section. This consisted of questions regarding the participants’ title, place of employment, level of education, and their involvement with committees. These questions serve two purposes: to paint a picture of the participants and as a final way to ensure the respondents meet the criteria set forth in the sampling frame work.

### **Validity**

Validity is the confirmation that an instrument measures what it is intended to measure (Ary, et al., 2002; Mertens, 2005). Or, as Suskie (1996) defined it, validity is the truthfulness of the survey. For any instrument to be useful, it must reflect the constructs

of the research topic and capture their presence as accurately as possible. To establish the validity of the POS, the researchers tested the predictive and concurrent validity using studies of decision-making behavior, managerial performance, and dogmatism (Goldberg, et al., 1983). Predictive validity is defined as the instrument's ability to predict future behavior while concurrent validity measures behavior at the time of the instrument is issued (Mertens, 2005). Results of the POS were compared to the actual behavior of district court judges, nursing managers, and various business managers. The criterion-related coefficients ranged from .63 to .82 (Goldberg, et al., 1983). Farley (1987) states that subsequent studies found a .60 correlation between selected communication behaviors, locus of control, and the IPA category system. A coefficient score of .40 is considered acceptable for a new instrument, and a .65 is sufficient when comparing with other instruments (Ary, et al., 2002). As the POS has no instruments to compare it to, this researcher considered the validity tests acceptable and sufficient for this research project. Likewise, the constructs developed from the POS were considered acceptable, and therefore, the POS was reduced to a single question ranking all of the POS constructs.

Validity for the remainder of the instrument consisted of a series of construct validity tests. Construct validity is defined as the evidence and rationales that support the trustworthiness of the scores (Mertens, 2005). As previously mentioned, the agree/disagree statements designed to measure Mintzberg's power sources were derived from the literature review focusing on the tasks, responsibilities, and reporting structures of IR. For example, the statement, "I distribute institutional level data and information" came from the literature review and was designed to measure the "control of resources"

power base and reflected Delaney's (2009) writings regarding the use of IR reports in decision making. To measure the ability to use power, statements were again derived from the literature review. The statement "My opinion is often considered in decision-making" was an example of an institutional researcher who has been given the opportunity to provide a subjective opinion as a subject matter expert as described by Saupe (1990). Statements designed to measure the participants' opinion about the use of power by institutional researchers were again taken directly out of the literature review. "The work of institutional research should be free from personal philosophy and politics" was also found in the writings of Saupe (1990). Validity based on content is the result of the researcher's analysis of the subject matter and construct and is ultimately up to the researcher to determine whether the instrument meets the need of the researcher (Ary, et al., 2002). However, additional steps were taken to help ensure the research instrument was a valid tool to measure power in IR.

Content validity can be determined by having the measurement instrument reviewed by content experts and by those with diverse experience and opinions (Mertens, 2005; Suskie, 1996). Members of Oklahoma Association of Institutional Research and Planning (OKAIRP), a sub-group of AIR, were asked to pilot test the survey. This group represented a variety of institutional types, sizes, and locations. They were diverse in their organizational structure and size of IR department, so their responses provided multiple perspectives on the content and the functionality of the tool. After completing the survey, the test group was asked to comment on the clarity of the questions and their appropriateness to the subject. In addition to the pilot test, the survey was subjected to a team of blind peer reviewers who work in IR and are members of AIR. This was a

required process by AIR in order to use their membership list but also served as an additional means of validating the content of the survey. As a final means of ensuring validity, the original survey asked questions in a positive and negative format will increase the internal validity of the survey (Ary, et al., 2002). However, most of these questions were removed in the final version in an effort to shorten the survey.

### **Reliability**

Reliability in a research instrument concerns the instrument's ability to consistently measure what it is intended to measure (Ary, et al., 2002). To be effective, it must be both valid and reliable (Mertens, 2005). To confirm the reliability of the POS, Goldberg et al. (1983) used a test-retest method on 40 college undergraduate students with a time lapse of three weeks. The six factor's coefficient reliability scores for the power orientations are as follows: power as good=.83, power as resource dependency=.77, power as instinctive drive=.49, power as political=.62, power as charisma=.54, and power as control=.63. These are considered to be in the moderate to strong range (Goldberg, et al., 1983). Scores in the lower range are a result of the factors that have a smaller number of questions associated with them (Farley, 1987; Goldberg, et al., 1983). In this researcher's opinion, the reliability coefficients for the POS demonstrated sufficient reliability for this study and therefore, the constructs were acceptable. According to Ary et al. (2002), coefficient scores as low as .50 are acceptable for research purposes in which no decisions are being made about a group or individuals.

To determine the reliability of the remainder of the instrument, which included the sections measuring power sources and the participants' opinion on the use of power,

internal consistency was to be measured by asking similar questions at different points during the survey as well as by asking questions in both the positive and negative form. For example, it was intended that the statements “I am good at statistical methods” and “I do not consider myself to have any specialized skills” were both to be used to measure the “technical skills” power source. This type of reliability measurement was appropriate because the instrument measured one consistent construct throughout the survey (Suskie, 1996). As previously mentioned, asking two very similar questions at different points in the survey would also increase the reliability of the survey (Suskie, 1996). For example, the statement “I seek to influence decisions toward my desired outcome” was asked at the beginning of the survey and would be compared with the statement “I prefer not to be involved in the decision-making process other than providing information” that was located toward the end of the survey. Pilot testing the survey provided the opportunity to make adjustments to the reliability prior to the final issuance of the survey (Suskie, 1996). However, because of the pilot testing, the need to shorten the survey became apparent out of concern that participant fatigue would result in a low participation rate or a high rate of incomplete data. Acknowledging the risk to internal validity, it was decided to remove redundant questions that appeared at various points in the survey as well as questions asked in the negative form. Because the purpose of this survey did not include the development of a new research tool to be used again, the researcher determined that it was more important to have a larger number of respondents than to have a highly validated instrument. The final shortened survey still captured the information needed to answer the research questions and to provide ample generalizable data to inform the profession.

### **External Validity or Generalizability**

Generalizability is a measure of how well the findings from the sample population can be applied to the larger population from which the sample was taken (Mertens, 2005). It was hoped that the use of stratified random sampling would maximize generalizability of the findings of this study; however, while it was still a random sampling, stratification was not possible as previously mentioned (Mertens, 2005). Regardless, a threat always existed due to the complex nature of higher education and the multiple combinations of office structures and job descriptions. The use of means, skewness, kurtosis and standard deviations also helped identify the level of variance in the responses and provide a better feel for the range of responses. A narrow range of responses would also be an indication of generalizability while a wide range of responses could indicate a lack of generalizability. Additionally, a sample that is reflective of the population's characteristics increases the ability to generalize the results of the study.

### **Data Collection**

As previously mentioned, potential participants were recruited from members of AIR. In order to do so, this researcher worked with the AIR publications department who first submitted the survey to a blind peer review process. Following the final changes needed to shorten the survey, AIR randomly selected potential participants from their database who potentially represented the possible subgroupings discussed earlier and emailed them the survey. The email consisted of an introduction of the researcher, the project, and the invitation to participate. The survey remained open for two weeks with a reminder email sent after one week. Upon closure of the survey, the data was sent to this

researcher in an Excel spreadsheet. Respondents' names and emails were not collected by SurveyMonkey and therefore were not available to this researcher or the AIR staff.

### **Analysis of Data and Research Questions**

Because of the nature of this exploratory descriptive survey, complex statistical analysis other than a multiple regression was not necessary to analyze its results other than the use of analysis of variance (ANOVA). The multiple regression was used to determine which aspects of power related to institutional researchers most determines the ability to influence decisions. Basic descriptive statistics were used to evaluate the responses to the survey statements while inferential statistics were used to compare the subgroupings (Ary, et al., 2002; Mertens, 2005; Suskie, 1996). Descriptive statistics included measures of central tendency including the mean, median, mode, and standard deviations that served to define the characteristics of subgroups and the entire sample (Mertens, 2005). The inferential statistical method of choice was the ANOVA, which is appropriate when comparing more than two groups or when there is more than one independent variable. Tukey's post hoc analysis was conducted when appropriate to determine the statistical significance between the means of the subgroupings and the Kruskal-Wallis method was used when there were inequality in sample sizes (Lomax, 2001; Mertens, 2005). As previously mentioned, multivariate statistics were used in the form of a multiple regression, which is appropriate in predicting an independent variable (ability to influence) from a group of dependent variables (institutional context, power sources, power orientation, and will to influence). Additionally, I used random sampling and the independent variable was continuous while the dependent variables were either continuous or nominal (Grime & Yarnold, 2006; Kachigan, 1991; Stevens, 1999). SPSS

software was used in data analysis. Data was compiled and displayed in a crosstab format listing scores from each statement by the subgroupings.

Research question one asked, “What did institutional researchers report as their primary sources of power: control of resources, technical skills, unique knowledge, legal prerogatives, and/or access to decision makers?” Each of these power sources were addressed in the survey with the series of statements asking participants to rate their level of agreement on a rating scale ranging from 1 to 6 as discussed in the description of the survey instrument. Inferential statistics for each statement were displayed. The individual statement scores were then compiled to create a composite score based on the average response for each of the power sources; these were then ranked by the highest means.

Question two asked, “How did the reported sources of power vary by institutional level and by job responsibilities?” This question was answered by the comparison of means and their level of statistically significant differences using the ANOVA method. Responses to the statement concerning power sources by the subgroups were compared and displayed in a cross-tab format. Additionally, a comparison of differences between IR staff and IR management were made.

The third research question asked, “What were institutional researchers’ orientations toward power?” The POS constructs were used to measure the participants’ power orientation toward the six possible orientations previously mentioned. Descriptive statistics were reported, including frequencies for all six of the power orientations.

A cross-tab comparison of the subgroups’ orientation toward power answered the fourth research question, “How did institutional researchers’ orientations toward power vary by institutional type and level and job responsibilities?” Again, the ANOVA



statistical technique was used to compare the scores of the different IPEDS subgroupings and job responsibilities.

The fifth research question asked, “What were institutional researchers’ feelings and attitudes about their role in influencing institutional decisions?” The participants’ ability to use power to influence decisions as well as their opinions on the use of power was addressed in the survey with a series of statements similar to the statements covering the power sources. Participants were asked to rate their level of agreement on a rating scale ranging from 1 to 6 as discussed in the description of the survey instrument. Descriptive statistics for each statement were displayed for each individual statement. The individual statement scores were then compiled to create a composite score of each power sources, which were then ranked by the highest means.

The sixth research question asked, “How did institutional researchers’ feelings and attitudes about their role in influencing institutional decisions vary by institutional type and level and job responsibilities?” Like the section measuring the power sources, this question was answered by the comparison of means and their level of statistically significant differences using the ANOVA method. The responses of the IPEDS subgroupings to the statements concerning power sources were compared and displayed in a cross-tab format. Additionally, a comparison of differences between IR staff and IR management was made.

The final research question asked; “Which variables related to power best explained institutional researchers’ ability to influence decisions?” This question was answered by conducting a multiple regression using the ability to influence composite score as the continuous independent variable. The five sources of power composite scores

and will to influence composite scores were the continuous dependent variables as were most of the background and context questions. Those that were not, including the POS construct responses, were transformed into dummy variables with values of 0 or 1 (Kachigan, 1991).

### **Limitations**

This study was limited in its ability to fully measure power and the use of power. Because it was a strictly quantitative survey with no open-ended questions, it did not allow the respondents to fully express their feelings regarding power. This was intentional because of the innumerable possibilities of combinations of sizes, reporting structures, responsibilities, and staffing of IR departments. This researcher does acknowledge that this could possibly hinder the validity of the survey by restricting the possible range of answers. However, the survey was formed out of the literature review that found very little acknowledgment of the differences between institutional type and size. Perhaps, after this descriptive survey, a qualitative study can be conducted that focuses on the different views identified in this study. For-profit institutions were also not included in this study, which limits generalizability. Having a profit-based bottom line could significantly change the dynamics of an institutional researcher's power and how the individual reports and analyzes information. It is conceivable that in a for-profit institution, IR staff may have less power than the IR staff at a non-profit institution. A comparison of the two types of institutions may be needed for future research. The most significant limitation of this study was that it only attempted one correlation, which variables influence the ability to influence decisions, but did not attempt to correlate power orientations to views toward the use of power or to the different institutional types.

This study was mainly exploratory and descriptive and left most correlations to future predictive studies. It is this researcher's opinion that an initial exploratory study was appropriate to establish foundational data in order to better understand the position of institutional researcher and the power associated with it. The opinions toward power, roles of IR, and concepts of power that form this research were derived from the previous literature make it useful for the profession of IR and the study of power. Another limitation of this study involved the reduced validity in an effort to shorten the survey. When the redundant and negative questions were removed, it introduced a greater possibility of a participant not fully engaging in the survey. However, the researcher and AIR agreed that it would be more beneficial to the profession to have a greater number of respondents, which would allow for better comparisons of groups, than it would be to have stronger validity, especially since the intent of the survey was to capture self-reported attitudes in an exploratory manner. The survey was not intended to be reproduced or used for further research. The final limitation of this study is limited amount of groupings that were able to be studied. AIR was unable to utilize stratified sampling techniques so the original groupings were not achieved. Instead, only five groupings were able to be studied: institutional size, institutional type, job description, IR managers by institutional type, and IR managers by years of IR experience.

### **Assumptions**

1. It was assumed that the position of IR engages in some form of knowledge/data management and reporting.
2. It was assumed that institutional researchers work with institutional-wide data and not solely at the departmental level.

3. It was assumed that institutional researchers produce outputs that are made available to others outside of IR.
4. It was assumed that the job description and responsibilities of the position of institutional researcher remain essentially the same at each institution regardless of who is occupying the position.
5. It was assumed that participants in this research will provide truthful responses that accurately reflect their situation, attitudes, and beliefs.

## **Chapter IV Results**

### **Introduction**

Chapter Four follows the flow of the research design; after a discussion of the survey's response rate and resulting sample of the study, it moves into a discussion of the background demographics of the five comparison groupings. The background information includes topics such as, years of experience, institutional size and time, level of education achieved, and size of their IR department as determined by the number of employees conducting institutional research. From there, the chapter addresses each research question in order. Research questions one, three, five, and seven addressed the overall sample of the study, while questions two, four, and six addressed the differences in sub-groups of the overall sample. For each comparison of sub-groups, a section of this research was written that reports the results for the research question in its entirety. For example, the differences between IR at small institutions will be compared to IR at large institutions will be reported followed by the reporting of the differences between IR at public institutions and IR at private institutions. In order to maintain the flow of the discussion, the tables that contain the descriptive statistics and ANOVA results are located at the end of each comparison group's discussion. A brief summary of the results of each research question is located after the end of the final set of tables. Research questions three and four have been combined into one section because of the reduced Power Orientation Survey. Before the results are presented, it is important to understand the targeted population in this study.

## Survey Response

The targeted population of this study was higher education staff and/or faculty who engage in institutional research. Potential participants were randomly selected by the Association of Institutional Researchers (AIR) using its membership list. In all, 495 potential participants were emailed an invitation to participate. By mere chance, this researcher was randomly selected and was removed from the sample. Of the remaining potential participants, one had previously notified AIR that he or she did not wish to receive invitations for surveys and six had inaccurate email addresses. Thus, the number of potential participants was reduced to 487 AIR members. Seven days after the survey was activated, 102 participants had responded, representing an initial response rate of 20.6%. A reminder was emailed on day 10, four days before the closing of the survey. After being open for two weeks, 157 participants had responded to the survey, resulting in a final response rate of 31.7 % of the original 495 potential participants or 32.3% of the adjusted number of 487 potential participants.

Mertens (2005) defines response rate as the number of complete surveys divided by the number of eligible units in the sample but provides a complete formula for what is called Response Rate 1, which was adapted from the American Association for Public Opinion Research: the number of complete surveys divided by the number of surveys (complete plus partial) plus the number of non-surveys (refusals plus noncontacts plus others) plus all cases of unknown eligibility (unknown housing unit plus unknown other). This study included 128 complete surveys, 29 incomplete surveys, 2 refusals, 6 noncontacts (email address error), 1 other (researcher), 18 unknown households who skipped the informed consent, and 9 unknowns who said they did not work in IR. Using

this formula the calculated response rate is 66.3%. This, of course, does not factor in the potential participants who ignored the survey invitation altogether.

Although it was hoped that a significantly larger sample size would have been obtained, 128 complete responses is regarded as an adequate number of responses for the major group to be studied in survey research, in this case, institutional researchers (Mertens, 2005). Despite having a lower response rate than anticipated, this researcher felt the sample size was large enough to meet the main goals of the study and therefore contribute new and meaningful knowledge to the field of study. Additionally, if the responding sample is reflective of the total population, what a study lacks in quantity of responses may be made up for in quality of responses (Suskie, 1996). As will be discussed in the next section, the background of the survey participants is a reasonable match for the background of the total AIR population.

The number of subgroups able to be used in comparisons was limited. Sub-groups of 20 to 50 participants are considered adequate for survey research (Mertens, 2005). Two groups were used for comparing institutional size: 0 to 9,999 (n=60) and 10,000 and above (n=58). Two groups were used to study institutional type: public 4-year or more (n=51) and private non-profit, 4-year or more (n=41). Two groups were used to study job descriptions: IR staff (n=30) and IR management (n=67). Lastly, this study compared IR managers from two different approaches: a comparison of IR managers who work at public 4-year or more (n=27) and IR managers at private non-profit, 4-year or more (n=25) and a comparison of IR managers who have worked in IR for less than 13 years (n=33) and those who have worked in IR for more than 13 years (n=34).

## **Background Demographics**

### **Overall Sample Demographics**

Questions regarding the respondents' background information were located at the end of the survey and consisted of both closed and open-ended questions. Answers returned in text form were changed to numerical answers and answers that provided no information were removed. For example, when asked "how many people in your office engage in some form of institutional research," an answer of "five" was changed to "5" and a participants' answer of "All of them" was removed because there was no way to determine the number of IR staff.

On average, at the time of the survey, the respondents had 10.86 years of experience working in IR and 16.68 years of higher education experience with 40.3% of the sample having 11 or more years of experience. Participants had been in their current positions for 9.07 years and their offices included an average of 4.36 staff members engaged in some form of institutional research work. On average, participants served on 4.71 institutional-level committees over the past two years and on 2.02 departmental-level committees (see Table 1.1 for more detail regarding these demographics). This information was significant to this study because the years of experience was used to form sub-groups for comparing the differences in responses. Experience, staff size and committee service were used as variables in the final research question that sought to determine the contributing factors to an increase in the ability to influence decisions. Additionally, the size of the IR staff can affect the work of the participant. In smaller offices, the participant might have a wider variety of IR responsibilities while a participant in a larger office might be more specialized.



Table 1.1

*Background Experience for Overall Sample*

	N	M	Mdn	Mode	SD
Years of work in Institutional Research	119	10.86	8.00	5	8.42
Years of work in Higher Education	119	16.68	15.00	20	9.63
Years of work at current institution	119	9.07	5.00	5	8.57
Number of staff in your office doing IR work	115	4.36	3.00	2	3.52
Number of institutional level committees	116	4.71	4.00	5	3.45
Number of departmental level committees	112	2.02	1.00	0	2.91

Regarding job titles, just over half, 51.3 %, of the participants chose “Director” as the title that best describes their positions while 10.9% chose “Associate Director,” 25.2% selected “Analyst/Researcher,” and 12.6 % selected “Other.” When asked what best describes your work; 56.8% selected “Manager IR,” 25.4% selected “Staff IR,,” 11.9% selected “Manager/Staff Assessment,” 0.8% selected “Faculty/Teach IR,” and 5.1% selected “other.” Of those who responded to this study, 2.5% had no degree or an Associate’s degree, 10.9% had earned a bachelor’s degree, 42.9% had a master’s degree, while 43.7% had earned a doctorate (see Table 1.2 for more details). This information was used to create subgroups of staff and managers in order to compare the responses. Level of education achieved was used as a variable in the final research question that sought to determine the contributing factors to an increase in the ability to influence decisions. The differences between managers and staff have inherent differences in power levels but it was thought that the level of education achieved might also influence power.

Concerning institutional type, 42.9% of the respondents were affiliated with public, 4-year or more institutions. The second largest group in this study was those affiliated with private non-profit, 4-year or more institutions. This group represented 34.5% of the respondents. Those affiliated with public, 2-year institutions formed the third largest group at 13.4%. The remaining participants were affiliated with non-U.S.

institutions, private non-profit, 2 year institutions or selected “other” as their institutional type. When it came to institutional size, institutions with less than 5,000 students formed 33.1% of the sample in this study while institutions with 5,000 to 9,999 students represented 17.8% of the sample in this study. The next grouping, 10,000 to 19,999 students, represented 18.6% of this study. Lastly, the largest institutions with 20,000 or more students represented 30.5% of the sample this study (more details in Table 1.2.) Institutional type and institutional size were used to form subgroups in this study in order to compare the differences in response and both variables were used variables in the final research question that sought to determine the contributing factors to an increase in the ability to influence decisions. Both the type and the size of the institution were thought to influence the responsibilities of the IR office as well as the organizational structure and the decision-making process of the institution.

The sample for this study differed from the AIR population in some areas; however, it should be noted that some of the differences were due to the survey having a more narrow focus than the more open membership of AIR. AIR membership is not restricted to only those who work in IR so the potential participants who did not work with IR were eliminated at the beginning of the study. AIR does not have separate data for those who work in IR and those who do not, which made it difficult to determine how closely the study sample reflected the total AIR population who work in IR. Managers made up the largest group of both the study sample and the AIR population but the percentage of managers in the study sample was higher than population as were participants affiliated with large institutions and public 4-year or more institutions (Ross, 2013). Unfortunately, but understandably, AIR was not able to provide a potential sample

population made up exclusively of those who worked in IR at the time of the study. Due to the nature of the organization’s data, this researcher was unable to determine how closely the sample reflected the 2011-2012 AIR membership who worked in IR. This created a potential limitation to the external validity of the results (see Table 1.2. for the comparison of the sample and the population).

Table 1.2

*Background Credentials Comparing Sample to AIR Population*

	Study Sample			AIR Population	
	N	f	%	f	%
What title most closely identifies your position in IR?					
Director	119	61	51.3	NA	NA
Associate Director	119	13	10.9	NA	NA
Analyst/Researcher	119	30	25.2	NA	NA
Other	119	15	12.6	NA	NA
What term best describes your work?					
Staff- IR	118	30	25.4	750	27.6
Manager-IR	118	67	56.8	1116	41.0
Management/Staff-Assessment	118	14	11.9	166	6.1
Faculty- Teach IR	118	1	0.8	85	3.1
Student-Full-Time	118	0	0.0	102	3.8
Retired	118	0	0.0	31	1.1
Work-non-profit other than higher ed.	118	0	0.0	88	3.2
Work-for-profit other than higher ed.	118	0	0.0	25	0.9
Other	118	6	5.1	356	13.1
What is your level of education?					
Less than a Bachelor’s degree	119	3	2.5	42	1.5
Bachelor’s degree	119	13	10.9	319	11.7
Master’s degree	119	51	42.9	1247	45.9
Ph.D./Ed.D.	119	52	43.7	1111	40.9
What IPEDS sector best describes your institution?					
Public, 4-year or above	119	51	42.9	445	28.8
Private not-for-profit, 4-year or above	119	41	34.5	646	41.8
Public, 2-year	119	16	13.4	369	23.9
Private not-for-profit, 2-year	119	1	0.8	5	0.3
Other	119	6	5.0	81	5.3
Non-U.S. Institution	119	4	3.4	0	0.0
What IPEDS categorization best describes the size of your institution?					
Less-than 1,000	118	5	4.2	107	7.2
1,000- 4,999	118	34	28.8	610	40.9
5,000 – 9,999	118	21	17.8	294	19.7
10,000-19,999	118	22	18.6	268	18.0
More-than 20,000	118	36	30.5	211	14.2

The final piece of background information that was captured in this study was regarding the roles the participants performed. The most reported role performed was “IR

for decisions and institutional use”, which was identified by 110 participants or 87.3%. This was followed by “IR for external reporting” and “statistical analysis” at 104 (82.5%) respondents and 101 (80.2%). The two lowest roles were “assessment of learning outcomes” and “IPEDS key holder/coordinator (see Table 1.3 lists the complete list in order.) The high percentage of participants performing IR work for decisions and institutional use verified that it is common for institutional researchers to be involved in the decision-making process.

Table 1.3

*Roles Performed by Institutional Researchers*

Rank	Role	Frequency	Percentage
1	IR for decisions and institutional use	110	87.3
2	IR for external reporting	104	82.5
3	Statistical Analysis	101	80.2
4	College/university planning	84	66.7
5	Institutional effectiveness studies	82	65.1
6	Accreditation	81	64.3
7	Qualitative analysis	71	56.3
8	Supervise other IR staff	69	54.8
9	Assessment of learning outcomes	66	52.4
10	IPEDS key holder/coordinator	59	46.8

**Institutional Size Comparisons**

Participants were divided into two groups based on institutional size; institutions with less than 10,000 students (n=60) referred to as the “Smaller Institutions” group and institutions with 10,000 students or more (n=58) referred to as the “Larger Institutions” group. In the Smaller Institutions group; five institutions, or 8.3% had less than 1, 000

students, 34, or 56.7% had 1,000 to 4,999 students, and 21, or 35.0% had 5,000 to 9,999 students. In the Larger Institutions group; 22 institutions, or 37.9%, had 10,000 to 19,999 students and 36 institutions, or 62.1% had 20,000 or more students. Participants in the Smaller Institutions group had an average of 10.13 years of working in IR and 17.27 years of experience working in higher education compared to the Larger Institutions group that had 11.45 years of IR experience and 16.02 years of higher education experience. The Smaller Institutions group also had more years in their current position: 9.59 compared to 8.63. As to be expected, the smaller institutions also had a smaller IR staff with an average of 2.37 employees working in IR compared to 6.38 employees in the Larger Institutions group. This was the only statistical difference between the group at the  $p > .05$  level,  $F(1,112)=5.373, p=.000$ . The effect size was medium ( $\eta^2 = .33$ ). On average, participants in the Smaller Institutions group served on 4.53 institutional level committees and 1.88 departmental level committees over the past two years compared to the Larger Institutions group who served on an average of 4.89 committees and 2.16 committees respectively (see Table 2.1 for more details).

Table 2.1

*Background Experience Comparing Institutional Size*

	Less than 10,000 Students					10,000 Students or More				
	N	M	Mdn	Mode	SD	N	M	Mdn	Mode	SD
Years of work in Institutional Research	60	10.13	7.50	5	7.24	58	11.45	8.00	5	9.49
Years of work in Higher Education	60	17.27	16.00	16	8.86	58	16.02	12.50	10	10.48
Years of work at current institution	60	9.59	7.00	5	8.03	58	8.63	5.00	2	9.17
Number of staff in your office doing IR work	59	2.37	2.00	2	1.45	55	6.38	5.00	5	3.86
Number of institutional level committees	59	4.53	4.00	4	2.74	57	4.89	5.00	1	4.07
Number of departmental level committees	57	1.88	1.00	0	2.93	55	2.16	1.00	0	2.92

The comparisons of job titles reflect the differences in the sizes of IR staff between the two groups. Nearly 62 percent (61.7%) of respondents in the Smaller Institutions group indicated that “Director” was the title that best represented their position. This was followed by “Analyst/Researcher” (20.0%), “Other” (10.0%), and “Associate Director” (8.3%). The Larger Institutions group shared the same order of titles with the “Director” title as their most representative title but at a lower percentage; 39.7%. The remaining percentages were as follows: “Analyst/Researcher” (31.0%), “Other” (15.5%), and “Associate Director” (13.8%). The actual job title probably had less influence on the power related to IR than the actual description of the work performed. Titles and their significance vary by institution but the work performed is more consistent across the profession. When asked what best described their work, respondents demonstrated the same patterns, but with lower percentage, again reflecting the larger IR staff in the Larger Institutions group. “Manager IR” was the most selected at 66.1% for the Smaller Institutions group and 46.6% in the Larger Institutions group. This was followed by the “Staff IR” at 18.6% for the Smaller Institutions group and 32.8% in the Larger Institutions group. The third highest description for both groups was “Manager/Staff- Assessment” at 10.2 % for the Smaller Institutions group and 13.8% for the Larger Institutions group. The last description for the Smaller Institutions group was “Other” at 5.1%. “Other” was 5.2% for the Larger Institutions group but they also had an additional group, “Faculty/Teach IR,” which had 1.7% of the responses.

The two groups did show some differences when it came to the highest degree earned at the time of the survey. Fifty percent (50.0%) of participants in the Larger Institutions group held a Ph.D./ED.D compared to only 36.7% of the Smaller Institutions

group, which was the second highest degree. The master's degree choice was first in the Smaller Institutions group at 43.3% and second in the Larger Institutions group at 43.1%. The third degree on both lists was the bachelor's degree at 5.0% for the Smaller Institutions group and 6.9% in the Larger Institutions group. No one in the Larger Institutions group had less than a bachelor's degree while 5.0% of the Smaller Institutions degree did. See Table 2.2 for more details.

Private non-profit, 4-year or above institutions were strongly represented in the Smaller Institutions group at 58.3% followed by the public, 4-year or above institutions at 28.3%. The remaining order was as follows: public, 2-year at 10.0%, private non-profit, 2-year at 1.7% and Non-U.S. also at 1.7%. The largest percentage of institutions in the Larger Institutions group were the Public, 4-year or above group at 58.6% followed by the Public, 2-year institutions at 17.2%, the Private non-profit, 4-year or above institutions at 10.3%, other institution at 8.6% and lastly, non-U.S. institutions at 5.2% (Table 2.2 provides greater detail regarding the comparisons of the Smaller Institutions and Larger Institutions groups).

Table 2.2

*Background Credentials by Institutional Size*

	Less than 10,000 Students			10,000 Students or More		
	N	f	%	N	f	%
What title most closely identifies your position in IR?						
Director	60	37	61.7	58	23	39.7
Associate Director	60	5	8.3	58	8	13.8
Analyst/Researcher	60	12	20.0	58	18	31.0
Other	60	6	10.0	58	9	15.5
What term best describes your work?						
Staff- IR	59	11	18.6	58	19	32.8
Manager-IR	59	39	66.1	58	27	46.6
Management/Staff-Assessment	59	6	10.2	58	8	13.8
Faculty-Teach IR	0	0	0.0	58	1	1.7
Other	59	3	5.1	58	3	5.2
What is your level of education?						
Less than a Bachelor's degree	60	3	5.0	58	0	0.0
Bachelor's degree	60	9	15.0	58	4	6.9
Master's degree	60	26	43.3	58	25	43.1
Ph.D./Ed.D.	60	22	36.7	58	29	50.0
What IPEDS sector best describes your institution?						
Public, 4-year or above	60	17	28.3	58	34	58.6
Private not-for-profit, 4-year or above	60	35	58.3	58	6	10.3
Public, 2-year	60	6	10.0	58	10	17.2
Private not-for-profit, 2-year	60	1	1.7	58	0	0.0
Other	60	0	0	58	5	8.6
Non-U.S. Institution	60	1	1.7	58	3	5.2

Having a smaller IR staff seems to also have affected the roles that the participants perform. The Smaller Institutions group had a higher percentage of participants identifying that they perform each of the roles than did the Larger Institutions group. The top five roles performed by the Smaller Institutions group included: IR for decision and institutional use (96.7%), IR for external reporting (95.0%), Statistical analysis (86.7%), Accreditation (80.0%), and Institutional Effectiveness Studies (73.3%). The roles the Larger Institutions group performs were similar to the Smaller Institutions group with IR for decision and institutional use being the role with the most responses at 89.7%. The remainder of the top five was as follows: Statistical analysis (82.8%), IR for external reporting (81.0%), College/university planning (77.6%) and Institutional effectiveness studies (63.8%). The larger IR staff in the Larger Institutions group means



that some participants may specialize in the work as opposed to the Smaller Institutions group who were required to act as generalists and have many responsibilities (Table 2.3 provides a comparison of the roles performed by the two groups). The background variables for the two comparison groups were considered in the reporting of the results of the research questions and the final discussion.

Table 2.3

*Roles Performed by IR: Comparison by Institutional Size*

Role	Less than 10,000 Students			10,000 Students or More		
	Rank	f	%	Rank	f	%
Supervision of IR staff	9	35	58.3	7	33	56.9
Assessment of learning outcomes	10	33	55.0	7	33	56.9
IR for decision and institutional use	1	58	96.7	1	52	89.7
IR for external reporting	2	57	95.0	3	47	81.0
College/university planning	6	39	65.0	4	45	77.6
IPEDS key holder/coordinator	6	39	65.0	10	20	34.5
Accreditation	4	48	80.0	6	33	56.9
Institutional effectiveness studies	5	44	73.3	5	37	63.8
Statistical analysis	3	52	86.7	2	48	82.8
Qualitative analysis	6	39	65.0	9	32	55.2

**Institutional Type Comparisons**

As previously mentioned, the two types of institutions with a significant amount of participants were the Public, 4-year or above institutions and the Private non-profit, 4 year or above institutions. The sample of these two subgroups consisted of 40.5% (n=51) participants from 4-year or above public institutions and 32.5% (n=41) from 4-year or above private non-profit institutions. These two groups are referred to as the Public and

Private groups. At the time of the survey, the respondents in the Public group had 11.35 years of experience working in IR compared to 10.90 years of IR work in the Private group. Practitioners in the Public group also had 16.85 years of experience in higher education and 10.19 years of experience in their current institution. The Private group had more years of experience in higher education with an average 17.13 years of experience but they had fewer years of experience at their current institution, 9.02 years. The Public group reported having an average of 4.74 staff members performing institutional research work in their offices compared to 3.04 in the Private group. This was the only significantly statistical difference between the group at the  $p > .05$  level,  $F(1,87)=6.585$ ,  $p=.012$ . The effect size was small ( $\eta^2 = .07$ ). They were also fairly similar regarding the number of committees on which they serve. Public group participants served on 4.44 institutional level committees over the past two years and 1.64 departmental committees. Over the past two years the Private group served on 4.37 institutional level committees and 1.95 departmental committees (see Table 3.1 for more details).

Table 3.1

*Background Experience Comparing Institutional Type*

	Public, 4-year or More					Private, 4-year or More				
	N	M	Mdn	Mode	SD	N	M	Mdn	Mode	SD
Years of work in Institutional Research	51	11.35	8.00	5	9.16	41	10.90	8.00	3	8.37
Years of work in Higher Education	51	16.85	15.00	20	10.11	41	17.13	16.00	16	9.75
Years of work at current institution	51	10.19	5.00	5	9.62	41	9.02	6.00	3	8.45
Number of staff in your office doing IR work	49	4.74	4.00	2	3.53	40	3.04	2.00	2	2.53
Number of institutional level committees	50	4.44	4.50	5	3.33	41	4.37	4.00	5	2.69
Number of departmental level committees	50	1.64	1.00	0	6.56	38	1.95	0.50	3.21	10.32

A greater percentage of participants in the Private group chose “Director” as the title that most closely reflects their title at 58.5% compared to 47.1% in the Public group. Both groups chose “Analyst/Researcher” as the second most popular with the Public group at 29.4% and the Private group at 17.1%. “Associate Director,” 15.7%, and “Other,” 7.8 were the remaining two titles for the Public group. In the Private group, these two titles were even at 12.2%. The responses were similar when asked what role best describes their work. The Public group selected; “Manager IR” (52.9%), “Staff IR” (31.4%), “Manager/Staff Assessment” (11.8%), and “Other” (3.9%). The Private group responded in the same order; “Manager IR” (61.0%), “Staff IR” (19.5%), “Manager/Staff Assessment” (12.2%), and “Other” (7.3%). Regarding the highest level of education they had achieved, the Public group had more master’s degrees than any others at 54.9% while the Private group had more Ph.D./Ed.D.’s than any other group at 41.5%. The Public group had 41.2% of participants with a Ph.D./Ed.D. and 3.9% with bachelor’s degrees. The Private group had 39.0% of participants with master’s degrees, 14.6% with bachelor’s degrees and 4.9% with less than a bachelor’s degree (see Table 3.2 for more details).

The background demographics of the Public and Private groups looked similar to the background demographics of the Smaller Institutions and Larger Institutions subgroups because the Public group had a higher percentage of larger institutions represented while the Private group had higher percentage of smaller institutions represented. In the Public group consisted of 15.7% of the participants affiliated with institutions with between 1,000 and 4,999 students, 17.6% from institutions with 5,000 to 9,999 students, 21.6% from institutions with 10,000 to 19,999 students, and 45.1% from

institutions with 20,000 or more students. While they had a larger representation from the larger institutions, they also had greater diversity of size than the Private group. The Private group consisted of 9.8% of participants affiliated with institutions with less than 999 students, 53.7% from institutions with 1,000 to 4,999 students, 22.0% from institutions with 5,000 to 9,999 students, and 7.3% from each of the remaining categories, 10,000 to 19,999 students and 20,000 or more students. Table 3.2 provides additional information of the comparison groups.

Table 3.2

*Background Credentials Comparing Institutional Type*

	Public, 4-year or More			Private, 4-year or More		
	N	f	%	N	f	%
What title most closely identifies your position in IR?						
Director	51	24	47.1	41	24	58.5
Associate Director	51	8	15.7	41	5	12.2
Analyst/Researcher	51	15	29.4	41	7	17.1
Other	51	4	7.8	41	5	12.2
What term best describes your work?						
Staff- IR	51	16	31.4	41	8	19.5
Manager-IR	51	27	52.9	41	25	61.0
Management/Staff-Assessment	51	6	11.8	41	5	12.2
Other	51	2	3.9	41	3	7.3
What is your level of education?						
Less than a Bachelor's degree	51	0	0.0	41	2	4.9
Bachelor's degree	51	2	3.9	41	6	14.6
Master's degree	51	28	54.9	41	16	39.0
Ph.D./Ed.D.	51	21	41.2	41	17	41.5
What IPEDS categorization best describes the size of your institution?						
Less-than 1,000	51	0	0.0	41	4	9.8
1,000- 4,999	51	8	15.7	41	22	53.7
5,000 – 9,999	51	9	17.6	41	9	22.0
10,000-19,999	51	11	21.6	41	3	7.3
More-than 20,000	51	23	45.1	41	3	7.3

The final piece of comparative information was regarding the roles performed by the two groups. Because of the larger representation of smaller institutions, the Private group was similar to the Smaller Institutions group in the previous comparison in that the participants demonstrated a broader array of roles they carry out in their duties than the

Public and Larger Institutions groups. The top five roles performed by the Private group were: IR for decision and institutional use and IR for external reporting both at 95.1%, Statistical analysis at 90,2 %, and Accreditation and Institutional effectiveness studies both at 73.2%. The top five for the Public group were: IR for decision and institutional use at 92.2%, IR for external reporting at 86.3%, Statistical analysis at 78.4%, College/university planning at 70.6%, and Institutional effectiveness studies at 66.7%. Like the Larger Institutions group, the Public group appeared to have more specialized roles in IR while the Private group appeared to be more generalist, carrying out more roles in their work (Table 3.3 shows the rankings of each group). The background variables for the two comparison groups were considered in the reporting of the results of the research questions and the final discussion.

Table 3.3

*Roles Performed by IR: Comparison of Institutional Type*

Role	Public, 4-year or more			Private, 4-year or more		
	Rank	f	%	Rank	f	%
Supervision of IR staff	7	29	56.9	9	23	56.1
Assessment of learning outcomes	9	25	49.0	10	22	53.7
IR for decision and institutional use	1	47	92.2	1	39	95.1
IR for external reporting	2	44	86.3	1	39	95.1
College/university planning	4	36	70.6	6	26	63.4
IPEDS key holder/coordinator	10	24	47.1	8	24	58.5
Accreditation	6	31	60.8	4	30	73.2
Institutional effectiveness studies	5	34	66.7	4	30	73.2
Statistical analysis	3	40	78.4	3	37	90.2
Qualitative analysis	8	26	51.0	7	25	61.0

## Job Responsibility Comparisons

The third grouping of participants was based on the question; ‘‘What best describes your work?’’ Although the sample sizes were not equal, there was enough participants who described their work as IR Staff (n=30) and IR Management (n=67) to form to the ‘‘Staff’’ group and the ‘‘Management’’ group. As could be reasonably expected based on having a superior position, the Management group scored a higher means in much of the background information. At the time of the survey, the Management group had twice as much experience; 13.8 years in IR work compared to 6.47 years for the Staff group, 20.51 years of higher education experience compared to 10.12, and 10.65 years working at their current institutions compared to 5.58. IR managers also served on more institutional level committees, 5.29 compared to 2.97 for the Staff group. IR managers were also slightly more involved at the departmental level serving on an average of 1.97 committees compared to 1.24. However, the Staff group did report working in an office with more IR staff. The group had an average of 5.48 IR staff members compared to 4.03 for the Managers (see Table 4.1 for more details).

Table 4.1

### *Background Experience Comparing Job Description*

	IR Staff					IR Management				
	N	M	Mdn	Mode	SD	N	M	Mdn	Mode	SD
Years of work in Institutional Research	30	6.47	5.00	2	6.48	67	13.82	13.00	5	8.91
Years of work in Higher Education	30	10.12	9.00	10	7.81	67	20.51	20.00	20	8.65
Years of work at current institution	30	5.58	4.75	2	4.37	67	10.65	10.65	7	9.77
Number of staff in your office doing IR work	27	5.48	4.00	3	3.44	66	4.03	3.00	2	3.46
Number of institutional level committees	30	2.97	3.00	1	2.55	65	5.29	5.00	5	3.62
Number of departmental level committees	29	1.24	1.00	0	1.40	61	1.97	1.00	0	3.01

The Managers group had 76.1% (n=51) of their participants who held a title of Director, or similar, while the Staff group had 76.7% (n=23) of their participants who held a title related to Analyst/Researcher. The Manager group was more educated with 47.8% of the group having earned a Ph.D./Ed.D. compared to 16.7% of the Staff group. Fifty-seven percent (56.7%) of the Staff group had earned a master's degree as their highest degree compared to 40.3% of the Managers group. Concerning the size of the institution for which they work, 46.7% of the Staff group worked for institutions with a student population of 20,000 or more, 20.0% worked for institutions with 1,000 to 4,999 students, and the remaining two categories, 5,000 to 9,999 and 10,000 to 19,999 each had 16.7% of the responses. The largest percentage of the Manager group, 31.8% worked for institutions with 1,000 to 4,999 students. The second most represented category were institutions with 20,000 students or more, 24.2%, and was closely followed by the 5,000 to 9,999 category at 21.2%. Institutions with 10,000 to 19,999 students and institutions with less than 1,000 students were the lowest with 16.7% and 6.1% respectively. As with previous comparisons, Public, 4-years or above and Private non-profit, 4 year or above had the largest representations in both groupings. The Public institutions had 53.3% of the Staff group compared to 40.3% of the Manager group. The Private institutions were represented by 26.6% of the Staff group and 37.3% of the Manager group (see Table 4.2 for complete data on all of these measurements).

Table 4.2

*Background Credentials Comparing Job Descriptions*

		IR Staff			IR Management		
		N	f	%	N	f	%
What title most closely identifies your position in IR?							
	Director	30	1	3.3	67	51	76.1
	Associate Director	30	3	10.0	67	7	10.4
	Analyst/Researcher	30	23	76.7	67	4	6.0
	Other	30	3	10.0	67	5	7.5
What is your level of education?							
	Less than a Bachelor's degree	30	1	3.3	67	2	3.0
	Bachelor's degree	30	7	23.3	67	6	9.0
	Master's degree	30	17	56.7	67	27	40.3
	Ph.D./Ed.D	30	5	16.7	67	32	47.8
What IPEDS categorization best describes the size of your institution?							
	Less-than 1,000	30	0	0.0	66	4	6.1
	1,000- 4,999	30	6	20.0	66	21	31.8
	5,000 – 9,999	30	5	16.7	66	14	21.2
	10,000-19,999	30	5	16.7	66	11	16.7
	More-than 20,000	30	14	46.7	66	16	24.2
What IPEDS sector best describes your institution?							
	Public, 4-year or above	30	16	53.3	67	27	40.3
	Private not-for-profit, 4-year or above	30	8	26.7	67	25	37.3
	Public, 2-year	30	5	16.7	67	9	13.4
	Private not-for-profit, 2-year	30	0	0.0	67	1	1.5
	Other	30	1	3.3	67	2	3.0
	Non-U.S. Institution	30	0	0.0	67	3	4.5

In ranking the roles they perform, the Manager group and the Staff group selected the same activities as their top three, but groups rated them at different levels. Nearly the entire Manager group, 98.5%, indicated that they performed IR work for decision and institutional use compared to 86.7% of the Staff group. The second highest ranked activity for both groups was conducting institutional research for external reporting. Ninety-four percent (94.0%) of the participants in the Managers group and 83.3% of the Staff group performed this role. The third most common role selected by participants in both groups was the role of performing statistical analysis; 92.5% of Manager group participants and 80.0% of the Staff group participants selected this as the third highest. At the lower end of the scale, both groups' participants selected performing the role of IPEDS key holder at rank nine; 67.2% of Managers and 23.3%. Staff indicated they



performed this role. The least common role performed by participants in the Manager groups was Assessment for Learning Outcomes with 52.2% of Managers performing this role. Supervision of IR Staff was the least common role for the Staff group where only 20.0% of the participants perform this role. Many participants in the Managers group work at smaller institutions with smaller staff and perform much of these roles themselves. This helps explain why supervision was only fifth in the rankings by the Manager group and why the percentages are so high on most of the roles performed. Conversely, a larger percentage of participants in the Staff group were affiliated with larger institutions and appeared to work in more specialized roles, which explains why the overall percentages are lower for each role performed (Table 4.3 shows the complete ranking of roles). The background variables for the two comparison groups were considered in the reporting of the results of the research questions and the final discussion.

Table 4.3

*Roles Performed by IR: Comparison of Job Description*

Role	IR Staff			IR Management		
	Rank	f	%	Rank	f	%
Supervision of IR staff	10	6	20.0	5	52	77.6
Assessment of learning outcomes	5	14	46.7	10	35	52.2
IR for decision and institutional use	1	26	86.7	1	66	98.5
IR for external reporting	2	25	83.3	2	63	94.0
College/university planning	5	14	46.7	4	53	79.1
IPEDS key holder/coordinator	9	7	23.3	9	45	67.2
Accreditation	5	14	46.7	7	50	74.6
Institutional effectiveness studies	8	13	43.3	5	52	77.6
Statistical analysis	3	24	80.0	3	62	92.5
Qualitative analysis	4	15	50.0	8	46	68.7

**IR Managers and Institutional Type Comparison**

The next comparisons of subgroups explored the differences between participants who indicated that “IR manager” was the role that best describes their work and who were affiliated with either a Public, 4-year or more institution or with a Private non-profit, 4-year or more institution. The two groups were Public Manager (n=27) and Private Manager (n=25). Naturally, these groups shared the characteristics of the managers previously discussed and also the characteristics of the subgroupings by institutional type that included the fact that the Private group had a larger percentage of participants from smaller institutions while the Public group had a larger percentage of participants from larger institutions.

Managers of public institutions had worked in IR for an average of 14.89 years compared to Private Managers who had 14.16 of experience at the time of the survey. There was slightly more difference in the number of years worked in higher education as Public Managers had 22.00 years of experienced compared to 20.58 of the second group. A greater difference in experience was apparent when comparing years worked at their current institution. The Public Management group had 14.20 years of work while the Private Management group had only been at their current institution for an average of 8.76 years. Working for larger institutions increased the chances of having a larger IR staff. Public managers had an average of 3.87 staff working in IR while the Private Managers had only 2.00. Regarding service on institutional committees the two groups were similar with means of 5.15 and 4.96 respectively. Working for smaller institutions appeared to have increased the chances that IR managers were more involved at the departmental level as the Private Manager group served on an average of 2.48 departmental committees over the past two years compared to the Public Management group who only served on an average of 1.12 committees (see Table 5.1 for more details regarding the background characteristics of the two groups).

Table 5.1

*Background Experience Comparing IR Managers by Institutional Type*

	Public, 4-Year IR Managers					Private, 4-year IR Managers				
	N	M	Mdn	Mode	SD	N	M	Mdn	Mode	SD
Years of work in Institutional Research	27	14.89	13.00	6	9.33	25	14.16	16.00	4	8.99
Years of work in Higher Education	27	22.11	21.00	20	8.83	25	20.58	20.00	16	9.05
Years of work at current institution	27	14.20	12.00	5	11.29	25	8.76	5.00	1	8.75
Number of staff in your office doing IR work	26	3.87	3.50	5	2.73	25	2.70	2.00	1	2.63
Number of institutional level committees	26	5.15	5.00	5	3.61	25	4.96	5.00	5	2.84
Number of departmental level committees	26	1.12	.50	0	1.51	23	2.48	1.00	0	3.84

The title that most closely reflected their positions was Director for both the Public and Private Management groups with 74.1% and 88.0% of the responses respectively. Another 18.5% of the Public Management group selected Assistant Director and 8.0% for the Private Management group (see Table 5.2 for the few remaining titles chosen). Twelve participants in each group had earned a Ph.D./Ed.D., which is 44.4% of the Public Manager group and 48.0% of the Private Managers group. The remainder of the Public Management group had all earned a master's degree. Nine, or 36%, of the Private Management group had a masters, three (12.0%) had a bachelor's degree and one (4.0%) had less than a bachelor's degree. As alluded to earlier, the two groups differed considerably in the size of the institution for which they worked. The largest percentage of the Public Management group worked for institutions with 20,000 or more students, 37.0%, while the largest percentage for the Private Management group, at 60.0% were institutions with 1,000 to 4,999 students. Forty-four percent (44.4%) of the Public Management group worked at institutions with 5,000 to 19,999 students compared to 24.0% of the Private Management group (see Table 5.2 for more details).

Table 5.2

*Background Credentials Comparing IR Manages by Institutional Type*

	Public, 4-Year IR Managers			Private, 4-year IR Managers		
	N	f	%	N	f	%
What title most closely identifies your position in IR?						
Director	27	20	74.1	25	22	88.0
Associate Director	27	5	18.5	25	2	8.0
Analyst/Researcher	27	1	3.7	25	0	0.0
Other	27	1	3.7	25	1	4.0
What is your level of education?						
Less than a Bachelor's degree	27	0	0.0	25	1	4.0
Bachelor's degree	27	0	0.0	25	3	12.0
Master's degree	27	15	55.6	25	9	36.0
Ph.D./Ed.D	27	12	44.4	25	12	48.0
What IPEDS categorization best describes the size of your institution?						
Less-than 1,000	27	0	0.0	25	3	12.0
1,000- 4,999	27	5	18.5	25	15	60.0
5,000 – 9,999	27	6	22.2	25	5	20.0
10,000-19,999	27	6	22.2	25	1	4.0
More-than 20,000	27	10	37.0	25	1	4.0

The roles performed by each group reflected the characteristics of managers from the previous subgroups in that the percentage of those reporting that they perform these tasks were high, unlike the IR Staff group who reported much lower percentages. This was true for both the Public and Private Management groups. The top three highest ranked roles were the same for the two groups, as have been for most all of the comparisons: IR for decision and institutional use, IR for external reporting, and Statistical analysis. Having larger staff caused the Supervision of IR Staff role to be ranked fourth for the Public Management group but only eighth for the Private Management group. The Private Management group ranked institutional effectiveness studies, Accreditation, and IPEDs higher than the Public Management group. At the low end of both rankings were the Assessment of learning outcomes and the qualitative analysis roles, as they were on all the comparison groups (Table 5.3 has the complete rankings for the Public and Private groups). The background variables for the two

comparison groups were considered in the reporting of the results of the research questions and the final discussion.

Table 5.3

*Roles Performed by IR: Comparison of IR Managers by Institutional Type*

Role	Public, 4-Year IR Managers			Private, 4-year IR Managers		
	Rank	f	%	Rank	f	%
Supervision of IR staff	4	22	81.5	8	18	72.0
Assessment of learning outcomes	9	12	44.4	10	14	56.0
IR for decision and institutional use	1	27	100.0	1	25	100.0
IR for external reporting	2	26	96.3	1	25	100.0
College/university planning	5	21	77.8	6	19	76.0
IPEDS key holder/coordinator	7	19	70.4	6	19	76.0
Accreditation	8	18	66.7	5	20	80.0
Institutional effectiveness studies	5	21	77.8	4	21	84.0
Statistical analysis	3	24	88.9	3	23	92.0
Qualitative analysis	10	16	59.3	8	18	72.0

**IR Managers and Experience Comparison**

The final comparison grouping looked again at IR managers except this time it divided them by years of experience in IR. The mean, median and mode for years of experience for IR managers was 13 years; there were three participants with 13 years of experience. Rather than lump an additional three participants into either group, these three were divided by their years of experience in higher education. Two participants had less experience and were moved to the Less Time group (n=33) that represented managers with 13 years of IR experience or less. The remaining manager, who had 13 years of IR experience and who had more total experience higher education, was moved

to the More Time group (n=34) that represented participants with 13 or more years of IR experience. The two groups turned out to be remarkably similar.

By definition, the Less Time group had a lower mean for years working in IR 6.48 years compared to 20.94 years for the More Time group. The More Time group also had more experience in higher education, 24.29 compared to 16.62 for the Less Time group, and more years working for their current institution, 13.34 compared to the Less Time mean of 7.88 years. The Less Time group tended to work in offices with less IR staff as they reported a mean of 3.33 persons while the More Time group reported 4.69 persons. The More Time group served on an average of 6.69 institutional committees over the past two years and 1.77 departmental committees. Perhaps their experience had given the opportunity focus more on the institutional level decisions. The Less Time group only served on 4.22 institutional level committees but on more departmental level committees, 2.16 (Table 6.1 contains the background characteristics for these two groups).

Table 6.1

*Background Experience Comparing IR Managers by Experience*

	13 Years or Less					13 Years or More				
	N	M	Mdn	Mode	SD	N	M	Mdn	Mode	SD
Years of work in Institutional Research	33	6.48	6.00	5	2.827	34	20.94	20.00	20	6.697
Years of work in Higher Education	33	16.62	14.00	20	8.042	34	24.29	23.50	16	7.562
Years of work at current institution	33	7.88	5.00	5	8.703	34	13.34	12.00	15	10.111
Number of staff in your office doing IR work	32	3.33	2.00	1	3.369	34	4.69	3.50	2	3.464
Number of institutional level committees	32	4.22	4.00	5	3.319	33	6.33	5.00	5	3.637
Number of departmental level committees	31	2.16	1.00	0	3.387	30	1.77	1.00	0	2.609

The title that most closely identified their position was “Director” for both groups; 75.8% of the Less Time group selected this title and 76.5% selected from the More Time group. The second most selected title was “Analyst/Researcher” for the More Time group (12.1%) and “Associate Director” for the More Time group (11.8%). The Less Time group had considerably more participants who had earned a doctorate degree than the More Time group; 60.6% compared to only 35.3%. Half (50.0%) of the More Time group has a master’s degree and both groups reported one participant with less than a bachelor’s degree. With the large difference of managers who had a doctorate degree in the Less Time group, one might expect significant differences in the type of institutions for which they worked, but that was not the case. In fact, a larger percentage of the More Time group worked for a 4-year or more institution. The Less Time group had 39.4% who work for a public, 4-year or more institution, and 33.3% who work for a private non-profit, 4-year or more institution. For the More Time group 41.2% worked for each of these two types of institutions. The other types of institutions were equally represented (see Table 6.2 for details). The comparison of institutional size was also similar but had slightly more differences than the institutional type comparison groups. The Less Time group reported 30.3% who work for institutions with 1,000 to 4,999 students, 24.2% who work for institutions with 5,000 to 9,999, students and 21.2% who work at institutions with 20,000 or more students. The top three for the More time group were; institutions with 1,000 to 4,999 students (30.3%), institutions with 20,000 or more students (27.3%), and institutions with 10,000 to 19,999 students (21.2%). The More Time group had slightly more participants who work for institutions with more than 5,000 students (see Table 6.2 for more details).



Table 6.2

*Background Credentials Comparing IR Managers by Experience*

	13 Years or Less			13 Years or More		
	N	f	%	N	f	%
What title most closely identifies your position in IR?						
Director	33	25	75.8	34	26	76.5
Associate Director	33	3	9.1	34	4	11.8
Analyst/Researcher	33	4	12.1	34	0	0
Other	33	1	3.0	34	4	11.8
What is your level of education?						
Less than a Bachelor's degree	33	1	3.0	34	1	2.9
Bachelor's degree	33	2	6.1	34	4	11.8
Master's degree	33	10	30.3	34	17	50.0
Ph.D./Ed.D	33	20	60.6	34	12	35.3
What IPEDS categorization best describes the size of your institution?						
Less-than 1,000	33	3	9.1	34	1	3.0
1,000- 4,999	33	11	33.3	34	10	30.3
5,000 – 9,999	33	8	24.2	34	6	18.2
10,000-19,999	33	4	12.1	34	7	21.2
More-than 20,000	33	7	21.2	34	9	27.2
What IPEDS sector best describes your institution?						
Public, 4-year or above	33	13	39.4	34	14	41.2
Private not-for-profit, 4-year or above	33	11	33.3	34	14	41.2
Public, 2-year	33	5	15.2	34	4	11.8
Private not-for-profit, 2-year	33	1	3.0	34	0	0.0
Other	33	1	3.0	34	1	2.9
Non-U.S. Institution	33	2	6.1	34	1	2.9

In examining the roles performed by these managers, there are some differences. Both groups reported IR for decision making and institutional use as their number one role, but the More Time group also reported IR for external reporting as their number one role, both activities had 97.1% of More Time participants select them. The second most selected role for the Less Time group was statistical analysis and then external reporting. Because of the larger number of IR staff working in the More Time group's offices, supervision was their third selection. Both groups selected the assessment of learning outcomes as the least popular role. The remaining roles varied in the popularity but there were a few with considerable differences in percentages. In particular, the More Time group reported a higher percentage of IPEDs key holders and effectiveness studies but the Less Time group was considerably higher in accreditation and qualitative analysis.

Table 6.3 shows the complete rankings and percentages for the Less Time and More Time groups. The background variables for the two comparison groups were considered in the reporting of the results of the research questions and the final discussion.

Table 6.3

*Roles Performed by IR: Comparison of IR Managers by Experience*

Role	13 Years or Less			13 Years or More		
	Rank	f	%	Rank	f	%
Supervision of IR staff	8	20	60.6	3	32	94.1
Assessment of learning outcomes	10	18	54.5	10	17	50.0
IR for decision and institutional use	1	33	100	1	33	97.1
IR for external reporting	3	30	90.9	1	33	97.1
College/university planning	4	26	78.8	6	27	79.4
IPEDS key holder/coordinator	8	20	60.6	7	25	73.5
Accreditation	4	26	78.8	8	24	70.6
Institutional effectiveness studies	7	24	72.7	5	28	82.4
Statistical analysis	2	31	93.9	4	31	91.2
Qualitative analysis	6	25	75.8	9	21	61.8

**Brief Summary of the Demographics**

As seen by the discussion of the background demographics, the sample of the study reflected the background and demographics of the larger AIR population fairly well. Managers made up the largest portions of each subgroup as well as those who had earned PhD's and master's degrees. However, there were a greater percentage of large institutions in this study than in the AIR population. The Smaller Institutions and the Larger Institutions comparison groups were similar except in the areas that one would expect; the size of the IR staff, and therefore, the number and types of roles they

performed. This was also reflected in the Public and the Private groups and the Public Manager and Private Manager groups because of the greater representation of smaller institutions in the Private and Private Manager groups. The managers groups divided by experience were remarkably similar except for few areas. The More Time group of managers with 13 years of experience or more, naturally had more experience, but also supervised more and served on more institutional level committees. However, less of them had earned doctorate degrees. All subgroups significantly engaged in IR work for decision making, institutional use and external reporting, apparently utilizing a good deal of statically analysis. Qualitative analysis and assessing learning outcomes occurred much less often in these subgroups. These similarities and differences were considered in analyzing the results of the research questions.

### **Research Question One**

“Using Mintzberg’s work, what did institutional researchers report as their primary sources of power: control of a resource, technical skills, unique knowledge, legal prerogatives, and/or access to decision makers?”

The first research question sought to determine if the power sources proposed by Mintzberg (1983b) were present in the profession of institutional research. Participants were asked to express their level of agreement with a series of statements for each of the five power sources. A composite score was computed for each of the power sources. The composite score was based on the un-weighted average of responses. Descriptive statistics were calculated to determine the level at which power sources were present.

Because of the six-point rating scale, the lowest possible average was 1.00 while the highest was 6.00. A mean of 3.5 was considered to be the breaking point as to whether the power source is present or not. The results of this research question are presented by power source and include tables offering further details.

The first power source was the control of resources and was measured with 11 statements that are listed along with the detailed descriptive statistics in Table 7.1. A distinction was made between data and information. The term “data” was defined on the survey as a single number or statistic or a set of numbers or statistics while information was defined as providing context in relation to the numbers or statistics. The first six statements were about the collection, generation, and distribution of institutional level data and information and all had a mean of over 5.00. The lowest of these statements was; “I collect institutional level data” with a mean of 5.13 while the highest was; “I generate institutional level information” with a mean of 5.41. All of these responses had a strong negative skew with a strong leptokurtic kurtosis. The negative skewedness indicated the responses to be unevenly distributed toward the higher end of the rating scale while the highly peaked kurtosis indicated that the responses clustered closely together around the mean (Lomax, 2001). However, the statement with the highest mean at 5.49 was “Faculty, administrators, and /or staff often ask me for information and/or data.” The highest kurtosis (5.284) was the statement; “I generate institutional level information” indicating a higher concentration of answers around the mean. The lowest rated statement with a mean of 3.75, “When there is a departmental decision to be made, it is my office that provides the data and reports needed,” demonstrated that IR tend to work more at the institutional level than on the departmental level. The skewness for this

statement was positive but near zero (.064) indicating a near perfect distribution of responses. This was also reflected in the kurtosis of -.511, which is mildly platykurtic (see Table 6.1 for all of the descriptive statistics regarding the Control of resources) (Lomax, 2001).

Clearly, institutional researchers believe they have the “control of resources” power source in the form of collecting, generating and distributing data and information. However, in addition to the lower means on the departmental decisions statement, participants left open the possibility that institutional researchers may not be the only resource for data and reports. Both statements “Most institutional data and/or reports come from my office” and “When there is an institutional level decision to be made, it is my office that provides the data and reports needed” had means of 4.59 and 4.48 respectively but have skewness and kurtosis approaching zero. This indicates a normal distribution, and therefore a more equal number of responses on the lower or negative end of the scale. The statements with the lower means served to balance out the higher means of the first statements. The combined “control of resources” score mean was 4.87 and the skewness was weaker (-.967) with a more balanced kurtosis (.975). The range for the combined score was 4.26 with a low of 1.64 and a high of 6.00. These scores are the highest of all the combined power source scores (see Table 7.1 for the descriptive statistics).

Table 7.1

*Control of Resources: Study Sample*

	N	M	SD	Skewness	Kurtosis
I collect institutional level data	126	5.13	1.620	-1.666	1.297
I collect institutional level information	124	5.14	1.456	-1.737	2.037
I generate institutional level data	124	5.11	1.624	-1.678	1.326
I generate institutional level information	123	5.41	1.227	-2.392	5.284
I distribute institutional level data	123	5.40	1.253	-2.295	4.519
I distribute institutional level information	123	5.37	1.277	-2.249	4.353
Faculty, admin, and/or staff often ask me for information and/or data	123	5.49	.944	-2.133	4.990
I manage data warehouses and repositories	125	3.81	1.991	-.272	-1.544
Most institutional data and/or reports come from my office	123	4.59	1.330	-.643	-.508
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	124	4.48	1.272	-.716	-.092
When there is a departmental decision to be made, it is my office that provides the data and reports needed	124	3.75	1.260	.064	-.511
Control of Resources combined score	126	4.87	.8389	-.976	.975

The next power source to be measured was “technical skills.” Technical expertise is considered to be the main source of influence for analysts (Mintzberg, 1983b).

Participants were asked to rate their skills regarding: data management, presentations, writing reports, statistical methods, conceptualizing and planning research, quantitative research and analytics, qualitative research and analytics, and data mining. A six point scale was again used so that the lowest mean possible was 1.00 while the highest was 6.00. The skill with the highest mean was “writing reports” with a mean of 5.02, skewness of -.827 and leptokurtic kurtosis of .216. This was closely followed by “conceptualizing and planning research” (M=4.99, Skew= -1.066, Kurt= 1.128) and “data management” (M=4.98, Skew= -.694, Kurt= -.444). “Data mining” had the lowest mean

of 3.82, a skewness of -.229 and a platykurtic kurtosis of -.902. Because of the amount of data related work performed in IR, it is somewhat surprising that “statistical methods” only ranked sixth on the list with a mean of 4.39. Institutional researchers appear to be confident in their ability to design research and to write the report, but less confident in their ability to analyze the data, both quantitative and qualitative data. The combined technical skills mean was still strong at 4.63 with a skewness distributed toward the higher ratings (-.516) but a flatter, platykurtic kurtosis (-.207). The range for the composite score was 3.38 with a low of 2.63 and a high of 6.00 (see Table 7.2 for the complete descriptive data).

Table 7.2

*Technical Skills: Study Sample*

How would you rate your skills in the following areas?	N	M	SD	Skewness	Kurtosis
Data Management	125	4.98	1.020	-.694	-.444
Presentations	124	4.94	1.069	-.900	.063
Writing reports	125	5.02	.975	-.827	.216
Statistical methods	125	4.39	1.121	-.476	.082
Conceptualizing and planning research	124	4.99	1.032	-1.066	1.128
Quantitative research and analytics	125	4.77	1.001	-.841	1.030
Qualitative research and analytics	124	4.16	1.192	-.405	-.131
Data mining	125	3.82	1.505	-.229	-.912
Technical Skills combined score	125	4.63	.7238	-.516	-.207

Having unique knowledge was the third power source to be measured in this study. Unique knowledge is knowledge that is not widely known. It is different than controlling information, in that unique knowledge derives more from experience and position but is not necessarily distributed or withheld (Mintzberg, 1983b). Five

statements made up the unique knowledge segment, all of which had a mean between 4.08 and 4.85. The statements “I am able to understand the impact decisions have on departments and resources across campus” and “I have responsibilities that involve many departments across campus” were scored the highest with means of 4.85. Both are negatively skewed at -.985 and -1.290 respectively although the campus responsibilities statement was more strongly skewed and was less peaked. The “ability to understand the impact of a decision” had a leptokurtic kurtosis of 1.316 indicating a tighter clustering of responses around the mean. However, the lowest statement was “I know more about campus politics than most people on campus” with a mean of 4.08. While the skewness was negative, it was only -.562 with a kurtosis of -.358 indicating a more normal distribution of responses (Lomax, 2001). The mean for unique knowledge combined score was 4.61, negatively skewed at -.906 and a leptokurtic kurtosis of .626. The composite score range was large, 4.40 with a low of 1.60 and a high of 6.00. Overall, the unique knowledge power source was present but to a lesser extent than the previous two power sources. Because of their cross-campus responsibilities, institutional researchers have an understanding of the impact decisions have across campus and they feel that their opinion is respected because of this. However, they have less understanding of campus politics and the interrelations of departments (Table 7.3 has the related statistics).



Table 7.3

*Unique Knowledge: Study Sample*

	N	M	SD	Skewness	Kurtosis
People respect my opinion because I have a very good understanding of the issues at my institution	124	4.73	1.185	-.881	.273
I am able to understand the impact decisions have on departments and resources across campus	123	4.85	1.025	-.985	1.316
I have responsibilities that involve many departments across campus	124	4.85	1.377	-1.290	.837
I know more about the interrelationships of departments than most people on campus	123	4.48	1.345	-.665	-.333
I know more about campus politics than most people on campus	122	4.08	1.370	-.562	-.358
Unique Knowledge combined score	124	4.61	.9764	-.906	.626

The lowest of all of the power sources was having legal prerogatives. This is the ability to use a legal basis to get others to do as you wish (Mintzberg, 1983b). All five statements had means above the 3.5 cut score but the legal prerogative combined score was only 4.30. It had a modest negative skew of  $-.708$  and a flatter, platykurtic kurtosis of  $-.221$  and the highest possible range of 5.00, a low of 1.00 and a high of 6.00. These are indications that more responses were in the lower ranges but more spread out along the scale. The statement with the highest mean was “I complete reports that are required by law or government regulations.” It had a mean of 4.80, a moderate negative skew of  $-1.237$ , and a mesokurtic kurtosis of  $.010$ . Evidently, institutional researchers’ constituents understand the reporting requirements of the participants as the statement “People on my campus comply with my requests for information because they understand my required reporting needs” was the second highest statement with a mean of 4.61. Reporting related to grants and funding was the third highest statement followed by the statement “legal reporting requirements give me the authority to demand work from other individuals on

campus.” Despite having reports required by the government, institutional researchers did not necessarily feel they have authority to demand work from others. This was confirmed by the lowest statement of “I have used legal obligations to get data and information I need from faculty and/or staff.” This statement had a mean of only 3.88, was negatively skewed at -.708, and a platykurtic kurtosis of -1.151 (see Table 7.4 for the complete descriptive statistics).

Table 7.4

*Legal Prerogatives: Study Sample*

	N	M	SD	Skewness	Kurtosis
Legal reporting requirements give me the authority to demand work from other individuals on campus	121	3.98	1.742	-.446	-1.137
I complete reports that are required by law or government regulations	122	4.80	1.742	-1.237	.010
I complete reports that are required by grants or other funding sources	120	4.19	1.677	-.548	-.939
People on my campus comply with my requests for information because they understand my required reporting needs	120	4.61	1.311	-.900	.176
I have used legal obligations or regulations to get data and information I need from faculty or staff	120	3.88	1.755	-.407	-1.151
Legal Prerogatives combined score	122	4.30	1.2438	-.708	-.221

The final power source was having access to decision makers. These four statements combined to make the second highest combined score of any of the power sources. The access to decision makers combined score was 4.67 with a negative skew of -.951 and a leptokurtic kurtosis .308. The range for the combined score was 5.00 with low and high at each end of the scale. The highest rated statement was “My boss is a high level decision maker” with a mean of 5.06. It also had the most skewness of -1.370 and the most peaked leptokurtic kurtosis of .986. An additional open-ended question asked the participants how many levels was their office removed from the president; the

average response was 1.48 levels. Titles of the participants' bosses varied widely but 26 participants reported to the President (11) or Provost (15). Variations of other titles to whom they report include: Vice President (24), Vice (assistant, associate) Provost or Chancellor (8), Dean- of faculty/students (4), Executive Director (8), Director-IR/Assessment (21), Chief Information Office (2), and others (7). Percentages were not calculated because many of their superiors had multiple titles and roles. A sample of the departments mentioned include: Academic Affairs, IR, Assessment, Planning, Student Life, Enrollment, Registrar, and Effectiveness. The proximity to decision makers was reflected in the statement "If I need to, I can ask a high level decision maker to intervene on my behalf", which had a mean of 4.73 and also had a strong negative skew of -1.048 and a leptokurtic kurtosis of .141. However, the statement with the lowest mean, 4.37 was "I meet with high level decision makers regularly." This had less of a negative skew, -.660 and a platykurtic kurtosis of -.787. Most respondents considered their office to be centralized with a mean of 4.53. Clearly, institutional researchers have access to high level decision makers either by reporting to a high level decision maker or by virtue of the their office being centralized and not far removed from the president (see Table 7.5 for more details on the access to decision-makers power source).

Table 7.5

*Access to Decision Makers: Study Sample*

	N	M	SD	Skewness	Kurtosis
I meet with high level decision makers regularly	124	4.37	1.640	-.660	-.787
If I need to, I can ask a high level decision maker to intervene on my behalf	123	4.73	1.426	-1.048	.141
My boss is a high level decision maker	124	5.06	1.305	-1.370	.986
I consider my office of institutional research to be centralized within the organizational structure of my institution	120	4.53	1.466	-.742	-.540
Access to Decision Makers combined score	124	4.64	1.1841	-.951	.308
How many levels is your office of institutional research removed from the president on the organizational chart?	122	1.48	.972	.509	.252

Based on the combined scores in each of the power source measures, institutional researchers believe that they have each of the power sources. All of the combined scores had means between 4.00 and 5.00 with control of resources being that highest at 4.87. This was followed by access to decision makers (4.67), technical skills (4.63), unique knowledge (4.61), and legal prerogatives (4.30). The highest cluster of statements included the collection, generation, and distribution of data and knowledge; each statement had a mean over 5.10. Only two other statements had a mean over 5.00: my boss is a high level decision maker (5.06) and having reporting skills (5.02). Five statements had means below 4.00 indicating only a small presence of these particular aspects of power sources. The absolute low had a mean of 3.75; “When there is a departmental decision to be made, it is my office that provides the data and reports needed.” The other statements with lower means include: “I manage data warehouses and repositories (3.81),” data mining skills (3.82), “I have used legal obligations to get data and information I need for faculty and/or staff (3.88),” and “Legal reporting requirements give me the authority to demand work from other individuals on campus (3.98).” In

summary, institutional researchers have all five power sources but more specifically, they have power through their ability to gather and create information in the form of report writing. They are also closely connected to high level decision makers through the reporting structure of their institution. They have less power in the areas of data mining and providing data and reports for departmental decisions. Despite having to complete reports that are required by law or government regulations (4.80), they do not feel they have any particular authority to demand data or work from others on campus.

### **Research Question Two**

“How did the reported sources of power vary by institutional size, institutional type, job responsibility, and experience?”

After establishing the presence of all five of Mintzberg’s (1983b) power sources in IR, the second research question explored the differences in power sources when comparing different institutions based on the established comparison groups: institutional size, institutional type, job description, managers in different types of institutions, and manager’s experience in IR. An analysis of variance (ANOVA) was conducted for every statement within each power source measure. The one-way ANOVA was used because of its ability to test the difference between two or more means and it is robust to enough to cover violations of normality and homogeneity (Ary, et al., 2002; Lomax, 2001; Stevens, 1999). The normality assumption was not met on many of the statements on the survey. Group sizes were comparable on two of the four groups. The institutional type comparison (n=51, n=41) and the job description comparison (n=30, n=67) had

significantly different group sizes so the Kruskal-Wallis one-factor ANOVA was conducted to determine the significance of the different means (Lomax, 2001). Because of the length of the tables related to this research questions, all tables are presented at the end of each grouping. Only the statements with statistically different means are discussed in addition to a few points of interested. More detailed information is located in the related tables.

### **Institutional Size Power Source Comparisons**

The results from the ANOVA showed that there was no significant difference between the responses of participants affiliated with institutions with less than 10,000 students and those affiliated with institutions with 10,000 students or more on any of the Control of Resources power source statements except one. For the statement “I collect institutional level information,” the mean for the Smaller Institutions group was 4.81 compared to the Larger Institutions group whose mean was 5.44,  $F(1,116)=5.314$ ,  $p=.023$ . The effect size was small ( $\eta^2=.044$ ) (see Table 8.2 for the complete ANOVA table). The descriptive statistics provided more information about the differences in the groups. The Smaller Institutions group had a higher means for generating and distributing institutional data and managing data warehouses. They also had higher means with the statement; “Most institutional data and/or reports come from my office.” The Larger Institutions group had a higher mean regarding their involvement with departmental decisions. One might expect that a centralized office might be more involved with the departments at smaller institution than a larger one but that did not appear to be the case. Similar to the total sample, the statements regarding the collection, creation, and distribution of knowledge were all negatively skewed and leptokurtic

indicating a tight cluster of responses on the higher end of the rating scale. The means for the Control of Resources combined score were nearly identical, 4.83 and 4.89, and both were negatively skewed. However, the Smaller Institutions group had a medium level leptokurtic kurtosis (1.831) while the Larger Institutions group was platykurtic (-.329) indicating more variance, or diversity in the responses of the Smaller Institutions group than in the Larger Institutions group. The range of combined scores for the Smaller Institutions group was 4.36 with a low of 1.64 and a high of 6.00. The range for the Larger Institutions group was narrower, 3.27, with a low of 2.73 and a high of 6.00 (Table 8.1 has the descriptive statistics and Table 8.2 has the results for the ANOVA).

When technical skills in IR were rated, there were differences between the two groupings. The Larger Institutions group rated themselves higher than the Smaller Institutions group on every statement in the Technical Skills power source. This may be a result of the Larger Institutions group having a higher percentage of its participants having earned a doctorate degree than the Smaller Institutions group. Three skills had means of over 5.00 for the Larger Institutions group: presentation (5.21), report writing (5.14), and conceptualizing and planning research (5.09). Two of these were also highest in the Smaller Institutions group: report writing (4.93) and conceptualizing and planning research (4.88). The second highest was data management with a mean of 4.90. Conceptualizing research and quantitative research ( $M=4.97$ ) skills had negative skewness and very peaked kurtosis, 3.447 and 4.025 respectively, for the Larger Institutions group indicating very little variance in the way they feel about their skills in these areas. Three ANOVAs yielded results that were statistically different at the .05 level. Presentations,  $F(1,116)=5.546$ ,  $p=.02$ , had a small effect size ( $\eta^2=.046$ )

indicating that there is not a lot of practical significance between the groups. The Smaller Institutions group had a mean of 4.53 for the quantitative research and analytics statement compared to the mean of the Larger Institutions group that was 4.97. These differences were also statistically significant,  $F(1,116)=5.563$ ,  $p=.020$ . The effect size was also very small ( $\eta^2=.046$ ). The final comparison that was statistically significant was the Technical Skills Combined score. The means were 4.48 for the Smaller Institutions group and 4.76 for the Larger Institutions group;  $F(1,116)=4.708$ ,  $p=.032$ . The effect size was small ( $\eta^2=.039$ ). Both of these scores were negatively skewed but their kurtoses were different. The Smaller Institutions group was platykurtic at -1.022 while the Larger Institutions group was Leptokurtic at 1.033 indicating more diversity in the smaller institutions and more agreement in the larger schools. The range of combined scores for the Smaller Institutions group was fairly narrow, 2.63 with a minimum of 3.13 and a maximum of 5.75. The Larger Institutions group had a range of 3.83, a minimum of 2.63 and a high of 6.00. One other skill set, statistical methods, approached having a statistically significant difference,  $p=.09$ . Neither groups' means were very high with Smaller Institutions at 4.18 and Larger Institutions at 4.53. Apparently they have more confidence in their quantitative research and analytics skills, which focus on planning and interpreting the research, than their actual skills with statistical method (see Table 8.3 for the Technical Skills descriptive statistics and Table 8.4 for the related ANOVAs).

There were no significant differences between the two groups in the Unique Knowledge power source statements. In fact, they were very similar in all means, skewness and kurtosis (see Table 8.5 and 8.6 for the descriptive statistics and ANOVAs). The Smaller Institutions group reported a higher mean (4.51) in the statement focused on



departmental interrelationships than the Larger Institutions group (4.40), indicating more interaction between IR and the departments at smaller institutions. The Smaller Institutions had a mesokurtic distribution (.059) to their answers, whereas the Larger Institutions group was more spread out with a platykurtic distribution (-.729). Neither group claimed to know much about campus politics as these had the lowest means and had a platykurtic distribution with only a small negative skew. The Unique Knowledge Combined score mean was 4.58 for the Smaller Institutions group and 4.63 for the Larger Institutions group with the Smaller Institutions group showing a moderately peaked kurtosis demonstrating less variation in participants answers compared to the Larger Institutions group. The ranges for the combined scores were the same for both groups: 4.40; lows were 1.60, and the highs were 6.00 (Tables 8.5 and Table 8.6 has the related statistics).

Having legal prerogatives seemed to be more of a source of power for smaller institutions than larger ones. The mean for every statement in this power source was higher for the Smaller Institutions group than the Larger Institutions group, perhaps reflecting the fact that IR staffs are smaller in the Smaller Institutions group and therefore they have more responsibilities. Clearly evident was that the Smaller Institutions group felt they had to complete reports required by law and/or government regulations. Their mean was 5.17 for this statement compared to the Larger Institutions group at 4.48. This was a statistically significant difference,  $F(1,115)=4.767, p=.031$ . The effect was small ( $\eta^2=.040$ ). For the Less than group, this statement had a strong negative skew and strongly leptokurtic distribution (3.204) indicating a unified response in agreement with the statement. This was the only statement with a statistically significant difference.

Also worth noting was that neither group reported having used legal requirements to get data and information from faculty or staff very often. The means for this statement was small for both groups; 3.98 for Smaller Institutions and 3.77 for Larger Institutions. However, both groups' responses had a fairly strong platykurtic (-1.053, -1.250) distribution indicating greater variance of answers. With the skewness (-.442, -.357) being small but negative, there appear to be those in IR who have used legal prerogatives to get their work done. The Legal Prerogative combined scores were similar for both groups but their kurtosis were opposite, only mildly. The Smaller Institutions group was leptokurtic demonstrating less variance in answers while the Larger Institutions group was platykurtic. For the Smaller Institutions group, the combined score mean was 4.41 with a range of 5.00, a low of 1.00 and a high of 6.00. The Larger Institutions group's mean was 4.18 with an identical range (Table 8.7 has the descriptive statistics for the Legal Prerogative power source and Table 8.8 has the ANOVAs).

The final power source comparison, Access to Decision Makers, did show some differences between the groups. The Smaller Institutions group reported only being 1.33 positions removed from the President, compared to 1.59 for the Larger Institutions group and the Larger Institutions group felt that their boss was a high level decision maker more than the Smaller Institutions group. The mean for the Larger Institutions group was 5.14 and the responses had a medium leptokurtic (1.349) distribution. Institutional researchers in the larger institutions reported meeting with high level decision makers regularly (M=4.67) compared to the smaller institutions (M=4.13). The difference in the groups for this statement was close to being statistically significant (p=.074). The Larger Institutions group also reported having a more centralized office than the Smaller Institutions group

( $M=4.88$  and  $4.17$ ). This difference was statistically significant,  $F(1,114)=6.884$ ,  $p=.019$ . The effect size was medium (eta-squared=  $.06$ ). Both of the groups had platykurtic ( $-.386$ ,  $-.202$ ) distributions representing the diversity of organizational structures in higher education. The Access to Decision Makers combined score was also significantly different,  $F(1,116)=2.919$ ,  $p=.010$ . The effect size was small (eta-squared=  $.03$ ). The mean for the Larger Institutions group was  $4.86$  compared to  $4.38$  for the Smaller Institutions group. The range of combined scores for the Smaller Institutions group was  $5.00$  with a low of  $1.00$  and a high of  $6.00$  while the range for the Larger Institutions group was  $4.25$  with a low of  $1.75$  and a high of  $6.00$  (see Tables 8.9 and 8.10 for the complete descriptive statistics and ANOVAs).

In summary, institutional researchers at institutions with less than 10,000 students were very similar to institutional researchers who work at larger institutions. Statistically significant differences were found in collecting institutional level information, report writing, quantitative research and analysis, completing reports required by law or regulations, meeting with decision makers and having a centralized office. Two of the power sources' combined scores were also statistically different, Technical Skills and Access to Decision Makers. In each of these statements or combined scores, the Larger Institutions group had a higher mean. Throughout the power source statements there were many that had very peaked kurtosis indicating strong agreement in the participants while other statements demonstrated greater diversity in responses with very flat kurtosis. For the Smaller Institutions group, their highest reported power source was Control of Resources followed by Unique Knowledge, Technical Skills, Access to Decision makers and then Legal Prerogatives. Control of Resources was also the highest for the Larger

Institutions group. The next highest was Access to Decision Makers followed by Technical Skills, Unique Knowledge and then Legal Prerogatives.

Table 8.1

*Control of Resources: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
I collect institutional level data	Less than 10,000	60	5.10	1.623	-1.668	1.410
	More than 10,000	58	5.05	1.711	-1.520	.737
I collect institutional level information	Less than 10,000	59	4.81	1.686	-1.237	.282
	More than 10,000	57	5.44	1.180	-2.548	6.272
I generate institutional level data	Less than 10,000	59	5.19	1.603	-1.824	1.923
	More than 10,000	58	5.05	1.638	-1.600	1.071
I generate institutional level information	Less than 10,000	58	5.43	1.258	-2.576	6.305
	More than 10,000	58	5.45	1.111	-2.330	5.258
I distribute institutional level data	Less than 10,000	58	5.41	1.229	-2.379	5.248
	More than 10,000	58	5.33	1.343	-2.117	3.549
I distribute institutional level information	Less than 10,000	58	5.29	1.427	-2.156	3.708
	More than 10,000	58	5.47	1.096	-2.354	5.526
Faculty, admin, and/or staff often ask me for information and/or data	Less than 10,000	59	5.46	1.119	-2.297	4.997
	More than 10,000	58	5.52	.755	-1.201	-.132
I manage data warehouses and repositories	Less than 10,000	60	3.87	1.882	-.211	-1.470
	More than 10,000	58	3.62	2.101	-.193	-1.724
Most institutional data and/or reports come from my office	Less than 10,000	59	4.66	1.226	-.765	.169
	More than 10,000	58	4.50	1.417	-.536	-.896
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Less than 10,000	60	4.42	1.331	-.818	-.031
	More than 10,000	58	4.55	1.202	-.691	.141
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Less than 10,000	60	3.62	1.250	.021	-.222
	More than 10,000	58	3.84	1.268	.088	-.705
Control of Resources combined score	Less than 10,000	60	4.83	.883	-1.252	1.831
	More than 10,000	58	4.89	.830	-.648	-.329

Table 8.2

*Control of Resources: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
I collect institutional level data	Between Groups	.069	1	.069	.025	.875
	Within Groups	322.245	116	2.778		
	Total	322.314	117			
I collect institutional level information	Between Groups	11.326	1	11.326	5.314	.023
	Within Groups	242.984	114	2.131		
	Total	254.310	115			
I generate institutional level data	Between Groups	.531	1	.531	.202	.654
	Within Groups	301.794	115	2.624		
	Total	302.325	116			
I generate institutional level information	Between Groups	.009	1	.009	.006	.938
	Within Groups	160.569	114	1.408		
	Total	160.578	115			
I distribute institutional level data	Between Groups	.216	1	.216	.130	.719
	Within Groups	188.845	114	1.657		
	Total	189.060	115			
I distribute institutional level information	Between Groups	.862	1	.862	.533	.467
	Within Groups	184.448	114	1.618		
	Total	185.310	115			
Faculty, admin, and/or staff often ask me for information and/or data	Between Groups	.104	1	.104	.114	.737
	Within Groups	105.127	115	.914		
	Total	105.231	116			
I manage data warehouses and repositories	Between Groups	1.784	1	1.784	.449	.504
	Within Groups	460.589	116	3.971		
	Total	462.373	117			
Most institutional data and/or reports come from my office	Between Groups	.758	1	.758	.432	.512
	Within Groups	201.720	115	1.754		
	Total	202.479	116			
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Between Groups	.538	1	.538	.334	.565
	Within Groups	186.928	116	1.611		
	Total	187.466	117			
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Between Groups	1.535	1	1.535	.969	.327
	Within Groups	183.787	116	1.584		
	Total	185.322	117			
Control of Resources combined score	Between Groups	.103	1	.103	.140	.709
	Within Groups	85.274	116	.735		
	Total	85.377	117			

Table 8.3

*Technical Skills: Descriptive Statistics by Institutional Size*

How would you rate your skills in the following areas?	Student Sample	n	M	SD	Skewness	Kurtosis
Data Management	Less than 10,000	60	4.90	.986	-.671	.010
	More than 10,000	58	4.98	1.084	-.649	-.910
Presentations	Less than 10,000	60	4.75	1.114	-.851	.130
	More than 10,000	58	5.21	.987	-1.115	.214
Writing reports	Less than 10,000	60	4.93	1.006	-.689	-.088
	More than 10,000	58	5.14	.963	-1.139	1.065
Statistical methods	Less than 10,000	60	4.18	1.214	-.188	-.453
	More than 10,000	58	4.53	1.030	-.645	1.059
Conceptualizing and planning research	Less than 10,000	59	4.88	1.035	-.527	-.862
	More than 10,000	58	5.09	1.064	-1.624	3.447
Quantitative research and analytics	Less than 10,000	60	4.53	1.033	-.379	-.281
	More than 10,000	58	4.97	.955	-1.434	4.025
Qualitative research and analytics	Less than 10,000	60	4.12	1.106	-.393	-.034
	More than 10,000	57	4.23	1.296	-.544	-.081
Data mining	Less than 10,000	60	3.53	1.578	-.090	-1.055
	More than 10,000	58	3.97	1.414	-.169	-.874
Technical Skills combined score	Less than 10,000	60	4.48	.703	-.132	-1.022
	More than 10,000	58	4.76	.738	-1.004	1.033

Table 8.4

*Technical Skills: ANOVA by Institutional Size*

How would you rate your skills in the following areas?	Source	SS	df	MS	F	Sig.
Data Management	Between Groups	.202	1	.202	.188	.665
	Within Groups	124.383	116	1.072		
	Total	124.585	117			
Presentations	Between Groups	6.156	1	6.156	5.546	.020
	Within Groups	128.767	116	1.110		
	Total	134.924	117			
Writing reports	Between Groups	1.235	1	1.235	1.271	.262
	Within Groups	112.630	116	.971		
	Total	113.864	117			
Statistical methods	Between Groups	3.636	1	3.636	2.862	.093
	Within Groups	147.414	116	1.271		
	Total	151.051	117			
Conceptualizing and planning research	Between Groups	1.227	1	1.227	1.114	.293
	Within Groups	126.738	115	1.102		
	Total	126.966	116			
Quantitative research and analytics	Between Groups	5.509	1	5.509	5.563	.020
	Within Groups	114.864	116	.990		
	Total	120.373	117			
Qualitative research and analytics	Between Groups	.363	1	.363	.251	.617
	Within Groups	166.218	115	1.445		
	Total	166.581	116			
Data Mining	Between Groups	5.509	1	5.509	2.450	.120
	Within Groups	260.864	116	2.249		
	Total	266.372	117			
Technical skills combined score	Between Groups	2.446	1	2.446	4.708	.032
	Within Groups	60.261	116	.519		
	Total	62.707	117			

Table 8.5

*Unique Knowledge: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
People respect my opinion because I have a very good understanding of the issues at my institution	Less than 10,000	60	4.57	1.307	-.740	-.216
	More than 10,000	58	4.86	1.067	-.972	.786
I am able to understand the impact decisions have on departments and resources across campus	Less than 10,000	59	4.83	1.053	-.933	.782
	More than 10,000	58	4.86	1.034	-1.097	2.065
I have responsibilities that involve many departments across campus	Less than 10,000	60	4.85	1.287	-1.193	.779
	More than 10,000	58	4.88	1.488	-1.375	.925
I know more about the interrelationships of departments than most people on campus	Less than 10,000	59	4.51	1.251	-.731	.059
	More than 10,000	58	4.40	1.474	-.556	-.729
I know more about campus politics than most people on campus	Less than 10,000	59	4.07	1.298	-.423	-.485
	More than 10,000	57	4.11	1.496	-.683	-.353
Unique knowledge combined score`	Less than 10,000	60	4.58	.922	-.938	1.024
	More than 10,000	58	4.63	1.066	-.909	.328

Table 8.6

*Unique Knowledge: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
People respect my opinion because I have a very good understanding of the issues at my institution	Between Groups	2.574	1	2.574	1.802	.182
	Within Groups	165.630	116	1.428		
	Total	168.203	117			
I am able to understand the impact decisions have on departments and resources across campus	Between Groups	.029	1	.029	.027	.870
	Within Groups	125.202	115	1.089		
	Total	125.231	116			
I have responsibilities that involve many departments across campus	Between Groups	.025	1	.025		
	Within Groups	223.805	116	1.929	.013	.909
	Total	223.831	117			
I know more about the interrelationships of departments than most people on campus	Between Groups	.366	1	.366	.196	.659
	Within Groups	214.625	115	1.866		
	Total	214.991	116			
I know more about campus politics than most people on campus	Between Groups	.041	1	.041	.021	.886
	Within Groups	223.097	114	1.957		
	Total	223.138	115			
Unique knowledge combined score	Between Groups	.081	1	.081	.081	.776
	Within Groups	114.919	116	.991		
	Total	115.000	117			

Table 8.7

*Legal Prerogatives: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
Legal reporting requirements give me the authority to demand work from other individuals on campus	Less than 10,000	59	4.03	1.629	-.502	-.747
	More than 10,000	57	4.00	1.822	-.440	-1.362
I complete reports that are required by law or government regulations	Less than 10,000	59	5.17	1.476	-2.035	3.204
	More than 10,000	58	4.48	1.903	-.779	-1.087
I complete reports that are required by grants or other funding sources	Less than 10,000	59	4.29	1.576	-.770	-.462
	More than 10,000	56	4.05	1.803	-.353	-1.269
People on my campus comply with my requests for information because they understand my required reporting needs	Less than 10,000	59	4.58	1.248	-.840	.258
	More than 10,000	56	4.57	1.412	-.874	-.045
I have used legal obligations or regulations to get data and information I need from faculty or staff	Less than 10,000	58	3.98	1.722	-.442	-1.053
	More than 10,000	57	3.77	1.793	-.357	-1.250
Legal Prerogatives combined score	Less than 10,000	59	4.42	1.163	-.921	.510
	More than 10,000	58	4.19	1.314	-.557	-.558



Table 8.8

*Legal Prerogatives: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
Legal reporting requirements give me the authority to demand work from other individuals on campus	Between Groups	.033	1	.033	.011	.916
	Within Groups	339.932	114	2.982		
	Total	339.966	115			
I complete reports that are required by law or government regulations	Between Groups	13.793	1	13.793	4.767	.031
	Within Groups	332.788	115	2.894		
	Total	346.581	116			
I complete reports that are required by grants or other funding sources	Between Groups	1.581	1	1.581	.553	.459
	Within Groups	3.22.941	113	2.858		
	Total	324.522	114			
People on my campus comply with my requests for information because they understand my required reporting needs	Between Groups	.001	1	.001	.000	.984
	Within Groups	200.121	113	1.771		
	Total	200.122	114			
I have used legal obligations or regulations to get data and information I need from faculty or staff	Between Groups	1.278	1	1.278	.414	.521
	Within Groups	349.018	113	3.089		
	Total	350.296	114			
Legal Prerogatives combined score	Between Groups	1.557	1	1.557	1.013	.316
	Within Groups	176.812	115	1.537		
	Total	178.369	116			

Table 8.9

*Access to Decision Makers: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
I meet with high level decision makers regularly	Less than 10,000	60	4.13	1.712	-.466	-1.039
	More than 10,000	58	4.67	1.526	-.922	-.333
If I need to, I can ask a high level decision maker to intervene on my behalf	Less than 10,000	60	4.62	1.530	-1.021	-.067
	More than 10,000	57	4.84	1.360	-1.072	.234
My boss is a high level decision maker	Less than 10,000	60	4.98	1.347	-1.261	.671
	More than 10,000	58	5.14	1.317	-1.503	1.349
I consider my office of institutional research to be centralized within the organizational structure of my institution	Less than 10,000	59	4.17	1.620	-.435	-1.015
	More than 10,000	57	4.88	1.255	-.885	-.386
Access to Decision Makers combined score	Less than 10,000	60	4.48	1.304	-.824	-.202
	More than 10,000	58	4.86	1.069	-1.018	.655
How many levels is your office of institutional research removed from the president on the organizational chart?	Less than 10,000	60	1.33	1.052	.910	1.173
	More than 10,000	56	1.59	.869	.060	-.657

Table 8.10

*Access to Decision Makers: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
I meet with high level decision makers regularly	Between Groups	8.570	1	8.570	3.252	.074
	Within Groups	305.709	116	2.635		
	Total	314.280	117			
If I need to, I can ask a high level decision maker to intervene on my behalf	Between Groups	1.486	1	1.486	.707	.402
	Within Groups	241.762	115	2.102		
	Total	243.248	116			
My boss is a high level decision maker	Between Groups	.705	1	.705	.397	.530
	Within Groups	205.880	116	1.775		
	Total	206.585	117			
I consider my office of institutional research to be centralized within the organizational structure of my institution	Between Groups	14.520	1	14.520	6.884	.019
	Within Groups	240.445	114	2.109		
	Total	254.966	115			
Access to Decision Makers combined score	Between Groups	4.165	1	4.165	2.919	.010
	Within Groups	165.543	116	1.427		
	Total	169.708	117			
How many levels is your office of institutional research removed from the president on the organizational chart?	Between Groups	1.898	1	1.898	2.024	.090
	Within Groups	106.887	114	.938		
	Total	108.784	115			

**Institutional Type Power Source Comparisons**

As previously mentioned, the two comparison groups, Public (n=51) and Private (n=41), differed somewhat in size. Although the difference was not large, the sample groups were small so the Kruskal-Wallis test of variance was conducted after every ANOVA as the Kruskal-Wallis is more powerful when there are inequality of means (Lomax, 2001). The results indicated that there were but a few differences in means that were statistically significant for any of the power source statements. Most of the interesting differences were found in the kurtosis of each statement. The detailed descriptive statistics and the results of the ANOVA can be found in the tables located at the end of this discussion.

The results for the Control of Resources' power source reflected the same strengths as the overall sample. Both the Public and the Private group had very high means for the statements concerning the collection, creation and distribution of data and information. The statement "I generate institutional level information" had one of the highest combinations of means and peaked kurtosis. The means, starting with Public and then Private, were 5.45 and 5.28 and had very strong negative skews, -2.339 and -2.215. The leptokurtic kurtosis was extremely high at 5.286 and 4.077 making a strong statement by both groups that they engage in the generation of institutional level information. The statement, "Faculty, administrators, and/or staff often ask me for information and/or data," had similar results. The Public mean was 5.45 compared to the Private mean that was 5.50. Both had strong negative skews, -2.292 and -2.189 and very strongly peaked kurtosis, 6.238 and 4.331. The Public and Private groups were a source of data and information for their institutions. The other kurtosis was also peaked but there were differences in how peaked the distribution was. The Public group was in agreement that they engaged in the collection of information with a kurtosis of 3.084 compared to the Private group that was only .185, almost mesokurtic. However, the Private group was more in agreement about their engagement in the distribution of data, with a leptokurtic distribution of 7.834 compared to only 1.323 for the Public group. The Private group felt the same way about the distribution of information with a kurtosis of 6.250 compared to 2.701. There was one statement that had low means and wider distribution of responses; "I manage data warehouses and repositories." The Public group mean was 3.73 with a platykurtic distribution of -1.613. The Private group mean was 3.66 with a platykurtic distribution of -1.562. Both results indicated that some institutional researchers engage in

managing data warehouses, but many do not. Both groups were also less active in providing data and reports for departmental decision. Overall, the Control of Resources combined mean score was 4.74 for the Public group and 4.81 for the Private group. The range for the combined score was 4.36 with a minimum of 1.64 and a maximum of 6.00 for the Public group and 3.27 for the Private group with a minimum of 2.73 and a maximum of 6.00. Both means were negatively skewed but the distributions were leptokurtic (1.011) and slightly platykurtic (-.277) respectively (see table 9.1 for the more descriptive statistics and Table 9.2 for the results of the ANOVAs).

Skills in quantitative and qualitative research seem to be the difference between the Public and Private groups when it comes to the Technical Skills power source. The Private group had higher means on every skill except for statistical methods and quantitative research and analytics. Qualitative research and analytics skills stood out for the Private group as their mean was 4.29, their responses were negatively skewed and leptokurtic (1.889). The mean compared to the Public group, 3.78, was a difference that was statistically significant at the .05 level,  $F(1,90)=4.438$ ,  $p=.012$ . The effect was small ( $\eta^2=.05$ ). The highest means for all of the Technical Skills were from the Private group; presentation (5.05), report writing (5.12), and conceptualizing and planning research (5.08). For each of these skills, the Public group reported a greater distribution of responses as they were platykurtic or almost mesokurtic (-.584, -.248, .380). The results were somewhat surprising as the largest percentage of the Private group were affiliated with smaller institutions and should share those characteristics. The Smaller Institutions group in the previous comparison had lower means in all of the technical skills and one could reason that the Private group would have as well. The Private group

also had a higher mean on the Technical Skills combined score, 4.65, compared to 4.49 for the Public group. The range for the Private Group's combined score was 2.68 with a low of 3.58 and a high of 5.75. For the Public group, the range was 3.13 with a low of 2.63 and a high of 5.75. Detailed statistics for the Technical Skills power source can be found in Tables 9.3 and 9.4.

The Private institutions also reported a higher mean on four of the six statements in the Unique Knowledge power source section. Private institutions had higher means in understanding the impact of decisions across campus, Private M=5.03, Public M=4.53; having across campus responsibilities, Private M=5.00, Public M= 4.69; knowing the interrelations of departments, Private M=4.53, Public M=4.20; and their Unique Knowledge Combined score, Private M=4.60, Public M= 4.44. The range for the combined score was 3.20 with a low of 2.80 and a high of 6.00 for the Private group. For the Public group, the range was 4.20 with a low of 1.60 and a high of 5.80. The characteristics for the Private group were similar to the characteristics one would expect at smaller institutions. The means for understanding the impact of decisions across campus were statistically significant at the .05 level,  $F(1,89)=5.506$ ,  $p=.023$ . The effect size was small ( $\eta^2=.05$ ). Most of the kurtosis for these statements were small and nearly mesokurtic, which indicated fairly even distributions around the means. The statement regarding understanding the impact a decision has across campus had the strongest kurtosis but was only 1.378 for the Public and 1.2.93 for the Private group. While the mean for the Public group on this statement was not high, 4.53, the kurtosis were at least in agreement. "Understanding campus politics" had the lowest means; 4.14

for the Public group and 3.83 for the Private group (Table 9.5 contains the descriptive statistics for this comparison and Table 9.6 contains the ANOVA results).

The means for the Legal Prerogatives statements were generally lower than most of the other power sources and the kurtosis were generally platykurtic or mesokurtic with a few exceptions. The Private group had higher means on every statement and the combined score than the Public group. The two strongest responses came from the Private group. The mean for the statement, "I complete reports that are required by law or government regulations," was 5.10 for the Private group compared to 4.73 for the Public group. The Private group had a strong leptokurtic distribution of 2.450 compared to the Public group's -.408. The other high mean was for the statement, "People comply with my requests for information because they understand my required reporting needs." The Private group's mean was 4.92 compared to 4.32 for the Public group, which is a statistically significant difference at the .05 level,  $F(1,87)=5.266$ ,  $p=.027$ . The effect was medium ( $\eta^2=.06$ ). The statements with the widest distribution of responses (as indicated by their kurtosis) for the Public group were having authority to demand work (-1.203), completing reports for grants (-1.216), and using legal obligations to get information or data (-1.042). Using legal obligations was the only statement that had a moderate distribution for the Private group (-1.556). The Legal Prerogatives combined score means were 4.12 for the Public group and 4.49 for the Private group. The range of the combined scores for the Private group was 4.40 with a low of 1.75 and a high of 6.00. The range for the Public group was 5.00 with a low of 1.00 and high of 6.00. The Legal Prerogatives power source appears to be the weakest of the power sources with the widest distribution of responses. The Private group seems to have more power than the Public

group regarding Legal Prerogatives (the related statistical tables can be found in Table 9.7 and 9.8).

There were very few differences between the Public group and the Private group on the Access to Decision Makers statements. None of the statements had a difference in their means that was statistically significant. The largest difference between the groups was the statement, “My boss is a high level decision maker” where the mean for the Public group was 4.88 and the mean for the Private group was 5.24. The mildly leptokurtic (1.009) distribution for the Private groups demonstrates their agreement compared to slightly leptokurtic (.882) distribution of the Public group. The large percentage of smaller institutions represented in the Private group may be apparent in this statement as smaller institutions tend to have smaller organizational charts. The Private group reported being 1.46 positions removed from their president compared to 1.60 positions for the Public group. Part of this is due to the fact that the Public group had more researchers/analysts than the Private group that had a higher percentage of managers and directors. However, the Private group felt that their offices were less centralized than the Public group’s offices. The mean for this statement was 4.47 for the Public group and 4.13 for the Private group. The Private group also had a more platykurtic (-1.027) distribution. The Access to Decision Makers combined score mean was 4.51 for the Public group and 4.63 for the Private group. Both had fairly mesokurtic distributions. The range of the combined scores for the Public group was 5.00 with a low of 1.00 and a high of 6.00. The range for the Private group was 4.25 with a low of 1.75 and a high of 6.00 (Table 9.9 contains the descriptive statistics for the comparison of these two groups. Table 9.10 contains the results of the ANOVA).

In summary, there was not much difference between the Public and Private group regarding the power sources, although the Private group showed higher means than expected considering the larger percentage of small institutions in this group. The only statistically significant differences between the groups were in the areas of qualitative research and analytics, understanding the impact decisions have on departments and resources across campus, and having people comply with their requests for information. In each of these statements, the Private group had the higher means. Both groups showed very high means in collecting, creating, and distributing data and information; and both groups had very peaked responses showing strong agreement with the statements. The only other strongly leptokurtic response was the Private group's responses to completing reports required by law or governmental regulation. The ranking of power sources for both groups was as follows: Control of Resources, Technical Skills, Access to Decision Makers, Unique Knowledge and Legal Prerogatives.



Table 9.1

*Control of Resources: Descriptive Statistics by Institutional Type*

	Institutional					
	Type	n	M	SD.	Skewness	Kurtosis
I collect institutional level data	Public	51	4.94	1.793	-1.424	.458
	Private	41	5.00	1.673	-1.414	.555
I collect institutional level information	Public	50	5.20	1.400	-1.954	3.084
	Private	40	4.80	1.713	-1.220	.185
I generate institutional level data	Public	51	5.00	1.720	-1.496	.621
	Private	40	5.10	1.646	-1.731	1.690
I generate institutional level information	Public	51	5.45	1.137	-2.339	5.286
	Private	39	5.28	1.450	-2.215	4.077
I distribute institutional level data	Public	50	5.08	1.563	-1.608	1.323
	Private	40	5.50	1.062	-2.635	7.834
I distribute institutional level information	Public	51	5.20	1.414	-1.863	2.701
	Private	39	5.41	1.272	-2.541	6.250
Faculty, admin, and/or staff often ask me for information and/or data	Public	51	5.45	1.026	-2.292	6.238
	Private	40	5.50	.987	-2.189	4.331
I manage data warehouses and repositories	Public	51	3.73	2.011	-.206	-1.613
	Private	41	3.66	1.931	-.100	-1.562
Most institutional data and/or reports come from my office	Public	50	4.26	1.454	-.433	-.727
	Private	41	4.78	1.151	-.579	-.693
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Public	51	4.25	1.440	-.719	-.276
	Private	41	4.44	1.119	-.515	-.595
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Public	51	3.57	1.375	.163	-.564
	Private	41	3.59	1.117	.114	-.066
Control of Resources combined score	Public	51	4.74	.946	-.995	1.011
	Private	41	4.81	.811	-.596	-.277

Table 9.2

*Control of Resources: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
I collect institutional level data	Between Groups	.079	1	.079	.026	.958
	Within Groups	272.824	90	3.031		
	Total	272.902	91			
I collect institutional level information	Between Groups	3.556	1	3.556	1.487	.340
	Within Groups	210.400	88	2.391		
	Total	213.956	89			
I generate institutional level data	Between Groups	.224	1	.224	.079	.760
	Within Groups	253.600	89	2.849		
	Total	253.824	90			
I generate institutional level information	Between Groups	.631	1	.631	.384	.722
	Within Groups	144.525	88	1.642		
	Total	145.156	89			
I distribute institutional level data	Between Groups	3.920	1	3.920	2.108	.263
	Within Groups	163.680	88	1.860		
	Total	167.600	89			
I distribute institutional level information	Between Groups	1.014	1	1.014	.552	.406
	Within Groups	161.475	88	1.835		
	Total	162.489	89			
Faculty, admin, and/or staff often ask me for information and/or data	Between Groups	.054	1	.054	.053	.809
	Within Groups	90.627	89	1.018		
	Total	90.681	90			
I manage data warehouses and repositories	Between Groups	.102	1	.102		.885
	Within Groups	351.376	90	3.904	.026	
	Total	351.478	91			
Most institutional data and/or reports come from my office	Between Groups	6.103	1	6.103	3.467	.101
	Within Groups	156.644	89	1.760		
	Total	162.747	90			
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Between Groups	.771	1	.771	.451	.729
	Within Groups	153.784	90	1.709		
	Total	154.554	91			
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Between Groups	.006	1	.006	.004	.868
	Within Groups	144.461	90	1.605		
	Total	144.467	91			
Control of Resources combined score	Between Groups	.135	1	.135	.171	.832
	Within Groups	71.096	90	.790		
	Total	71.231	91			

Table 9.3

*Technical Skills: Descriptive Statistics by Institutional Type*

How would you rate your skills in the following areas?	Institutional Type	n	M	SD	Skewness	Kurtosis
Data Management	Public	51	4.92	1.055	-.582	-.868
	Private	41	4.95	1.048	-.722	-.027
Presentations	Public	51	4.78	1.101	-.581	-.584
	Private	41	5.05	1.048	-1.198	.947
Writing reports	Public	51	4.92	1.055	-.688	-.248
	Private	41	5.12	.954	-1.163	1.551
Statistical methods	Public	51	4.37	1.183	-.476	.156
	Private	41	4.32	1.171	-.564	.237
Conceptualizing and planning research	Public	51	4.78	1.238	-.888	.380
	Private	40	5.08	.829	-.714	.220
Quantitative research and analytics	Public	51	4.75	1.055	-.949	1.728
	Private	41	4.71	1.101	-.796	.151
Qualitative research and analytics	Public	51	3.78	1.154	.036	-.235
	Private	41	4.29	1.146	-1.243	1.889
Data mining	Public	51	3.57	1.540	-.083	-.954
	Private	41	3.73	1.533	-.266	-.943
Technical Skills combined score	Public	51	4.49	.796	-.456	-.596
	Private	41	4.65	.665	-.453	-.878

Table 9.4

*Technical Skills: ANOVA by Institutional Type*

How would you rate your skills in the following areas?	Source	SS	df	MS	F	Kruskal-Wallis Sig.
Data Management	Between Groups	.020	1	.020	.018	.895
	Within Groups	99.589	90	1.107		
	Total	99.609	91			
Presentations	Between Groups	1.590	1	1.590	1.369	.213
	Within Groups	104.530	90	1.161		
	Total	106.120	91			
Writing reports	Between Groups	.913	1	.913	.892	.370
	Within Groups	92.077	90	1.023		
	Total	92.989	91			
Statistical methods	Between Groups	.070	1	.070	.050	.852
	Within Groups	124.800	90	1.387		
	Total	124.870	91			
Conceptualizing and planning research	Between Groups	1.894	1	1.894	1.630	.452
	Within Groups	103.402	89	1.162		
	Total	105.297	90			
Quantitative research and analytics	Between Groups	.032	1	.032	.028	.961
	Within Groups	104.174	90	1.157		
	Total	104.207	91			
Qualitative research and analytics	Between Groups	5.874	1	5.874	4.438	.012
	Within Groups	119.115	90	1.324		
	Total	124.989	91			
Data Mining	Between Groups	.604	1	.604	.256	.595
	Within Groups	212.559	90	2.362		
	Total	213.163	91			
Technical skills combined score	Between Groups	.628	1	.628	1.146	.341
	Within Groups	49.352	90	.548		
	Total	49.980	91			

Table 9.5

*Unique Knowledge: Descriptive Statistics by Institutional Type*

	Institutional					
	Type	n	M	SD	Skewness	Kurtosis
People respect my opinion because I have a very good understanding of the issues at my institution	Public	51	4.65	.955	-.511	.027
	Private	41	4.56	1.501	-.776	-.577
I am able to understand the impact decisions have on departments and resources across campus	Public	51	4.53	1.102	-1.011	1.378
	Private	40	5.03	.947	-1.005	1.293
I have responsibilities that involve many departments across campus	Public	51	4.69	1.463	-1.302	.864
	Private	41	5.00	1.225	-1.202	.634
I know more about the interrelationships of departments than most people on campus	Public	51	4.20	1.400	-.410	-.586
	Private	40	4.53	1.219	-.508	-.570
I know more about campus politics than most people on campus	Public	51	4.14	1.327	-.903	.584
	Private	40	3.83	1.357	-.250	-.635
Unique knowledge combined score`	Public	51	4.44	1.026	-1.316	1.269
	Private	41	4.60	.948	-.436	-.844

Table 9.6

*Unique Knowledge: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig
People respect my opinion because I have a very good understanding of the issues at my institution	Between Groups	.168	1	.168	.112	.645
	Within Groups	135.745	90	1.508		
	Total	135.913	91			
I am able to understand the impact decisions have on departments and resources across campus	Between Groups	5.506	1	5.506	5.121	.023
	Within Groups	95.681	89	1.075		
	Total	101.187	90			
I have responsibilities that involve many departments across campus	Between Groups	2.237	1	2.237	1.206	.280
	Within Groups	166.980	90	1.855		
	Total	169.217	91			
I know more about the interrelationships of departments than most people on campus	Between Groups	2.425	1	2.425	1.384	.286
	Within Groups	156.014	89	1.756		
	Total	158.440	90			
I know more about campus politics than most people on campus	Between Groups	2.186	1	2.186	1.217	.209
	Within Groups	159.814	89	1.796		
	Total	162.000	90			
Unique knowledge combined score	Between Groups	.609	1	.609	.618	.488
	Within Groups	88.602	90	.984		
	Total	89.210	91			

Table 9.7

*Legal Prerogatives: Descriptive Statistics by Institutional Type*

	Institutional					
	Type	n	M	SD	Skewness	Kurtosis
Legal reporting requirements give me the authority to demand work from other individuals on campus	Public	51	3.84	1.690	-.365	-1.203
	Private	40	4.18	1.678	-.565	-.829
I complete reports that are required by law or government regulations	Public	51	4.73	1.767	-1.080	-.408
	Private	40	5.10	1.598	-1.917	2.450
I complete reports that are required by grants or other funding sources	Public	50	3.94	1.707	-.211	-1.216
	Private	40	4.38	1.547	-.846	-.231
People on my campus comply with my requests for information because they understand my required reporting needs	Public	50	4.32	1.347	-.722	.012
	Private	39	4.92	1.061	-.955	.369
I have used legal obligations or regulations to get data and information I need from faculty or staff	Public	50	3.70	1.594	-.365	-1.042
	Private	40	3.85	2.020	-.276	-1.556
Legal Prerogatives combined score	Public	51	4.12	1.245	-.544	-.106
	Private	40	4.49	1.247	-.976	.007

Table 9.8

*Legal Prerogatives: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig
Legal reporting requirements give me the authority to demand work from other individuals on campus	Between Groups	2.469	1	2.469	.870	.342
	Within Groups	252.520	89	2.837		
	Total	254.989	90			
I complete reports that are required by law or government regulations	Between Groups	3.144	1	3.144	1.094	.370
	Within Groups	255.757	89	2.874		
	Total	258.901	90			
I complete reports that are required by grants or other funding sources	Between Groups	4.205	1	4.205	1.567	.249
	Within Groups	236.195	88	2.684		
	Total	240.400	89			
People on my campus comply with my requests for information because they understand my required reporting needs	Between Groups	7.969	1	7.969	5.266	.027
	Within Groups	131.649	87	1.513		
	Total	139.618	88			
I have used legal obligations or regulations to get data and information I need from faculty or staff	Between Groups	.500	1	.500	.155	.464
	Within Groups	283.600	88	3.223		
	Total	284.100	89			
Legal Prerogatives combined score	Between Groups	3.067	1	3.067	1.975	.108
	Within Groups	138.178	89	1.553		
	Total	141.244	90			

Table 9.9

*Access to Decision Makers: Descriptive Statistics by Institutional Type*

	Institutional					
	Type	n	M	SD	Skewness	Kurtosis
I meet with high level decision makers regularly	Public	51	4.22	1.689	-.639	-.848
	Private	41	4.24	1.640	-.556	-.851
If I need to, I can ask a high level decision maker to intervene on my behalf	Public	51	4.47	1.528	-.923	-.192
	Private	41	4.85	1.352	-1.061	.049
My boss is a high level decision maker	Public	51	4.88	1.423	-1.301	.882
	Private	41	5.24	1.090	-1.366	1.009
I consider my office of institutional research to be centralized within the organizational structure of my institution	Public	51	4.47	1.433	-.723	-.369
	Private	40	4.13	1.556	-.348	-1.027
Access to Decision Makers combined score	Public	51	4.51	1.229	-1.052	.682
	Private	41	4.63	1.131	-.825	-.019
How many levels is your office of institutional research removed from the president on the organizational chart?	Public	50	1.60	.962	1.061	2.451
	Private	41	1.46	.925	.312	-.708

Table 9.10

*Access to Decision Makers: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig
I meet with high level decision makers regularly	Between Groups	.018	1	.018	.007	.968
	Within Groups	250.188	90	2.780		
	Total	250.207	91			
If I need to, I can ask a high level decision maker to intervene on my behalf	Between Groups	3.335	1	3.335	1.581	.195
	Within Groups	189.828	90	2.109		
	Total	193.163	91			
My boss is a high level decision maker	Between Groups	2.971	1	2.971	1.796	.235
	Within Groups	148.855	90	1.654		
	Total	151.826	91			
I consider my office of institutional research to be centralized within the organizational structure of my institution	Between Groups	2.677	1	2.677	1.209	.294
	Within Groups	197.081	89	2.214		
	Total	199.758	90			
Access to Decision Makers combined score	Between Groups	.307	1	.307	.218	.708
	Within Groups	126.705	90	1.408		
	Total	127.012	91			
How many levels is your office of institutional research removed from the president on the organizational chart?	Between Groups	.420	1	.420	.491	.522
	Within Groups	76.195	89	.856		
	Total	76.615	90			

**Job Description Power Source Comparisons**

The third subgroup comparison in this study explored the differences between participants who declared the term “IR Staff” as best describing their role with those who chose the term “IR Manager.” These groupings were important not only in determining the differences in the positions within IR but also in determining whether the research instruments were able to detect differences in power levels. If there were any differences between the groupings in terms of power, they should have been apparent in the inherent



differences between management employees and staff employees. The sample sizes for these two groups were considerably different, Staff  $n=30$ , Manager  $n=67$ , so the Kruskal-Wallis ANOVA was used to determine the significance of the differences (Lomax, 2001). The results found ten statistically significant differences at the .05 level in the means of power source statements and combined scores plus near significance for another seven statements. The descriptive statistics and results of the ANOVAs can be found on Tables 10.1 to 10.10 at the end of this section.

Three statements that neared statistically significant differences were found in the Control of Resources set of statements, although there were no significant differences in the Control of Resource statements. The statements; “I collect institutional level information,”  $F(1,93)=2.165$ ,  $p=.09$ , ‘I generate institutional level data’,  $F(1,95)=3.055$ ,  $p=.08$ , and “I generate institutional level information”  $F(1,94)=4.4428$ ,  $p=.07$  were all near significant. In addition to these three statements, the two groups had high means for the remaining statements regarding the collection, creation, and distribution of information and data; however, the Managers group had higher means on each of the statements than the Staff group. The lowest kurtosis for the Manager group on these statements was 2.536 for collecting institutional information ( $M=5.26$ ) and the highest kurtosis was 10.603 for generating institutional information ( $M=5.64$ ). Several of these statements for the Staff group were near mesokurtic or only slightly leptokurtic indicating that the Manager group had less variation in their responses and more agreement as to the presence of the power source. While there was more variance with the Staff group, the participants were in agreement, along with the individuals in the Manager group, that they distribute institutional level information ( $M=5.17$ , Kurtosis= 3.007). There were also

differences with the statement concerning faculty, administrators and staff asking the participant for information. The Manager group (M=5.68) had a very strong kurtosis, 4.414 compared to the Staff group (M=5.43) whose kurtosis was .134. The Staff group did have higher means than the Manager group on three statements: most institutional data/reports come from my office (Staff M=4.83, Manager M= 4.62), when there is an institutional level decision to be made, my office provides the data/reports (Staff M= 4.73, Manager M=4.42), and when there is a departmental decision to be made, my office provides the data/reports (Staff M=3.97, Manager M= 3.56). Each of these statements had a slightly platykurtic distribution for both groups. Apparently, the Manager group were more likely to manage data warehouses and repositories as their mean for this statement was 4.13 and was the only group in this study with a mean higher than 3.99 for this statement. This response had a slight negative skew (-.524) but had some variance with a platykurtic distribution of -1.191. The Control of Resources combined score was 4.76 for the Staff group and 4.99 for the Manager group with a slightly flat distribution for the Staff (Kurtosis =-.978) and a fairly even distribution for the Managers (Kurtosis=.557). The range of combined scores for the Staff group was 3.00 with a low of 3.00 and high of 6.00, whereas the range for the Manager group was 3.27 with a low of 2.73 and a high of 6.00 (the descriptive statistics can be found in Table 10.1 and the ANOVA results can be found in Table 10.2).

The four technical skills with the highest means for the Staff group were data management (5.00), conceptualizing research (4.67), report writing (4.60), and quantitative research and analytics (4.60). The highest means for the Manager group were report writing (5.12), presentations (5.06), conceptualizing and planning research (5.05),

and data management (5.03). Report writing was the only the statement that neared a statistically significant difference at the .05 level,  $F(1,95)=5.518$ ,  $p=.07$ . The distribution for every statement but two was slightly platykurtic. The Staff group had a leptokurtic distribution of 1.408 for their skills in statistical methods with a mean of 4.43 and a distribution of 3.193 for their skills in quantitative research and analytics with a mean of 4.67. The statistical methods skills plus qualitative research and analytics and data mining, were the only skills in which the Staff group had a higher mean than the Manager group. The means for the Technical Skills combined score was 4.50 for the Staff group and 4.63 for the Manager group. The range of combined scores for the Staff group was 3.38 with a minimum of 2.63 and a maximum of 6.00. The range for the Manager group was 2.75 with a minimum of 3.00 and a maximum of 5.75. In general, both groups, Staff and Manager, appeared to have a wide distribution of responses in rating their technical skills with only a few exceptions (a complete comparison of the Staff and Manager groups in the area of technical skills is listed on Table 10.3 and Table 10.4).

The power source in which there was the most difference between the Staff group and the Manager group was Unique Knowledge. Four of the six statements and the combined scores had a statistically significant difference at the .05 level. “People respect my opinion because I have a very good understanding of the issues at my institution” had a mean for the Staff group of 4.27 compared to the Manager group at 4.82. The difference was statistically significant,  $F(1,94)=4.22$ ,  $p=.03$ . The effect was small ( $\eta^2=.04$ ). The statement; “I am able to understand the impact decisions have on departments and resources across campus” also had means that were significantly statistically different,  $F(1,94)=11.559$ ,  $p=.006$ . The effect size was small ( $\eta^2=$

.04). The mean for the Staff group was 4.27 compared to the mean of the Manager group at 5.03. The distribution for the Manager group was leptokurtic (1.371) whereas the Staff group as platykurtic (-.207). The mean for the statement; “I know more about the interrelationships of departments than most people on campus” also were significantly significant,  $F(1,93)=7.881$ ,  $p=.012$ . The effect size was likewise small (eta-squared- .07). The mean for the Staff group was 3.83 with a good platykurtic (-1.024) distribution. The mean for the Manager group was 4.68 with a slight leptokurtic (.300) distribution. The final measure that had a statistically significant difference was the Unique Knowledge combined score,  $F(1,94)=8.510$ ,  $p=.008$ . The effect size was small (eta-squared- .08). The mean for the Staff group on this score was 4.13 with a slight platykurtic (-.502) distribution whereas the Manager group had a mean of 4.75 and a strong leptokurtic (2.144) distribution. The ranges of combined scores for both groups were the same at 4.40 with a low of 1.60 and a high of 6.00. Both groups followed the trend of other subgroupings and reported having less knowledge of campus politics. The mean for the Staff group on this statement was 3.70 whereas the Manager group’s mean was 4.22. Both had a platykurtic (-.919,-.161) distribution (the descriptive statistics for this comparison can be found on Table 10.5 and the ANOVA results can be found on Table 10.6).

The Legal Prerogative power source also revealed power differences between the Staff and Manager groups. Half of the statements and combined scores had means with statistically significant differences at the .05 level. Once again, the statement; “I complete reports that are required by law or government regulations” was the statement with the highest means. The mean for the Staff group was 4.37 and the Manager group was 5.42.

The difference in means were statistically significant,  $F(1,94)=10.371$ ,  $p=.025$ . The effect size was small ( $\eta^2=.09$ ). The Staff group had a good platykurtic distribution (-1.293) indicating that some IR staff did not have legally required reports. The Manager group's distribution was strongly leptokurtic (4.500). Neither group felt strongly that they had legal authority to demand information needed to complete their work. The Staff group's mean was 3.47 and the Manager group's mean was 4.28; the difference was not statistically different. The Staff group was in agreement that they had not used legal obligations to get faculty or staff to comply with their needs. Their mean was a low 2.97 with a mild platykurtic (-1.326) distribution. The Manager group's mean for this statement was 4.42 and was also slightly platykurtic (-.402). The difference in the means was statistically significant,  $F(1,93)=17.669$ ,  $p=.001$ . The effect size moderate ( $\eta^2=.15$ ). The differences in the Legal Prerogative combined score was also statistically significant,  $F(1,94)=9.452$ ,  $p=.024$ . The effect size was small ( $\eta^2=.09$ ). The mean for the Staff group for this score was 3.87 compared to the mean of the Manager group that was 4.63. The groups had opposing kurtosis (-1.023, 1.216). The ranges of combined scores for both groups were large. For the Staff group it was 5.00 with a minimum of 1.00 and a maximum of 6.00. For the Manager group, the range was 4.60, the minimum was 1.40 and the maximum was 6.00 (see Tables 10.7 and 10.8 for the descriptive statistics and the ANOVA results).

The Access to Decision Makers power source results showed further differences between the Staff and Manager groups, some of which are inherent with the positions. The statement; "My boss is a high level decision maker" had means that were statistically significant at the .05 level,  $F(1,94)=9.387$ ,  $p=.003$ . The effect size was small ( $\eta^2$

squared= .08). One could reasonably expect that a subordinate would have a lower rate of agreement than the superior position regarding the boss being a high level decision maker. The Manager group reported that their office was 1.40 levels removed from the president compared to 1.57 levels for the Staff group. Similarly, there was a significant statistical difference with the statement; "I meet with high level decision makers regularly,"  $F(1,95)=4.478$ ,  $p=.032$ . The effect size was small ( $\eta^2=.04$ ). Both groups had only a slightly leptokurtic distribution for these two statements. There was agreement by the two groups that their IR offices were centralized as they both had a mean score of 4.53. The Access to Decision Makers combined score for the Staff group was 4.23 whereas the Manager group's combined mean was 4.79. The difference was statistically significant,  $F(1,95)=4.634$ ,  $p=.012$ . The effect size was small ( $\eta^2=.04$ ). The range of combined scores for the Staff group was 4.25, the low was 1.75 and the high was 6.00 while the range for the Manager group was 5.00, the low was 1.00 and the high was 6.00 (the descriptive statistics for these comparisons are located on Table 10.9. Table 10.10 contains the results of the ANOVA's for these comparisons).

In summary, at the core of their IR jobs, the Manager and Staff groups are similar. There were no statistically significant differences in the Control of Resources or the Technical Skills power sources. The Manager group had higher means on most statements and the distributions varied by statements for these two power sources. The real differences emerged in the remaining power sources. Four of the six statements in the Unique Knowledge section demonstrated that the Manager group felt they had more power related to their unique knowledge of campus. The Manager group also had higher means in the Legal Prerogative section and indicated that they were more likely to use

their reporting obligations to get their work done. And lastly, perhaps by virtue of their higher positions, the Manager group reported having greater access to decision makers. Though some of these differences seem obvious, it is important understand that they did exist and the research tool was able to identify them. The highest ranked power source for the Staff group was Control of Resources followed by Technical Skills, Access to Decision Makers, Unique Knowledge and lastly, Legal Prerogatives. For the Manager group, Control of Resources was highest ranked. Second was Access to Decision Makers followed by Unique Knowledge while Technical Skills and Legal Prerogatives tied for fourth.

Table 10.1

*Control of Resources: Descriptive Statistics by Job Description*

	Job		n	M	SD	Skewness	Kurtosis
	Description						
I collect institutional level data	Staff	30	4.90	1.863	-1.318	.007	
	Managers	67	5.33	1.460	-2.131	3.258	
I collect institutional level information	Staff	30	4.77	1.775	-1.326	.388	
	Managers	65	5.26	1.395	-1.876	2.563	
I generate institutional level data	Staff	30	4.77	1.870	-1.129	-.409	
	Managers	67	5.37	1.434	-2.280	3.930	
I generate institutional level information	Staff	30	5.10	1.561	-1.691	1.748	
	Managers	66	5.64	.922	-3.086	10.603	
I distribute institutional level data	Staff	30	5.37	1.326	-2.165	4.046	
	Managers	66	5.45	1.192	-2.306	4.513	
I distribute institutional level information	Staff	30	5.17	1.440	-1.870	3.007	
	Managers	66	5.56	1.069	-2.696	6.860	
Faculty, admin, and/or staff often ask me for information and/or data	Staff	30	5.43	.935	-1.283	.134	
	Managers	65	5.68	.664	-2.173	4.414	
I manage data warehouses and repositories	Staff	30	3.37	2.157	.129	-1.805	
	Managers	67	4.13	1.858	-.524	-1.191	
Most institutional data and/or reports come from my office	Staff	30	4.83	1.177	-.607	-.586	
	Managers	65	4.62	1.208	-.417	-1.045	
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Staff	30	4.73	1.081	-.654	-.054	
	Managers	66	4.42	1.266	-.670	-.286	
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Staff	30	3.97	1.273	.281	-.996	
	Managers	66	3.56	1.191	-.092	-.309	
Control of Resources combined score	Staff	30	4.76	.9229	-.355	-.978	
	Managers	67	4.99	.7147	-.931	.557	



Table 10.2

*Control of Resources: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
I collect institutional level data	Between Groups	3.802	1	3.802	1.496	.340
	Within Groups	241.476	95	2.542		
	Total	245.278	96			
I collect institutional level information	Between Groups	5.027	1	5.027	2.165	.090
	Within Groups	215.921	93	2.322		
	Total	220.947	94			
I generate institutional level data	Between Groups	7.621	1	7.621	3.055	.089
	Within Groups	237.038	95	2.495		
	Total	244.660	96			
I generate institutional level information	Between Groups	5.934	1	5.934	4.428	.075
	Within Groups	125.973	94	1.340		
	Total	131.906	95			
I distribute institutional level data	Between Groups	.159	1	.159	.104	.880
	Within Groups	143.330	94	1.525		
	Total	143.490	95			
I distribute institutional level information	Between Groups	3.201	1	3.201	2.238	.132
	Within Groups	134.424	94	1.430		
	Total	137.625	95			
Faculty, admin, and/or staff often ask me for information and/or data	Between Groups	1.218	1	1.218	2.114	.310
	Within Groups	53.582	93	.576		
	Total	54.800	94			
I manage data warehouses and repositories	Between Groups	12.211	1	12.211	3.198	.109
	Within Groups	362.758	95	3.819		
	Total	374.969	96			
Most institutional data and/or reports come from my office	Between Groups	.975	1	.975	.679	.393
	Within Groups	133.551	93	1.436		
	Total	134.526	94			
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Between Groups	1.970	1	1.970	1.342	.316
	Within Groups	137.988	94	1.468		
	Total	139.958	95			
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Between Groups	3.401	1	3.401	2.296	.228
	Within Groups	139.224	94	1.481		
	Total	142.625	95			
Control of Resources combined score	Between Groups	1.095	1	1.095	1.781	.342
	Within Groups	58.419	95	.615		
	Total	59.514	96			

Table 10.3

*Technical Skills: Descriptive Statistics by Job Descriptions*

How would you rate your skills in the following areas?	Job Description	n	M	SD	Skewness	Kurtosis
Data Management	Staff	30	5.00	1.114	-.641	-1.025
	Managers	67	5.03	.937	-.744	-.248
Presentations	Staff	30	4.63	1.273	-.643	-.685
	Managers	67	5.06	.983	-1.010	.580
Writing reports	Staff	30	4.60	1.276	-.453	-.820
	Managers	67	5.12	.862	-.675	-.286
Statistical methods	Staff	30	4.43	1.135	-.960	1.408
	Managers	67	4.28	1.204	-.250	-.374
Conceptualizing and planning research	Staff	30	4.67	1.348	-.969	.455
	Managers	66	5.05	.867	-.674	-.115
Quantitative research and analytics	Staff	30	4.60	1.070	-1.274	3.193
	Managers	67	4.75	1.005	-.663	.184
Qualitative research and analytics	Staff	30	4.13	1.279	-.372	-.010
	Manager	66	4.12	1.170	-.361	-.303
Data mining	Staff	30	4.00	1.661	-.435	-.952
	Managers	67	3.70	1.414	-.177	-.733
Technical Skills combined score	Staff	30	4.50	.865	-.432	-.488
	Managers	67	4.63	.669	-.491	-.498

Table 10.4

*Technical Skills: ANOVA by Job Description*

How would you rate your skills in the following areas?	Source	SS	df	MS	F	Kruskal-Wallis Sig.
Data Management	Between Groups	.018	1	.018	.019	.869
	Within Groups	93.940	95	.989		
	Total	93.959	96			
Presentations	Between Groups	3.767	1	3.797	3.767	.142
	Within Groups	110.728	95	1.166		
	Total	114.495	96			
Writing reports	Between Groups	5.590	1	5.590	5.518	.072
	Within Groups	96.245	95	1.013		
	Total	101.835	96			
Statistical methods	Between Groups	.465	1	.465	.332	.466
	Within Groups	132.979	95	1.400		
	Total	133.443	96			
Conceptualizing and planning research	Between Groups	2.959	1	2.959	2.740	.320
	Within Groups	101.530	94	1.080		
	Total	104.490	95			
Quantitative research and analytics	Between Groups	.443	1	.443	.422	.543
	Within Groups	99.887	95	1.051		
	Total	100.330	96			
Qualitative research and analytics	Between Groups	.003	1	.003	.002	.964
	Within Groups	136.497	94	1.425		
	Total	163.500	95			
Data Mining	Between Groups	1.846	1	1.846	.827	.301
	Within Groups	212.030	95	2.232		
	Total	213.876	96			
Technical skills combined score	Between Groups	.343	1	.343	.635	.573
	Within Groups	51.310	95	.540		
	Total	51.653	96			

Table 10.5

*Unique Knowledge: Descriptive Statistics by Job Description*

	Job		n	M	SD	Skewness	Kurtosis
	Description						
People respect my opinion because I have a very good understanding of the issues at my institution	Staff	30	4.27	1.285	-.329	-.697	
	Manager	66	4.82	1.189	-1.054	.768	
I am able to understand the impact decisions have on departments and resources across campus	Staff	30	4.27	1.337	-.526	-.207	
	Manager	66	5.03	.841	-.859	1.371	
I have responsibilities that involve many departments across campus	Staff	30	4.60	1.499	-1.226	.655	
	Manager	66	4.97	1.324	-1.378	1.364	
I know more about the interrelationships of departments than most people on campus	Staff	30	3.83	1.577	.012	-1.024	
	Manager	65	4.68	1.251	-.886	.300	
I know more about campus politics than most people on campus	Staff	30	3.70	1.643	-.381	-.919	
	Manager	64	4.22	1.278	-.614	-.161	
Unique knowledge combined score`	Staff	30	4.13	1.147	-.322	-.502	
	Manager	66	4.75	.8772	-1.228	2.144	

Table 10.6

*Unique Knowledge: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig
People respect my opinion because I have a very good understanding of the issues at my institution	Between Groups	6.273	1	6.273	4.222	.034
	Within Groups	139.685	94	1.486		
	Total	145.958	95			
I am able to understand the impact decisions have on departments and resources across campus	Between Groups	12.027	1	12.027	11.559	.006
	Within Groups	97.806	94	1.040		
	Total	109.833	95			
I have responsibilities that involve many departments across campus	Between Groups	2.819	1	2.819	1.479	.183
	Within Groups	179.139	94	1.906		
	Total	181.958	95			
I know more about the interrelationships of departments than most people on campus	Between Groups	14.607	1	14.607	7.881	.012
	Within Groups	172.382	93	1.854		
	Total	186.989	94			
I know more about campus politics than most people on campus	Between Groups	5.497	1	5.497	2.790	.169
	Within Groups	181.237	92	1.970		
	Total	186.734	93			
Unique knowledge combined score	Between Groups	7.985	1	7.985	8.510	.008
	Within Groups	88.207	94	.938		
	Total	96.193	95			

Table 10.7

*Legal Prerogatives: Descriptive Statistics by Job Description*

	Job		M	SD	Skewness	Kurtosis
	Description	n				
Legal reporting requirements give me the authority to demand work from other individuals on campus	Staff	30	3.47	2.013	.093	-1.686
	Manager	65	4.28	1.495	-.725	-.231
I complete reports that are required by law or government regulations	Staff	30	4.37	2.125	-.772	-1.293
	Manager	66	5.42	1.096	-2.149	4.500
I complete reports that are required by grants or other funding sources	Staff	30	4.33	1.729	-.685	-.813
	Manager	64	4.31	1.572	-.666	-.567
People on my campus comply with my requests for information because they understand my required reporting needs	Staff	30	4.21	1.567	-.607	-.659
	Manager	66	4.76	1.190	-1.148	1.131
I have used legal obligations or regulations to get data and information I need from faculty or staff	Staff	30	2.97	1.921	.426	-1.326
	Manager	65	4.42	1.368	-.648	-.402
Legal Prerogatives combined score	Staff	30	3.87	1.508	-.235	-1.023
	Manager	66	4.63	.923	-.937	1.216

Table 10.8

*Legal Prerogatives: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig
Legal reporting requirements give me the authority to demand work from other individuals on campus	Between Groups	13.476	1	13.476	4.811	.088
	Within Groups	260.482	93	2.801		
	Total	273.958	94			
I complete reports that are required by law or government regulations	Between Groups	23.068	1	23.068	10.371	.025
	Within Groups	209.088	94	2.224		
	Total	232.156	95			
I complete reports that are required by grants or other funding sources	Between Groups	.009	1	.009	.003	.806
	Within Groups	242.417	92	2.635		
	Total	242.426	93			
People on my campus comply with my requests for information because they understand my required reporting needs	Between Groups	6.110	1	6.110	3.532	.129
	Within Groups	160.880	93	1.730		
	Total	166.989	94			
I have used legal obligations or regulations to get data and information I need from faculty or staff	Between Groups	43.080	1	43.080	17.669	.001
	Within Groups	226.751	93	2.438		
	Total	269.832	94			
Legal Prerogatives combined score	Between Groups	12.209	1	12.209	9.452	.024
	Within Groups	121.421	94	1.292		
	Total	133.630	95			

Table 10.9

*Access to Decision Makers: Descriptive Statistics by Job Description*

	Job		M	SD	Skewness	Kurtosis
	Description	n				
I meet with high level decision makers regularly	Staff	30	3.83	1.621	.080	-1.428
	Manager	67	4.58	1.539	-.956	-.049
If I need to, I can ask a high level decision maker to intervene on my behalf	Staff	30	4.23	1.716	-.520	-1.137
	Manager	66	4.89	1.291	-1.391	1.514
My boss is a high level decision maker	Staff	30	4.33	1.493	-.419	-.753
	Manager	67	5.22	1.241	-1.814	2.631
I consider my office of institutional research to be centralized within the organizational structure of my institution	Staff	30	4.53	1.408	-.510	-1.138
	Manager	64	4.53	1.553	-.795	-.537
Access to Decision Makers combined score	Staff	30	4.23	1.133	-.265	-.667
	Manager	67	4.79	1.210	-1.280	1.185
How many levels is your office of institutional research removed from the president on the organizational chart?	Staff	30	1.57	1.006	-.086	-.991
	Manager	67	1.40	1.001	.883	1.281

Table 10:10

*Access to Decision Makers: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig
I meet with high level decision makers regularly	Between Groups	11.617	1	11.617	4.748	.032
	Within Groups	232.465	95	2.447		
	Total	244.082	96			
If I need to, I can ask a high level decision maker to intervene on my behalf	Between Groups	9.001	1	9.001	4.370	.105
	Within Groups	193.624	94	2.060		
	Total	202.625	95			
My boss is a high level decision maker	Between Groups	16.434	1	16.434	9.387	.003
	Within Groups	166.308	94	1.751		
	Total	182.742	96			
I consider my office of institutional research to be centralized within the organizational structure of my institution	Between Groups	.000	1	.000	.000	.860
	Within Groups	209.404	92	2.276		
	Total	209.404	93			
Access to Decision Makers combined score	Between Groups	6.532	1	6.532	4.634	.012
	Within Groups	133.913	95	1.410		
	Total	140.445	96			
How many levels is your office of institutional research removed from the president on the organizational chart?	Between Groups	.555	1	.555	.552	.332
	Within Groups	95.486	95	1.005		
	Total	96.041	96			

## **IR Managers by Institutional Type Power Source Comparisons**

The first of the two subgroup comparisons of the power sources for IR managers examined the differences between IR managers who were affiliated with public, 4-year or more institutions (n=27) at the time of the survey with IR managers affiliated with private non-profit, 4-year or more institutions (n=25). There were very few statistically significant differences in the responses to any of the statements so this section is mainly focused on the higher and lower means and their corresponding distributions (Tables 11.1 through 11.10, at the end of this section, provide the complete descriptive statistics and the results of the ANOVAs).

In the Control of Resources section, the responses reflected the patterns of IR Staff and Manager groups in the previous section but with perhaps a bit higher means as the groups were made up entirely of managers. Every statement regarding the collection, creation and distribution of data/information had a mean over 5.03 and very strong leptokurtic distributions. The statements with the highest means for the Public Manager group were: “I generate institutional level information” and “Faculty, administration, and/or staff often asks me for information and/or data.” Both statements had means of 5.70 and kurtosis of 6.102 and 7.689 respectively. The next highest mean was, “I distribute institutional level information” with a mean of 5.37 and a kurtosis of 4.346. For the Private Manager group, the statements with the highest means were: “Faculty, administration, and/or staff often ask me for information and/or data” (M=5.75, Kurt= 4.1430); “I generate institutional level information” (M=5.71, Kurt= 7.766); and “I distribute institutional level data” (M=5.68, Kurt= 5.373). The remaining statements had means below 4.69 and mild platykurtic distributions. The lowest rated statement was;

“When there is a departmental decision to be made, it is my office that provides the data and reports needed.” The means and kurtosis for this statement were 3.41 and -.649 for the Public Manager group and 3.32 and -.089 for the Private Manager group. The Private Manager group also had the higher mean for the Control of Resources combined score, 4.99, compared to 4.87 for the Public Manager group. The range of combined scores for the Public Manager group was 3.27, the minimum was 2.73 and the maximum was 6.00. For the Private Manager group, the range was 2.09, the minimum was 2.09, and the maximum was 5.82 (Tables 11.1 and 11.2 have the descriptive statistics and the results of the ANOVAs for this power source).

Only two technical skills had means over 5.00 for both groups. Data management had means of 5.07 and 5.16 for the Public and Private Manager groups respectively. However, the Private Manager group’s distribution was mildly platykurtic (-.429) whereas the other group’s distribution was mildly leptokurtic (.393). Report writing was the other skill with means over 5.00 for both groups. The group with the higher mean was the Private Manager group at 5.24 and a moderate platykurtic distribution of -1.158. The Public Manager group’s mean was 5.00 with a mildly flat kurtosis of -.650. The Private Manager group had one more skill, conceptualizing and planning research, in the high range with a mean of 5.21. This statement was only slightly skewed (-.045) and mildly platykurtic (-.114). The difference for this statement was nearing statistical significance. The skills in which the Public Manager group had a higher mean were statistical methods and quantitative research and planning. The means were, with the Public Manager group listed first, 4.33 and 4.20 for statistical methods and 4.85 and 4.60 for quantitative research and analytics. All of the distributions were mildly platykurtic. The mean for



qualitative research and analytics was higher for the Private Manager group, 4.36 compared to 3.78, and the difference was very near to being statistically significant. Once again, data mining was the lowest ranked skill. The Technical Skills combined score had means of 4.52 for the Public Manager group with a range of 2.63, a low of 3.00, and a high of 5.63. For the Private Manager group's combined score, the mean was 4.72, the range was 2.25 with a low of 3.50 and a high of 5.75 (Table 11.3 and 11.4 have the Technical Skills descriptive statistics and the results of the ANOVAs for Public and Private Manager groups).

For the Unique Knowledge power source, the Public Manager group reported a higher mean for having their opinion respected because of their knowledge (4.81 compared to 4.68 for the Private Manager group) and for knowing about campus politics (4.33 compared to 3.79). The distribution for the campus politics statement was moderately peaked, 1.853, for the Public Manager group but mildly flat (-.574) for the Private Manager group. The Private Manager group felt strongly about their understanding of how decisions impact departments and resources (M=5.20) and having cross-campus responsibilities (M=5.04). The Public Manager group had means of 4.81 on both of these statements, but a stronger leptokurtic (1.601, 1.346) distribution than the Private Manager group. The mean was higher for the Private Manager group but they had more variety in their responses than the Public Manager group. No statement in this section had means with statistical significance or near significance. The Unique Knowledge combined score means were 4.63 for the Public Manager group and 4.68 for the Private Manager group. For the Public Manager group, combines scores had a range of 4.20, a low or 1.60 and a high of 5.80 whereas the Private Manager group had a range

of 3.20, a low of 2.80 and a high of 6.00. The Public Manager group had a strongly peaked kurtosis (3.068) whereas the Private Manager group had more diversity (-.309). Overall, the Public Manager group's responses were narrower in their distribution whereas the Private Manager group showed much more diversity even though they had higher means on most statements (the complete detailed statistics can be found in Table 11.5 and Table 11.6).

The strongest statement in the Legal Prerogatives power source was "I complete reports that are required by law or government regulations." While the Private Manager group had the higher mean (5.68 verses 5.41), the Public Manager group had the stronger leptokurtic distribution (6.968 verses 2.462). While both groups have to work with laws and regulations, the Private Manager group's campus colleagues understand their reporting needs and comply with their requests more than the Public Manager group's counterparts. The mean for this statement was 5.20 for the Private Manager group and 4.52 for the Public Manager group. The difference in means was statistically significant at the .05 level,  $F(1,50)=5.715$ ,  $p<.021$ . The effect was small ( $\eta^2=.10$ ). The Private Manager group had a mean of 4.48 for having authority to demand work from others based on their reporting requirements and also had a mean of 4.48 for having used legal obligations to get the data and information. This was the only time in the study where having authority to demand work and using that authority were equal, although there was a wider distribution in the responses to using the authority. The mean for the Legal Prerogatives combined score for the Public Manager group was 4.50 compared to 4.86 for the Private Manager group. On this measure, the Private Manager group had a more peaked distribution (1.993) whereas the Public Manager group demonstrated more

variance in their distribution (-.958) (see Tables 11.7 and 11.8 for more data on this power source comparison).

Although the Public Manager group reported a higher mean for meeting with high level decision makers regularly (4.44 compared to 4.40), the Private Manager group had a higher mean for their boss being a high level decision maker (5.24 compared to 4.41) and for being able to ask a high level decision-maker to intervene on their behalf (5.40 compared to 5.00). The difference in means for being able to ask a high level decision maker to intervene was statistically significant,  $F(1,50)= 5.549$ ,  $p=.022$ . The effect was small (eta-squared= .09). The distributions for each statement in the Access to Decision Makers section were similar for each group. Both were strongly leptokurtic (Public Manager group = 2.847, Private Manager group= 4.469) for the boss as a decision maker statement and moderately leptokurtic (Public Manger group= 1.370, Private Manager group= 1.072) for the distribution of responses for the Access to Decision Makers combined score. The Public Manager group had a higher mean of 4.82 compared to 4.57 for the Private Manager group. The range for combined scores for the Public Manager group was 5.00, the low was 1.00 and the high was 6.00. For the Private Manager group, the range was 4.00 with a low of 2.00 and a high of 6.00. The Private Manager group also reported having offices only 1.44 levels removed from the president while the Public Management group reported being 1.63 levels removed. The descriptive statistics for the comparisons of IR managers who work for public and private institutions can be found in Table 11.9. The results of the ANOVAs can be found in Table 11.10.

In summary, the IR managers who work for public institutions appear to have similar levels of power sources as IR managers who work for private institutions. Most of

the responses had moderate to high means but there were some difference in the distributions of the responses. The Public Manager group seemed to have a tighter, more peaked kurtosis on many of the statements even though their means were lower. By comparison, the Private Manager group had higher means but more variance in the responses perhaps indicating more diversity in their offices of institutional research and/or the organization of the institution. Only two statements had statistically significant differences: “People comply with my requests for information because they understand my reporting needs” and “If I need to, I can ask a high level decision maker to intervene on my behalf.” The Public Manager group had a higher mean on both of these statements. There may also be a difference in the amount of qualitative research conducted by the Private Manager group as their means were higher for that skill whereas the Public Manager group had higher means on the quantitative statements. These statements were near to statistical significance. When ranking the power sources based on the means of the combined scores, Control of Resources first for both groups. For the Public Manager group, the remainder of the ranking was: Unique Knowledge, Access to Decision Makers, Technical Skills, and Legal Prerogatives. Second for the Private group was Legal Prerogatives followed by Access to Decision Makers, Technical Skills and lastly, and Unique Knowledge.

Table 11.1

*Control of Resources: Descriptive Statistics: IR Managers by Institutional Type*

	IR Manager	n	M	SD	Skewness	Kurtosis
I collect institutional level data	Public Manager	27	5.15	1.634	-1.742	1.688
	Private Manager	25	5.20	1.633	-1.910	2.309
I collect institutional level information	Public Manager	26	5.15	1.541	-1.841	2.475
	Private Manager	24	5.04	1.546	-1.385	.722
I generate institutional level data	Public Manager	27	5.15	1.680	-1.775	1.608
	Private Manager	25	5.60	1.190	-3.159	9.935
I generate institutional level information	Public Manager	27	5.70	.775	-2.621	6.102
	Private Manager	24	5.71	.751	-2.811	7.766
I distribute institutional level data	Public Manager	26	5.15	1.515	-1.702	1.719
	Private Manager	25	5.68	.802	-2.489	5.373
I distribute institutional level information	Public Manager	27	5.37	1.305	-2.215	4.346
	Private Manager	24	5.71	.751	-2.811	7.766
Faculty, admin, and/or staff often ask me for information and/or data	Public Manager	27	5.70	.724	-2.756	7.689
	Private Manager	24	5.75	.532	-2.131	4.143
I manage data warehouses and repositories	Public Manager	27	4.22	1.805	-.698	-.836
	Private Manager	25	4.04	1.837	-.415	-1.302
Most institutional data and/or reports come from my office	Public Manager	26	4.46	1.240	-.177	-1.160
	Private Manager	25	4.68	1.249	-.587	-.854
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Public Manager	27	4.22	1.423	-.597	-.508
	Private Manager	25	4.36	1.150	-.609	-.378
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Public Manager	27	3.41	1.309	-.060	-.649
	Private Manager	25	3.32	.988	-.437	-.089
Control of Resources combined score	Public Manager	27	4.87	.871	-.805	-.048
	Private Manager	25	4.99	.632	-.665	-.675

Table 11.2

*Control of Resources: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig.
I collect institutional level data	Between Groups	.035	1	.035	.013	.909
	Within Groups	133.407	50	2.668		
	Total	133.442	51			
I collect institutional level information	Between Groups	.157	1	.157	.066	.798
	Within Groups	114.343	48	2.382		
	Total	114.500	49			
I generate institutional level data	Between Groups	2.650	1	2.650	1.234	.272
	Within Groups	107.407	50	2.148		
	Total	110.058	51			
I generate institutional level information	Between Groups	.000	1	.000	.000	.983
	Within Groups	28.588	49	.583		
	Total	28.588	50			
I distribute institutional level data	Between Groups	3.528	1	3.528	2.374	.130
	Within Groups	72.825	49	1.486		
	Total	76.353	50			
I distribute institutional level information	Between Groups	1.451	1	1.451	1.242	.271
	Within Groups	57.255	49	1.168		
	Total	58.706	50			
Faculty, admin, and/or staff often ask me for information and/or data	Between Groups	.027	1	.027	.066	.798
	Within Groups	20.130	49	.411		
	Total	20.157	50			
I manage data warehouses and repositories	Between Groups	.431	1	.431	.130	.720
	Within Groups	165.627	50	3.313		
	Total	166.058	51			
Most institutional data and/or reports come from my office	Between Groups	.608	1	.608	.393	.534
	Within Groups	75.902	49	1.549		
	Total	76.510	50			
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Between Groups	.246	1	.246	.146	.704
	Within Groups	84.427	50	1.689		
	Total	84.673	51			
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Between Groups	.099	1	.099	.073	.788
	Within Groups	67.959	50	1.359		
	Total	68.058	51			
Control of Resources combined score	Between Groups	.182	1	.182	.311	.580
	Within Groups	29.349	50	.587		
	Total	29.532	51			

Table 11.3

*Technical Skills: Descriptive Statistics IR Manager by Institutional Type*

How would you rate your skills in the following areas?	IR Manager	n	M	SD	Skewness	Kurtosis
Data Management	Public Manager	27	5.07	.958	-1.007	.393
	Private Manager	25	5.16	.898	-.712	-.429
Presentations	Public Manager	27	4.85	1.064	-.513	-.906
	Private Manager	25	5.28	.792	-1.112	1.412
Writing reports	Public Manager	27	5.00	.961	-.562	-.650
	Private Manager	25	5.24	.779	-.463	-1.158
Statistical methods	Public Manager	27	4.33	1.209	-.141	-.673
	Private Manager	25	4.20	1.354	-.394	-.299
Conceptualizing and planning research	Public Manager	27	4.78	1.086	-.300	-1.199
	Private Manager	24	5.21	.588	-.045	-.114
Quantitative research and analytics	Public Manager	27	4.85	.949	-.268	-.890
	Private Manager	25	4.60	1.225	-.769	-.206
Qualitative research and analytics	Public Manager	27	3.78	1.086	.283	-.223
	Private Manager	25	4.36	1.186	-1.266	1.602
Data mining	Public Manager	27	3.52	1.503	-.038	-.761
	Private Manager	25	3.80	1.443	-.434	-.703
Technical Skills combined score	Public Manager	27	4.52	.779	-.418	-.892
	Private Manager	25	4.72	.646	-.362	-.769

Table 11.4

*Technical Skills: ANOVA IR Managers by Institutional Type*

How would you rate your skills in the following areas?	Source	SS	df	MS	F	Sig.
Data Management	Between Groups	.096	1	.096	.111	.741
	Within Groups	43.212	50	.864		
	Total	43.308	51			
Presentations	Between Groups	2.380	1	2.380	2.677	.108
	Within Groups	44.447	50	.889		
	Total	46.827	51			
Writing reports	Between Groups	.748	1	.748	.970	.330
	Within Groups	38.560	50	.771		
	Total	39.308	51			
Statistical methods	Between Groups	.231	1	.231	.141	.709
	Within Groups	82.000	50	1.640		
	Total	82.231	51			
Conceptualizing and planning research	Between Groups	2.355	1	2.355	2.988	.090
	Within Groups	38.625	49	.788		
	Total	40.980	50			
Quantitative research and analytics	Between Groups	.823	1	.823	.693	.409
	Within Groups	59.407	50	1.188		
	Total	60.231	51			
Qualitative research and analytics	Between Groups	4.400	1	4.400	3.415	.071
	Within Groups	64.427	50	1.289		
	Total	68.827	51			
Data Mining	Between Groups	1.028	1	1.028	.473	.495
	Within Groups	108.741	50	2.175		
	Total	109.769	51			
Technical skills combined score	Between Groups	.521	1	.521	1.008	.320
	Within Groups	25.853	50	.517		
	Total	26.375	51			



Table 11.5

*Unique Knowledge: Descriptive Statistics IR Managers by Institutional Type*

	IR Manager	n	M	SD	Skewness	Kurtosis
People respect my opinion because I have a very good understanding of the issues at my institution	Public Manager	27	4.81	.962	-.720	-.183
	Private Manager	25	4.68	1.492	-1.034	.188
I am able to understand the impact decisions have on departments and resources across campus	Public Manager	27	4.81	.962	-1.000	1.601
	Private Manager	25	5.20	.707	-.307	-.846
I have responsibilities that involve many departments across campus	Public Manager	27	4.81	1.388	-1.321	1.346
	Private Manager	25	5.04	1.172	-1.096	.414
I know more about the interrelationships of departments than most people on campus	Public Manager	27	4.41	1.421	-.622	-.220
	Private Manager	24	4.58	1.176	-.829	.181
I know more about campus politics than most people on campus	Public Manager	27	4.33	1.144	-1.056	1.853
	Private Manager	24	3.79	1.318	-.203	-.547
Unique knowledge combined score`	Public Manager	27	4.63	.989	-1.701	3.068
	Private Manager	25	4.68	.823	-.518	-.309

Table 11.6

*Unique Knowledge: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig
People respect my opinion because I have a very good understanding of the issues at my institution	Between Groups	.236	1	.236	.152	.698
	Within Groups	77.514	50	1.550		
	Total	77.50	51			
I am able to understand the impact decisions have on departments and resources across campus	Between Groups	1.926	1	1.926	2.669	.109
	Within Groups	36.074	50	.721		
	Total	38.000	51			
I have responsibilities that involve many departments across campus	Between Groups	.658	1	.658	.396	.532
	Within Groups	83.034	50	1.661		
	Total	83.692	51			
I know more about the interrelationships of departments than most people on campus	Between Groups	.393	1	.393	.228	.635
	Within Groups	84.352	48	1.721		
	Total	84.745	50			
I know more about campus politics than most people on campus	Between Groups	3.728	1	3.728	2.470	.122
	Within Groups	73.958	49	1.509		
	Total	77.686	50			
Unique knowledge combined score	Between Groups	.027	1	0.27	.032	.858
	Within Groups	41.730	50	.835		
	Total	41.757	51			

Table 11.7

*Legal Prerogatives: Descriptive Statistics IR Managers by Institutional Type*

	IR Manager	n	M	SD	Skewness	Kurtosis
Legal reporting requirements give me the authority to demand work from other individuals on campus	Public Manager	27	4.22	1.340	-.543	-.100
	Private Manager	25	4.48	1.503	-.998	.561
I complete reports that are required by law or government regulations	Public Manager	27	5.41	1.185	-2.532	6.968
	Private Manager	25	5.68	.627	-1.858	2.462
I complete reports that are required by grants or other funding sources	Public Manager	26	4.00	1.766	-.330	-1.171
	Private Manager	25	4.48	1.327	-.884	.591
People on my campus comply with my requests for information because they understand my required reporting needs	Public Manager	27	4.52	1.189	-.863	.289
	Private Manager	25	5.20	.816	-.899	.651
I have used legal obligations or regulations to get data and information I need from faculty or staff	Public Manager	27	4.33	1.144	-.222	-.981
	Private Manager	25	4.48	1.636	-.675	-.926
Legal Prerogatives combined score	Public Manager	27	4.50	.9017	.086	-.958
	Private Manager	25	4.86	.8321	-1.341	1.993

Table 11.8

*Legal Prerogatives: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig
Legal reporting requirements give me the authority to demand work from other individuals on campus	Between Groups	.863	1	.863	.427	.516
	Within Groups	100.907	50	2.018		
	Total	101.769	51			
I complete reports that are required by law or government regulations	Between Groups	.965	1	.965	1.049	.311
	Within Groups	45.959	50	.919		
	Total	46.923	51			
I complete reports that are required by grants or other funding sources	Between Groups	2.936	1	2.936	1.197	.279
	Within Groups	120.240	49	2.454		
	Total	123.176	50			
People on my campus comply with my requests for information because they understand my required reporting needs	Between Groups	6.028	1	6.028	5.715	.021
	Within Groups	52.741	50	1.055		
	Total	58.769	51			
I have used legal obligations or regulations to get data and information I need from faculty or staff	Between Groups	.279	1	.279	.142	.708
	Within Groups	98.240	50	1.965		
	Total	98.519	51			
Legal Prerogatives combined score	Between Groups	1.720	1	1.720	2.278	.138
	Within Groups	37.758	50	.755		
	Total	39.478	51			

Table 11.9

*Access to Decision Makers: Descriptive Statistics IR Managers by Institutional Type*

	IR Manager	n	M	SD	Skewness	Kurtosis
I meet with high level decision makers regularly	Public Manager	27	4.44	1.672	-1.042	.015
	Private Manager	25	4.40	1.500	-.676	-.347
If I need to, I can ask a high level decision maker to intervene on my behalf	Public Manager	27	4.41	1.551	-1.083	.094
	Private Manager	25	5.24	.879	-.913	.045
My boss is a high level decision maker	Public Manager	27	5.00	1.301	-1.698	2.847
	Private Manager	25	5.40	1.041	-2.121	4.469
I consider my office of institutional research to be centralized within the organizational structure of my institution	Public Manager	27	4.44	1.577	-.811	-.305
	Private Manager	24	4.21	1.615	-.436	-1.095
Access to Decision Makers combined score	Public Manager	27	4.57	1.329	-1.331	1.310
	Private Manager	25	4.82	1.004	-1.081	1.072
How many levels is your office of institutional research removed from the president on the organizational chart?	Public Manager	27	1.63	1.043	1.493	2.866
	Private Manager	25	1.44	.917	.368	-.561

Table 11.10

*Access to Decision Makers: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig
I meet with high level decision makers regularly	Between Groups	.026	1	.026	.010	.920
	Within Groups	126.667	50	2.533		
	Total	126.692	51			
If I need to, I can ask a high level decision maker to intervene on my behalf	Between Groups	8.998	1	8.998	5.549	.022
	Within Groups	81.079	50	1.622		
	Total	90.077	51			
My boss is a high level decision maker	Between Groups	2.077	1	2.077	1.484	.229
	Within Groups	70.000	50	1.400		
	Total	72.077	51			
I consider my office of institutional research to be centralized within the organizational structure of my institution	Between Groups	.708	1	.708	.279	.600
	Within Groups	124.625	49	2.543		
	Total	125.333	50			
Access to Decision Makers combined score	Between Groups	.828	1	.828	.590	.446
	Within Groups	70.170	50	1.403		
	Total	70.998	51			
How many levels is your office of institutional research removed from the president on the organizational chart?	Between Groups	.467	1	.467	.482	.491
	Within Groups	48.456	50	.969		
	Total	48.923	51			

### **IR Managers by Experience Power Source Comparison**

The final comparisons also involved managers of IR, but this time the differences between IR managers who had worked in IR for 13 or less years, called the Less Time group (n=33), with managers who had worked in IR for 13 years or more, called the More Time group (n=34) were explored. There were 3 participants with 13 years of experience who were divided based on their years working in higher education as previously discussed. Like the comparison of IR staff and IR managers, this comparison also resulted in 10 statements whose means had statistically significant differences at the  $p < .05$  level. Four of those differences occurred in the first power source, Control of Information (see Tables 12.1 through 12.10 found at the end of this section for all the descriptive statistics and results of the ANOVAs).

As expected from previous comparisons, all of the statements regarding the collection, generation and distribution of institutional level data and/or information had means of 5.03 or above with negative skewness and leptokurtic distributions. There was one exception; the Less Time group had mean of 4.91 with a small leptokurtic distribution of .599 for the statement “I collect institutional level information.” The mean for the More Time group was 5.61 with a strong positive kurtosis of 6.619. The differences in means for this statement was statistically significant,  $F(1,63)=4.299$ ,  $p < .04$ . The effect size was small (eta-square= .06). The means for the statements regarding the handling of information were slightly higher than the data statements, which is consistent with all the group comparisons in this study. Two statements, “I generate institutional level information” and “I distribute institutional level data,” had extremely high leptokurtic distributions for the More Time group, 22.305 and 10.429 respectively with

very high means, 5.76 and 5.61. While these were not the statements with the highest means, the participants in the More Time group were very much in agreement regarding these statements based on the kurtosis. The statement with the highest means were “Faculty, administration, and/or staff often ask me for information and/or data.” The means for this statement were, for the Less Time group, 5.55 (Kurt =2.442) and 5.81 for the More Time group (Kurt= 6.692). The statement, “Most institutional data and/or reports come from my office” also had a significantly statistical difference in means,  $F(1,63)=5.798, p<.019$ . The effect size was small (eta-squared= .08). The Less Time group’s mean was 4.27 compared to 4.97 for the More Time group and the kurtoses were opposite, -1.390 and 1.880. The More Time group felt stronger about being the source of institutional information as they were in more agreement than the Less Time group. The final two items that were significantly different were the departmental decisions statement and the Control of Resources combined score. As with the other comparisons, both groups felt that their offices do not contribute as much too departmental decisions. The mean for the Less Time group was 3.27 compared to 3.85,  $F(1,64)=4.034m p<.049$ . The effect size was small (eta-squared= .06). The More Time group had mesokurtic distribution, -.030 while the Less Time group was slightly platykurtic, -.251. As could be expected from these statements, the More Time group had a higher mean for the combined score, 5.18 compared to 4.80 for the Less Time group. The difference was statistically significant,  $F(1,65)=5.062, p<.028$ . The effect size was small (eta-squared= .07). The Less Time group had a range of 3.27, a low of 2.73 and a high of 6.00 on their Control of Resources combined score. The range for the More Time group was 2.36 with

a low of 3.64 and a high of 6.00 (the descriptive statistics are displayed in Table 12.1 while Table 12.2 has the results of the ANOVA).

The self-ratings for the Technical Skills power source were very similar with only one skill statement that had a mean with statistically significant difference, data management,  $F(1,65)=4.575$   $p<.036$ . The effect size was small ( $\eta^2=.07$ ). The mean for the More Time group was 5.26 and 4.79 for the Less Time group. The only skill statement in which the Less Time group had a higher mean was qualitative research and analytics where their mean was 4.30 compared to 3.94 for the More Time group. The More Time group ranked data management the highest followed by presentations and statistical methods. Conceptualizing and planning research was the highest ranked statement for the Less Time group; with a mean of 5.03, it was the only statement over the 5.00 mark. The More Time group's mean on this skill statement was 5.06 and the kurtosis for this statement was opposite. The Less Time group had a wider distribution, -1.029 while the More Time group had a stronger and narrower distribution, 2.110. Most of the statements in the technical skills had slightly platykurtic distributions for both groups. Overall, the More Time group expressed more agreement and strength in the Technical Skills power source and had a higher Technical Skills combined score mean, 4.69 compared to 4.57 of the Less Time group. The range of combined scores for the Less Time group was 2.75, the low as 3.00 and the high was 5.75 compared to the More Time group whose range was 2.36, the low was 3.63 and the high was 6.00.

The results for the Unique Knowledge power source were similar to the Technical Skills in that the More Time group scored higher means on every statement but one and there was only one statement with a statistically significant difference. The one statement

that the Less Time group scored higher than the More Time group was in having cross campus responsibilities, 5.12 compared to 4.82. Their distribution was the most peaked of any statement at 3.312 while the More Time group was only slightly peaked, .530. Despite being in strong agreement about their cross campus responsibilities, the Less Time group felt they did not know much about the interrelationships between departments. Their mean for this statement was only 4.33 compared to the mean of 5.03 for the More Time group. This was a statistically significant difference,  $F(1,63)=5.401$ ,  $p=.023$ . The effect size was extremely small ( $\eta^2=.001$ ). This statement was the highest ranked for the More Time group while the cross campus responsibilities statement was the highest for the Less Time group. Both groups had a higher mean for understanding campus politics than in previous comparison groupings, 4.00 for the Less Time group and 4.44 for the More Time group. The Unique Knowledge combined score was 4.63 for the Less Time group with a range of 4.40, a low of 1.60 and a high of 6.00. For the More time group, the mean was 4.88 with a smaller range of 3.60, a low of 2.40 and a high of 6.00 (complete statistics and ANOVA results can be found on Table's 12.5 and 12.6).

The More Time group reported much stronger power in the Legal Prerogative power sources than the Less Time group with higher means in every statement. Four of the six statements had a statistically significant difference in means. "Legal requirements give me authority to demand work from others" was the first statement with a significant difference,  $F(1,63)=4.266$ ,  $p=.043$ . The effect size was small ( $\eta^2=.06$ ). The mean for the Less Time group was 3.91 compared to 4.66 for the More Time group. The distributions were -1.048 for the Less Time group and 1.762 for the More Time group.

The highest rated statement for both groups was the statement regarding completing reports required by law or regulations. Although both groups were in strong agreement with strong leptokurtic distribution, 2.262 for Less Time and 6.138 for More Time, their means had a statistically significant difference,  $F(1,64)=4.291$ ,  $p=.042$ . The effect size was small ( $\eta^2=.06$ ). The Less Time mean was 5.15 and the More Time mean was 5.70. The Less Time group's second lowest mean was the statement regarding the actual use of legal obligations to get their work done. Their mean was 4.09 compared to More Time's mean of 4.75. The difference in means is statistically significant,  $F(1,63)=3.944$ ,  $p=.051$ . The effect size was small ( $\eta^2=.06$ ). Both groups displayed a platykurtic distribution,  $-.616$  and  $-1.431$  respectively. With the higher mean and the wider distribution, there were some IR managers in the More Time group who have used the power associated with having legal obligations often. The means for the Legal Prerogative combined scores were 4.37 for the Less Time group and 4.90 for the More Time group. This was a statistically significant difference,  $F(1,64)=5.774$ ,  $p=.019$ . The effect size was small ( $\eta^2=.06$ ). The Less Time group had a wider range for their combined score, 4.60, with a low of 1.60 and a high of 6.00. The range for the More Time group was 3.00, with a low of 3.00 and a high of 6.00 (see Table 12.7 for the related descriptive statistics and Table 12.8 for the results of the ANOVAs).

The results for the Access to Decision Makers power sources were very similar with no statistically significant differences. Again, the More Time group rated their statements higher than the Less Time groups. Both groups were equal when it came to meeting with decision makers regularly, 4.58 for Less Time and 4.59 for More Time, but there was a greater difference in whether or not they could ask a high level decision



maker to intervene on their behalf. The mean for the Less Time group was 4.76 with a moderate leptokurtic distribution of 1.143. The More Time group's mean was 5.03 and a strong leptokurtic distribution of 2.263. On average, the Less Time group reported being 1.42 positions removed from the president compared to 1.38 positions for the More Time group. The combined score means were 4.68 for the Less Time group and 4.89 for the More time group. Both groups had wide ranges for their combined score: 4.00 for the Less Time group with a low of 2.00 and a high of 6.00 compared to the More Time group's range of 5.00 with the low of 1.00 and a high of 6.00 (Tables 12.9 and 12.10 have the results of the statistics for this power source).

In summary, there were differences in the power levels of these two groups. IR managers with 13 or more years of experience were consistently higher on almost all statements and several of the mean differences were statistically significant. The More Time group reported that their office was where most institutional data and reports come from and were more involved at the departmental level. They rated their data management skills higher but were about equal in their ability to conceptualize research. They had fewer responsibilities across campus but they were more knowledgeable about the departments' interrelationships. Perhaps what stood out the most was in the legal prerogative area. The More Time group reported that they had more legal requirements and more authority to demand work from others in order to complete these requirements. In addition to having authority to demand work, the More Time group used their authority to demand work more than any other group in this study.

Table 12.1

*Control of Resources: Descriptive Statistics IR Manager by Experience*

	Experience	n	M	SD	Skewness	Kurtosis
I collect institutional level data	Less Time	33	5.03	1.776	-1.651	1.158
	More Time	34	5.62	1.015	-2.646	6.032
I collect institutional level information	Less Time	32	4.91	1.673	-1.343	.599
	More Time	33	5.61	.966	-2.643	6.619
I generate institutional level data	Less Time	33	5.33	1.407	-2.360	4.780
	More Time	34	5.41	1.480	-2.322	4.022
I generate institutional level information	Less Time	33	5.52	.906	-1.795	2.160
	More Time	33	5.76	.936	-4.583	22.305
I distribute institutional level data	Less Time	33	5.30	1.287	-1.829	2.152
	More Time	33	5.61	1.088	-3.157	10.429
I distribute institutional level information	Less Time	33	5.42	1.226	-2.525	6.091
	More Time	33	5.70	.883	-2.818	6.554
Faculty, admin, and/or staff often ask me for information and/or data	Less Time	33	5.55	.794	-1.752	2.442
	More Time	32	5.81	.471	-2.610	6.692
I manage data warehouses and repositories	Less Time	33	3.88	1.949	-.278	-1.490
	More Time	34	4.38	1.758	-.805	-.659
Most institutional data and/or reports come from my office	Less Time	33	4.27	1.281	.211	-1.390
	More Time	32	4.97	1.031	-1.252	1.388
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Less Time	33	4.33	1.315	-.315	-.851
	More Time	33	4.52	1.228	-1.115	.840
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Less Time	33	3.27	1.180	.038	-.251
	More Time	33	3.85	1.149	-.212	-.030
Control of Resources combined score	Less Time	33	4.80	.7585	-.895	.584
	More Time	34	5.18	.6244	-.870	-.200

Table 12.2

*Control of Resources: ANOVA IR Manager by Experience*

	Source	SS	df	MS	F	Sig.
I collect institutional level data	Between Groups	5.777	1	5.7772	2.782	.100
	Within Groups	134.999	65	2.077		
	Total	140.776	66			
I collect institutional level information	Between Groups	7.956	1	7.956	4.299	.042
	Within Groups	116.598	63	1.815		
	Total	124.554	64			
I generate institutional level data	Between Groups	.103	1	.103	.049	.825
	Within Groups	135.569	65	2.086		
	Total	135.672	66			
I generate institutional level information	Between Groups	.970	1	.970	1.143	.289
	Within Groups	54.303	64	.848		
	Total	55.273	65			
I distribute institutional level data	Between Groups	1.515	1	1.515	1.067	.305
	Within Groups	90.848	64	1.420		
	Total	92.364	65			
I distribute institutional level information	Between Groups	1.227	1	1.227	1.076	.304
	Within Groups	73.030	64	1.141		
	Total	74.258	65			
Faculty, admin, and/or staff often ask me for information and/or data	Between Groups	1.159	1	1.159	2.698	1.05
	Within Groups	27.057	63	.429		
	Total	28.215	64			
I manage data warehouses and repositories	Between Groups	4.246	1	4.246	1.235	.271
	Within Groups	223.545	65	3.439		
	Total	227.791	66			
Most institutional data and/or reports come from my office	Between Groups	7.870	1	7.870	5.798	.019
	Within Groups	85.514	63	1.357		
	Total	93.385	64			
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	Between Groups	.545	1	.545	.337	.564
	Within Groups	103.576	64	1.618		
	Total	104.121	65			
When there is a departmental decision to be made, it is my office that provides the data and reports needed	Between Groups	5.470	1	5.470	4.034	.049
	Within Groups	86.788	64	1.356		
	Total	92.258	65			
Control of Resources combined score	Between Groups	2.436	1	2.436	5.062	.028
	Within Groups	31.279	65	.481		
	Total	33.715	66			

Table 12.3

*Technical Skills: Descriptive Statistics IR Managers by Experience*

How would you rate your skills in the following areas?	Experience	n	M	SD	Skewness	Kurtosis
Data Management	Less Time	33	4.79	1.023	-.477	-.799
	More Time	34	5.26	.790	-.913	.524
Presentations	Less Time	33	4.97	1.185	-.897	-.262
	More Time	34	5.15	.744	-.717	.742
Writing reports	Less Time	33	5.09	.980	-.827	-.278
	More Time	34	5.15	.744	-.248	-1.101
Statistical methods	Less Time	33	4.30	1.380	-.359	-.515
	More Time	34	4.26	1.024	-.034	-.536
Conceptualizing and planning research	Less Time	33	5.03	.984	-.483	-1.029
	More Time	33	5.06	.747	-1.056	2.110
Quantitative research and analytics	Less Time	33	4.73	1.039	-.476	-.072
	More Time	34	4.76	.987	-.902	.772
Qualitative research and analytics	Less Time	33	4.30	1.237	-.517	-.592
	More Time	33	3.94	1.088	-.339	.517
Data mining	Less Time	33	3.39	1.456	.159	-.808
	More Time	34	4.00	1.326	-.497	-.069
Technical Skills combined score	Less Time	33	4.57	.7577	-.398	-.680
	More Time	34	4.69	.5759	-.471	-.729

Table 12.4

*Technical Skills: ANOVA IR Managers by Experience*

How would you rate your skills in the following areas?	Source	SS	df	MS	F	Sig.
Data Management	Between Groups	3.807	1	3.807	4.572	.036
	Within Groups	54.133	65	.833		
	Total	57.940	66			
Presentations	Between Groups	.527	1	.527	.541	.464
	Within Groups	63.234	65	.973		
	Total	63.761	66			
Writing reports	Between Groups	.053	1	.053	.070	.792
	Within Groups	48.992	65	.754		
	Total	49.045	66			
Statistical methods	Between Groups	.025	1	.025	.017	.897
	Within Groups	95.587	65	1.471		
	Total	95.612	66			
Conceptualizing and planning research	Between Groups	.015	1	.015	.020	.888
	Within Groups	48.848	64	.763		
	Total	48.864	65			
Quantitative research and analytics	Between Groups	.023	1	.023	.023	.880
	Within Groups	66.663	65	1.026		
	Total	66.687	66			
Qualitative research and analytics	Between Groups	2.182	1	2.182	1.608	.209
	Within Groups	86.848	64	1.357		
	Total	89.030	65			
Data Mining	Between Groups	6.151	1	6.151	3.176	.079
	Within Groups	125.879	65	1.937		
	Total	132.030	66			
Technical skills combined score	Between Groups	.244	1	.244	.541	.465
	Within Groups	29.318	65	.451		
	Total	29.562	66			

Table 12.5

*Unique Knowledge: Descriptive Statistics IR Managers by Experience*

	Experience	n	M	SD	Skewness	Kurtosis
People respect my opinion because I have a very good understanding of the issues at my institution	Less Time	33	4.67	1.137	-.509	-.612
	More Time	33	4.97	1.237	-1.626	2.710
I am able to understand the impact decisions have on departments and resources across campus	Less Time	33	4.97	.883	-1.097	2.524
	More Time	33	5.09	.805	-.554	-.147
I have responsibilities that involve many departments across campus	Less Time	33	5.12	1.244	-1.799	3.312
	More Time	33	4.82	1.402	-1.104	.530
I know more about the interrelationships of departments than most people on campus	Less Time	33	4.33	1.315	-.754	.107
	More Time	32	5.03	1.092	-1.016	.474
I know more about campus politics than most people on campus	Less Time	32	4.00	1.295	-.475	-.419
	More Time	32	4.44	1.243	-.816	.520
Unique knowledge combined score`	Less Time	33	4.63	.9015	-1.298	3.00
	More Time	33	4.88	.8473	-1.232	1.62

Table 12.6

*Unique Knowledge: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig
People respect my opinion because I have a very good understanding of the issues at my institution	Between Groups	1.515	1	1.515	1.074	.304
	Within Groups	90.303	64	1.411		
	Total	91.818	65			
I am able to understand the impact decisions have on departments and resources across campus	Between Groups	.242	1	.242	.340	.562
	Within Groups	45.697	64	.714		
	Total	45.939	65			
I have responsibilities that involve many departments across campus	Between Groups	1.515	1	1.515	.863	.357
	Within Groups	112.424	64	1.757		
	Total	113.939	65			
I know more about the interrelationships of departments than most people on campus	Between Groups	7.913	1	7.913	5.401	.023
	Within Groups	92.302	63	1.465		
	Total	100.215	64			
I know more about campus politics than most people on campus	Between Groups	3.063	1	3.063	1.901	.173
	Within Groups	99.875	62	1.611		
	Total	102.938	63			
Unique knowledge combined score	Between Groups	1.035	1	1.035	1.353	.249
	Within Groups	48.985	64	.765		
	Total	50.021	65			

Table 12.7

*Legal Prerogatives: Descriptive Statistics IR Managers by Experience*

	Experience	n	M	SD	Skewness	Kurtosis
Legal reporting requirements give me the authority to demand work from other individuals on campus	Less Time	33	3.91	1.702	-.335	-1.048
	More Time	32	4.66	1.153	-1.014	1.762
I complete reports that are required by law or government regulations	Less Time	33	5.15	1.326	-1.666	2.262
	More Time	33	5.70	.728	-2.55	6.138
I complete reports that are required by grants or other funding sources	Less Time	33	4.15	1.623	-.494	-.802
	More Time	31	4.48	1.525	-.902	-.017
People on my campus comply with my requests for information because they understand my required reporting needs	Less Time	33	4.58	1.347	-1.029	.590
	More Time	33	4.94	.998	-1.077	1.236
I have used legal obligations or regulations to get data and information I need from faculty or staff	Less Time	33	4.09	1.466	-.674	-.616
	More Time	32	4.75	1.191	-.336	-1.431
Legal Prerogatives combined score	Less Time	33	4.37	1.031	-.774	.781
	More Time	33	4.90	.7243	-.641	.051

Table 12.8

*Legal Prerogatives: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig
Legal reporting requirements give me the authority to demand work from other individuals on campus	Between Groups	9.069	1	9.069	4.266	.043
	Within Groups	133.946	63	2.126		
	Total	143.015	64			
I complete reports that are required by law or government regulations	Between Groups	4.909	1	4.909	4.291	.042
	Within Groups	73.212	64	1.144		
	Total	78.121	65			
I complete reports that are required by grants or other funding sources	Between Groups	1.766	1	1.766	.711	.402
	Within Groups	153.984	62	2.484		
	Total	155.750	63			
People on my campus comply with my requests for information because they understand my required reporting needs	Between Groups	2.182	1	2.182	1.553	.217
	Within Groups	89.939	64	1.405		
	Total	92.121	65			
I have used legal obligations or regulations to get data and information I need from faculty or staff	Between Groups	7.057	1	7.057	3.944	.051
	Within Groups	112.727	63	1.789		
	Total	119.785	64			
Legal Prerogatives combined score	Between Groups	4.587	1	4.587	5.774	.019
	Within Groups	50.850	64	.795		
	Total	55.438	65			

Table 12.9

*Access to Decision Makers: Descriptive Statistics IR Managers by Experience*

	Experience	n	M	SD	Skewness	Kurtosis
I meet with high level decision makers regularly	Less Time	33	4.58	1.678	-1.049	-.061
	More Time	34	4.59	1.417	-.836	-.026
If I need to, I can ask a high level decision maker to intervene on my behalf	Less Time	33	4.76	1.324	-1.245	1.143
	More Time	33	5.03	1.262	-1.649	2.623
My boss is a high level decision maker	Less Time	33	5.12	1.269	-1.511	1.358
	More Time	34	5.32	1.224	-2.250	4.989
I consider my office of institutional research to be centralized within the organizational structure of my institution	Less Time	33	4.30	1.649	-.564	-.966
	More Time	31	4.77	1.431	-1.107	.385
Access to Decision Makers combined score	Less Time	33	4.68	1.303	-.925	-.196
	More Time	34	4.89	1.122	-1.806	4.073
How many levels is your office of institutional research removed from the president on the organizational chart?	Less Time	33	1.42	1.001	.221	-.938
	More Time	34	1.38	1.015	1.539	3.812

Table 12.10

*Access to Decision Makers: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig
I meet with high level decision makers regularly	Between Groups	.003	1	.003	.001	.974
	Within Groups	156.296	65	2.405		
	Total	156.299	66			
If I need to, I can ask a high level decision maker to intervene on my behalf	Between Groups	1.227	1	1.227	.734	.395
	Within Groups	107.030	64	1.672		
	Total	108.258	65			
My boss is a high level decision maker	Between Groups	.685	1	.685	.441	.509
	Within Groups	100.956	65	1.553		
	Total	101.642	66			
I consider my office of institutional research to be centralized within the organizational structure of my institution	Between Groups	3.548	1	3.548	1.483	.228
	Within Groups	148.389	62	2.393		
	Total	151.938	63			
Access to Decision Makers combined score	Between Groups	.722	1	.722	.489	.487
	Within Groups	95.949	65	1.476		
	Total	96.671	66			
How many levels is your office of institutional research removed from the president on the organizational chart?	Between Groups	.029	1	.029	.029	.866
	Within Groups	66.090	65	1.017		
	Total	66.119	66			

**Brief Summary of Research Question Two**

In summary, when comparing the different groups, there were far more similarities than differences; in fact, there were relatively few differences that were statistically significant. A chart with the comparison of all groups can be found in Appendix B. At times, it was the difference in distribution, or kurtosis that made the difference between groups. The two groups that stood out as different were the IR Staff group and the More Time manager groups. The IR Staff were lower in most statements compared to the IR managers but also compared to the other subgroups. Just opposite of the IR Staff were the IR Managers with more than 13 years of experience. They reported strong scores on most statements and were very often in agreement with narrow distributions in their answers. The IR Managers group and private institution group



(Private) tended to have the higher means, but often times a wider distribution in their answers. It appears that the size of the institution and therefore the size of the IR staff had an affect the means of the power statements. Institutional researchers affiliated with a smaller staff often times performed more of the traditional roles of IR while staff in larger institutions may be more specialized. Experience also appeared to have an influence on the power levels as the More Time group had consistently high scores on most statements. In general, the individual groups reflected the responses of the overall sample found in research question one. The Control of Resources ranked first of all groups. Legal Prerogatives was last in all groups, except for IR managers at private institutions (Private) and IR managers with more experience (More Time) where this power source ranked second. The other power sources fell between these two sources with a mix of rankings.

### **Research Question Three and Four**

“What were institutional researchers’ orientations toward power?” and “How did institutional researchers’ orientations toward power vary by institutional level, institutional type, job responsibilities, and experience?”

The original survey design included the entire 40 question Power Orientation Scale (POS) designed by Goldberg, et al. (1983) but was reduced to one question representing the six power orientation constructs the survey was designed to measure. For this study, participants were asked to rank six statements representing the six power orientations, in order with which they most identified. The statements included: Power is exciting and desirable; Power is controlling information; Power is a natural and

instinctive drive that is within everybody; Power is having political connections; Power is personal charisma; and Power is having control and autonomy. The simplification was necessary because the length of the full survey created a risk of participants dropping out of the study. Research questions three and four are discussed in the same section because of the simplified measurements. For each comparison group and the overall sample, the two top power orientations are discussed. The orientations are referred to as: exciting and desirable, control of information, natural and good, political connections, personal charisma, and control and autonomy. Table 13.1 is a comprehensive display of the power orientation's frequencies and percentages for each comparison group but the discussion of the results begins with the overall study sample's responses.

Research question three sought to understand the power orientations for the overall sample of institutional researchers in this study. The power orientation that was most frequently ranked number one was control and autonomy with 40 selections or 36.7%. A person having this orientation would understand power as the ability to control others, perhaps with rewards and punishments, and the desire to maintain personal freedom (Goldberg, et al., 1983). Since there were no definitions provided of the orientations or the terms "control" or "autonomy" participants may have interpreted the term "control" as having control over their own circumstances, i.e. autonomy, rather than controlling others. Having political connections was the second most selected orientation. This orientation was selected 26 times or 25.5%. This orientation would understand power as being related to networking with decision makers and using political means as a way of influence (Goldberg, et al., 1983). These two orientations set the tone for the

comparison groups (see Table 13.1 has the statistics for the over sample's responses to all of the power rankings).

Research question four sought to determine the difference in power orientations based on institutional size (less than 10,000 students, 10,000 students or more), institutional type (public 4-year or more, private non-profit, 4-year or more), job descriptions (IR staff, IR managers), managers by institutional type (managers at public 4-year or more, managers at private, non-profit, 4-year or more), and managers by experience (IR managers with 13 years of experience or less, managers with 13 years of experience or more). Every group in the study, except one, selected control and autonomy as the orientation with which they most identified based on the frequency of number one rankings. With a few exceptions, control and autonomy also had the lowest means for each group indicating that if it was not ranked as number one, it was at least in the top half. For institutional size, the Smaller Institutions group's number of responses for this statement was 21 or 39.6%, which is slight higher when compared to the Larger Institution group that was 18 or 32.7%. The mean for the responses for this group was 2.49 for the Smaller Institution group and 2.56 for the Larger Institution group. The Larger Institution group indicated a lower mean for political connectedness but indicated more number one rankings for control and autonomy. For institutional types, the Public group's number of responses was 17 or 37.0% compared to the Private group that had 17 or 43.6% for the control and autonomy orientation. The mean for the Public group was 2.37, which was not the lowest orientation. Again, the lowest mean for all orientations was political connectedness. The one group that did not select control and autonomy as number one was the IR Staff group in the job description comparison. They selected

political connections 11 times or 44.0% (M=2.28). The IR Manager group did select the control and autonomy orientation as their first choice, 25 times or 39.1% (M=2.47). For institutional type, eight participants or 32.0% of the Public Management group selected control and autonomy (M=2.72) compared to 13, or 52.0% of the Private Management group (M=2.16). In the final group comparisons of managers, the Less Time group had 12 participants who selected control and autonomy, or 40.0% (M= 2.40) compared to 38.2 %, or 13 participants in the More Time group (M=2.53).

The second most selected orientation was the same as the overall sample, political connections. For institutional size, the Smaller Institution group's frequency of responses was 10 or 20.4% (M=2.86) compared to that of the Larger Institution group, which was 16 or 32.7% (M=2.21). For institutional types, the Public group's responses were 13 or 30.2% (M=2.33) compared to the Private group that had six or 17.6% (M=2.76). As previously mentioned, The Larger Institution group and the Public group had means for political connectedness that were lowest in their group. The one group who did not select political connectedness as their second orientation was the IR Staff group in the job description comparison. They selected control and autonomy 10 times or 35.7% (M=2.68). Unlike the IR Staff, the IR Manager group did select the political connections orientation as their second choice, 12 times or 19.7% (M=2.59). The final group comparisons were of managers by institutional type and experience. Five participants or 21.7% (M=2.30) of the Public Manager group selected control and autonomy compared to four times, or 16.7% (M=2.87) of the Private Manager group. The Public Manager group's mean was also the lowest for that group. The Less Time group selected political connectedness second, eight times or 26.7% (M=2.27), which was a lower mean than

their first choice. The More Time group was the only group to select charisma as their second highest orientation; five participants, or 16.1% chose it as number one. The mean was 3.13.

Somewhat surprising, in light of the high responses in the control of resources power source, was the fact that the control of information orientation was not ranked higher. This orientation was usually ranked fourth in both frequency and means. It is possible that institutional researchers did not associate the information they created with having power. The More Time group did rank control of information as equal with political connections for third.

There were only three differences in means that were statically significant. Differences between the Smaller Institution group and the Larger Institution group on political connectedness were statistically significant at the .05 level,  $F(1,99)=5.826$ ,  $p<.018$ . The effect size was small ( $\eta^2=.05$ ). The institutional type comparisons also had significant differences. For the orientation “power is controlling information” the mean for the Public group was 3.36 compared to the Private group whose mean was 3.94,  $F(1,76)=2.739$ ,  $p<.040$ . The effect size was small ( $\eta^2=.3$ ). “Power is a natural and instinctive drive” had statistically significantly different means at the .05 level,  $F(1,78)=6.013$ ,  $p<.016$ . The effect size was small ( $\eta^2=.07$ ) and the means were 4.74 for the Public group and 3.91 for the private group (see Table 13.2 for the complete statistics concerning power orientations and the comparison groups).

The findings from Research Question Three and Four indicated that most institutional researchers in the sample understood power as having control and autonomy. This view fits well with Mintzberg’s (1983b) assertion that analysts are mostly concerned

about using power to maintain their job security and less concerned about influencing decisions. The power to ensure freedom in their work and the ability to perform their duties autonomously would keep the institutional researcher out of political struggles. However, because political connectedness was the second most selected power orientation, institutional researchers were aware of the political activities within their institutions, even if they did not engage in politics nor completely understand it.

Table 13.1

*Power Orientations: Frequencies of Number 1 Rankings*

Power is...	Overall Sample						
	N	f of #1	%	N	f of # 1	%	
exiting and desirable	103	6	5.8				
controlling	100	9	9.0				
information							
natural and good	102	10	9.8				
political connections	102	26	25.5				
personal charisma	102	10	9.8				
control and autonomy	109	40	31.7				
		Less than 10,000			More than 10,000		
exiting and desirable	52	2	3.8	51	4	7.8	
controlling	50	5	10.0	49	4	8.2	
information							
natural and good	50	6	12.0	52	4	7.7	
political connections	49	10	20.4	52	16	30.8	
personal charisma	51	5	9.8	50	5	10.0	
control and autonomy	53	21	39.6	55	18	32.7	
		Public Institutions			Private Institutions		
exiting and desirable	46	3	6.5	37	1	2.7	
controlling	42	5	11.9	36	3	8.3	
information							
natural and good	46	2	4.3	34	3	8.8	
political connections	43	13	30.2	34	6	17.6	
personal charisma	43	4	9.3	36	5	13.9	
control and autonomy	46	17	37.0	39	17	43.6	
		IR Staff			IR Managers		
exiting and desirable	28	2	7.1	58	3	5.2	
controlling	26	1	3.8	58	6	10.3	
information							
natural and good	26	1	3.8	60	6	10.0	
political connections	25	11	44.0	61	12	19.7	
personal charisma	26	2	7.7	61	5	8.2	
control and autonomy	28	10	35.7	64	25	39.1	
		Public Manager			Private Manager		
exiting and desirable	23	1	4.3	24	1	4.2	
controlling	21	4	19.0	24	1	4.2	
information							
natural and good	25	1	4.0	23	2	8.7	
political connections	23	5	21.7	24	4	16.7	
personal charisma	23	2	8.7	24	3	12.5	
control and autonomy	25	8	32.0	25	13	52.0	
		Less Time			More Time		
exiting and desirable	29	1	3.4	29	2	6.9	
controlling	27	2	7.4	31	4	12.9	
information							
natural and good	28	4	14.3	32	2	6.3	
political connections	30	8	26.7	31	4	12.9	
personal charisma	30	5	16.7	31	5	16.1	
control and autonomy	30	12	40.0	34	13	38.2	

Table 13.2

*Power Orientations: Comparison of Descriptive Statistics*

	Overall Sample										
	n	M	SD	Skewness	Kurtosis	n	M	SD	Skewness	Kurtosis	
Power is exciting desirable	103	4.59	1.472	-.956	.098						
Power is controlling Information	100	3.87	1.600	.241	-1.106						
Power is a natural and instinctive drive	102	4.10	1.644	-.514	-.901						
Power is having political skills and connections	102	2.53	1.369	.905	.292						
Power is having political skills and connections	102	3.33	1.430	.095	-.998						
Power is having control and autonomy	109	2.51	1.507	.709	-.231						
			Less than 10,000					More than 10,000			
Power is exciting desirable	52	4.67	1.396	-1.001	.353	41	4.51	1.554	-.918	-.066	
Power is controlling Information	50	3.80	1.591	-.260	-1.043	49	3.90	1.610	-.202	-1.157	
Power is a natural and instinctive drive	50	3.96	1.702	-.401	-1.065	52	4.23	1.592	-.638	-.660	
Power is having political skills and connections	49	5.86	1.581	.739	-.465	52	2.21	1.073	.550	-.502	
Power is having political skills and connections	54	3.22	1.346	.152	-.771	50	3.48	1.515	-.034	-1.142	
Power is having control and autonomy	53	2.49	1.540	.692	-.526	55	2.56	1.488	.730	-.159	
			Public Institutions					Private Institutions			
Power is exciting desirable	46	4.74	1.467	-1.202	.788	37	4.54	1.346	-.742	-.068	
Power is controlling Information	42	3.36	1.575	.237	-1.024	36	3.94	1.548	-.391	-.868	
Power is a natural and instinctive drive	46	4.74	1.290	-1.241	1.519	34	3.91	1.730	-.229	-1.306	
Power is having political skills and connections	43	2.33	1.286	1.112	1.255	34	2.76	1.458	.935	.292	
Power is personal charisma	43	3.35	1.395	.052	-.916	36	3.44	1.557	-.083	-1.082	
Power is having control and autonomy	46	2.37	1.339	.611	-.475	39	2.36	1.513	.837	-.252	
			IR Staff					IR Manager			
Power is exciting desirable	28	4.54	1.644	-.849	-.401	58	4.55	1.379	-.964	.470	
Power is controlling Information	26	3.58	1.332	.206	-.752	58	3.98	1.681	-.362	-1.116	
Power is a natural and instinctive drive	26	4.46	1.363	-.939	.444	60	4.07	1.666	-.450	-.968	
Power is having political skills and connections	25	2.28	1.487	1.046	.321	61	2.59	1.371	1.069	.692	
Power is personal charisma	26	3.19	1.443	.242	-1.231	61	3.39	1.382	.111	-.785	
Power is having control and autonomy	28	2.68	1.657	.661	-.517	64	2.47	1.532	.771	-.355	
			Public Manager					Private Manager			
Power is exciting desirable	23	4.65	1.369	-.932	.541	24	4.58	1.349	-1.005	.850	
Power is controlling Information	21	3.33	1.770	.155	-1.347	24	4.04	1.459	-.353	-.839	
Power is a natural and instinctive drive	25	4.60	1.384	-.942	.444	23	4.00	1.706	-.361	-1.142	
Power is having political	23	2.30	1.185	1.503	3.175	24	2.87	1.569	.887	-.046	



skills and connections										
Power is personal charisma	23	3.35	1.335	.044	-.557	24	3.42	1.472	.000	-.676
Power is having control and autonomy	25	2.72	1.487	.277	-.868	25	2.16	1.625	1.367	.789
			Less Time					More Time		
Power is exciting desirable	29	4.55	1.298	-.859	.629	29	4.55	1.478	-1.071	.530
Power is controlling Information	27	4.04	1.629	-.410	-1.047	31	3.94	1.750	-.334	-1.168
Power is a natural and instinctive drive	28	4.14	1.799	-.517	-.980	32	4.00	1.566	-.430	-.943
Power is having political skills and connections	30	2.27	1.337	1.698	2.848	31	2.90	1.350	.708	.187
Power is personal charisma	30	3.67	1.155	.139	-1.057	31	3.13	1.544	.351	-.756
Power is having control and autonomy	30	2.40	1.453	.683	-.481	34	2.53	1.619	.832	-.287

### Research Question Five

“What were institutional researchers’ feelings and attitudes about their role in influencing institutional decisions?”

The fifth research question addressed Mintzberg’s (1983b) assertion that analysts have power but lack the will to use it. As previously demonstrated in the literature review, some institutional researchers feel that they should actively use their power to influence decisions and some do not (Billups & Delucia, 1990; Delaney, 2009; Donhardt, 2012; Hearn, 1988; Knight & Leimer, 2009; Perry, 1972; Rourke & Brooks, 1966; Saunders, 1983; Saupe, 1990; Serban, 2002; Suslow, 1972). This portion of the study first sought to understand whether institutional researchers felt they should be active or passive in influencing decisions and then sought to understand if institutional researchers felt they had the ability to influence decisions. The will to influence measure consisted of nine statements. Four statements represented the opinion that IR staff should be active in influencing decisions and four statements represented the opinion that IR should be

passive. The last question was a neutral question regarding their opinion of IR as a resource. Additionally, participants were asked to rate how much influence IR should have on establishing budgets, resource allocation, retention issues, program review, curriculum, and student success programs.

The overall study sample was in strong agreement with the statement, “IR is a powerful resource for decision-makers.” The mean for this statement was 5.53; it had a strong negative skew (-2.537) and a very strong leptokurtic distribution (8.858). It is safe to say that institutional researchers felt they were a powerful resource; however, there were some differences in whether they believe institutional researchers should be an active or passive power for decision-making. When participants were asked their level of agreement with the statement “I am an active participant in the decision making process”, the mean was only 3.47 with only a slight platykurtic distribution of answers indicating that some were obviously more active than others. The highest rated statement for the active influence was the idea that institutional researchers should be change agents who provide solutions. This statement’s mean, although the highest, was only 4.36 with only a slight negative skew (-.646) and a mesokurtic distribution (-.059). The statement “I want to be more involved in the decision-making process” had a modest mean of 4.22 and a platykurtic distribution of -.929. In fact, all of the active statements showed mesokurtic to slightly platykurtic distribution, which indicated some variety in their answers but nothing overwhelming. The statement with the lowest mean, indicating a more passive approach, was; “I include a subjective component in my outputs”; the mean was only 2.97. In comparison, on the passive side of the statements, “My outputs are always objective” had the second highest mean of any statement at 4.70 and a mesokurtic

distribution (-.013). The statement with the highest mean was, “The work of IR should be free of any personal philosophy and politics.” The mean was 4.84 but did have some slight variety in the platykurtic distribution (-.553). Two other statements were worth noting. The statement, “IR has served its purpose when it has provided information and stimulated reflection” had a mean of 4.64 and the only leptokurtic distribution possibly indicating the belief that IR’s role is to provide information for discussion only. The other statement, “I prefer not to be involved in the decision-making process other than providing information” had a low mean of 2.59. In fact, it was the lowest in the passive series of statements. In this case, the low mean, actually indicated a desire to more be involved. There seemed to be a bit of a mixed message in that they wanted to be change agents and to be involved in the decision-making process beyond providing information, but they believed in being passive in doing so. The mean score for the combined passive statements was 4.21 compared to the mean for the combined active statements of 3.75. For the passive statements combined scores, the range was 4.25, with a low of 1.75 and a high of 6.00. The range for the active statements was large, 5.00 with a low of 1.00 and a high of 6.00. In order to determine an overall level of the desire to be active in decision making, the responses to the passive statements were reversed scored and then added to the active scores to create a Total combined score. The mean for the Total combined score was only 3.25 with a 3.63 range, a low of 1.00 and a high of 4.63. In summary, the participants felt that IR should take a passive approach in influencing institutional decisions but had a certain level of desire to be an active participant beyond simply providing information. (Table 14.1 provides the descriptive data for these statements).

Table 14.1

*Will to Influence: Descriptive Statistics Overall Sample*

	N	M	SD	Skewness	Kurtosis
<i>Active Statements</i>					
I am an active participant in decision-making	118	3.47	1.523	.056	-.929
I want to be more involved in the decision-making process	119	4.22	1.519	-.422	-.865
Institutional researchers should be change agents who provide solutions to problems	119	4.36	1.339	-.646	-.059
I include a subjective component in my outputs	115	2.97	1.386	.188	-.925
Active combined score	114	3.75	.980	-.211	-.368
<i>Passive Statements</i>					
My outputs are always objective	119	4.79	1.057	-.708	-.013
I prefer not to be involved in the decision-making process other than providing information	119	2.59	1.591	.805	-.498
The work of IR should be free of personal philosophy and politics	118	4.84	1.247	-.792	-.553
IR has served its purpose when it has provided information and stimulated reflection	118	4.64	1.224	-.861	.289
Passive combined score	118	4.21	.816	.025	.239
Total combined score	114	3.25	.707	-.535	.159
IR is a powerful resource for decision makers	118	5.53	.813	-2.537	8.858

The second part of understanding the will to influence asked the participants to indicate how much influence they felt they should have on decisions in the following areas: establishing budgets, resource allocation, retention issues, program review, curriculum, and student success programs. Participants felt the strongest about influencing issues related to retention. The mean was high at 5.00 and it had a strong, leptokurtic distribution indicating a good amount of agreement among participants. Program review was the second highest at 4.72 with a moderate distribution of 1.513. The area that they felt they should have the least influence was on curriculum issues. The mean was only 3.39 with a slight platykurtic distribution (Table 14.2 has the responses to all of the issues).

Table 14.2

*Amount of IR Influence: Descriptive Statistics Overall Sample*

	N	M	SD	Skewness	Kurtosis
Establishing budgets	117	3.63	1.483	-.215	-.752
Resource allocation	117	3.83	1.354	-.426	-.386
Retention issues	117	5.00	1.122	-1.379	2.090
Program Review	117	4.90	1.213	-1.303	1.513
Curriculum	117	3.39	1.339	-.030	-.616
Student success programs	117	4.72	1.272	-1.242	1.310

Whether or not institutional researchers have the will to influences decisions does not necessarily mean that they are able to influence decisions. The second part of research question five tried to determine if the participants were able to influence decision-making based on their own reported estimates. This section consisted of 13 statements to which the participants were asked to express their level of agreement. An Ability to Influence combined total score was calculated based on those responses. An additional question asked how much control participants had over their own work and is discussed after the ability to influence questions.

The mean for the Combined Ability to Influence score was 4.10 reflecting a mild confidence in the participants' ability to influence institutional level decisions. The statement with the highest mean, 4.92, was "My data are often used in decision-making." It had a mild leptokurtic distribution of .263 indicating a small level of agreement. Data that comes from IR seemed to be more influential than reports as the statement "My reports are often used in decision-making" ranked third with a mean of 4.79 and a mild leptokurtic distribution, .412. Between these two statements was the statement "Administrators respect my opinion and work" with a mean of 4.92 and a kurtosis of .360. However, the statement "My opinion is often considered in decision-making" only

ranked 10<sup>th</sup> with a mean of 3.89 and a moderate platykurtic distribution of -1.019. It appeared that directly expressing their opinion was less influential than the outputs produced by IR. Of the outputs, their data was slightly more influential than their reports. Even though their outputs were influential, a mean of only 4.14 was achieved for the participants' involvement in framing research questions. This statement and most of the other statements had a mildly flat distribution indicating some variance in the distribution. Participants felt that they did define their institutions for internal and external constituents; the means were 4.45 and 4.47 respectively. When it comes to having a negative or positive impact on projects or departments, the participants took a much more positive view in their responses. The mean for helping projects and department receive funding was 3.54 while causing them to lose funding was only 2.27. Identifying excellence/success had a mean of 4.25 while the mean for identifying issues was only 4.20. IR's role in campus politics appears to be mixed. The statement "I am often asked to provide data that supports the particular view point of a group" was only 3.54 but it was moderately platykurtic, -1.151, indicating that some institutional researchers were asked to participate in politics (Table 13.4 has the complete descriptive statistics for the ability to influence statements).

Table 14.3

*Ability to Influence: Descriptive Statistics Overall Sample*

	N	M	SD	Skewness	Kurtosis
My reports are often used in decision-making	121	4.79	1.322	-1.062	.412
My data are often used in decision-making	120	4.92	1.199	-.996	.263
My opinion is often considered in decision-making	121	3.89	1.532	-.340	-1.019
I feel that faculty respect my opinion and work	120	4.11	1.333	-.375	-.519
Administrators respect my opinion and work	120	4.83	1.079	-.965	.360
Projects and/or departments have lost funding because of my reports	118	2.27	1.394	.773	-.519
Projects and/or departments have received funding because of my reports	118	3.54	1.528	-.471	-.956
My reporting defines our institution to external constituents	120	4.45	1.489	-.764	-.310
My reporting defines our institution to internal constituents	118	4.47	1.424	-.851	-.020
I am involved in helping to frame research questions for decision-making	120	4.14	1.563	-.521	-.810
I help identify issues on campus	119	4.20	1.459	-.591	-.515
I help identify excellence/success on campus	118	4.25	1.503	-.736	-.257
I am often asked to provide data that supports the particular view point of a group	121	3.54	1.618	.016	-1.151
Ability to Influence combined score	121	4.10	.940	-.279	-.641

In seeking to understand how much power and influence institutional researchers had over their own projects and work, the study asked participants to rate how much control they had in the following areas: what projects they work on, how their research is conducted, when the work is due, how data is interpreted, how data is presented, and how their budget is spent. The only two areas with a mean above 4.00 were how their research is conducted (M=4.85, Kurt=.354) and how their data are presented (M=4.63, Kurt=.717). The means for the remaining statements ranged from 3.46 to 3.99, all of which had platykurtic distributions. How the budget is spent had the most variation in distribution, -1.248, which seems reasonable since the overall sample included IR staff and management (the full results can be found in Table 13.4).

Table 14.4

*Control Over Their Own Work: Descriptive Statistics Overall Sample*

How much control do you have over...?	N	M	SD	Skewness	Kurtosis
What projects you work on	118	3.99	1.284	-.329	-.624
How your research is conducted	117	4.85	1.164	-.928	.354
When your work is due	118	3.46	1.292	.156	-.615
How your data are interpreted	118	3.86	1.389	-.298	-.796
How your data are presented	118	4.63	1.161	-.965	.717
How your budget is spent	117	3.86	1.866	-.454	-1.248

To summarize the results of research question five, the participants in the overall sample felt strongly that IR was a powerful resource for decision-making but they were not that active in the decision-making process themselves. In terms of being more active, the participants indicated that they thought IR should be change agents and expressed a desire to be more involved in decision-making. However, they also indicated that they were objective in their work and felt like they have completed their job once they have submitted their work and stimulated reflection. It may be that institutional researchers did not want to influence decisions but wanted to be involved in more decisions through their traditional objective approach. However, it may be difficult to be change agents and maintain their passive approach because influence is needed to create change. Retention, program reviews and student success programs were the areas they felt they should have had the most participation. The participants also indicated that they only had a mild to moderate ability to influence decisions. Data and reports were the most popular way of influencing but their opinions had little influence on decisions. They also felt that they had little to no influence on departments or projects losing funding and only mildly influenced increases in funding. Institutional researchers did not appear to have much influence over their own work other than how the research was conducted and how the



data were presented. In summary, institutional researchers in this study were passive in their will to influence but wanted to be involved with more decision-making through their objective data and reports, but not necessarily in trying to influence decisions.

### **Research Question Six**

“How did institutional researchers’ feelings and attitudes about their role in influencing institutional decisions vary by institutional size, institutional type, job responsibilities, and experience?”

The sixth research question looked at the differences in the will to influence and the ability influence to decisions by comparison groups. This section of the results addresses both the will and the ability of the subgroups. As with the previous comparisons, the results of each subgroup comparison are discussed before discussing the next subgroup comparison. Charts for each grouping are located at the end of each text section. Once again, descriptive statistics and ANOVAs were used to explore the differences in each group.

### **Institutional Size Will and Ability Comparison**

Along with every other subgroup and the overall sample, both the Smaller Institutions group and the Larger Institutions group agreed that IR is a powerful resource for decision-makers. The Smaller Institutions group had a mean of 5.48 for this statement with a considerably stronger leptokurtic distribution of 13.137 compared to the Larger Institutions group whose distribution was a strong 3.855. The Larger Institutions group’s

mean for this statement was 5.57. For the statements reflecting the active influence perspective, there were no statistically significant differences between the groups. The Smaller Institutions group had a lower mean, 3.36, on the statement; “I am an active participant in decision-making” and a higher mean, 4.27, on the statement; “I want to be more involved in the decision-making process.” Both of the statements had a mild platykurtic distribution. The means for the Larger Institutions group for the same statements were; 3.61 and 4.19. The distribution was moderately platykurtic for these statements. The Smaller Institutions group also reported being less subjective in their reports with a mean of 2.98 compared to 3.00 for the Larger Institutions, but felt more strongly about acting as agents of change with a mean of 4.41 compared 4.36. This was the only statement with a leptokurtic distribution, although it was small. The mean for the Active Combined score was 3.75 for the Smaller Institutions group with a range of 4.00, a low of 1.50 and high of 5.50. The mean score for the Larger Institutions group was 3.78. The range of combined scores was 5.00 with a low of 1.00 and a high of 6.00.

For the passive will statements, the Smaller Institutions group had a higher mean on all of the statements although none of the differences in means were statistically different. Both groups felt that their outputs were objective, Public M= 4.86 Private M= 4.74, although the Larger Institutions group had a slightly peaked kurtosis (.347) compared to the even distribution of the Smaller Institutions group (-.015). The highest mean for the Smaller Institutions group was the belief that the work of IR should be free of personal philosophy and politics. Their mean was 5.02 compared to 4.64 of the Larger Institutions group. For this statement the Smaller Institutions group showed more agreement with a leptokurtic distribution of .360 while the Larger Institutions group was

moderately platykurtic (-1.128). Neither group agreed strongly with the statement, “I prefer not to be more involved with decision-making other than providing information.” The Smaller Institutions group was only 2.81 while the Larger Institutions group’s mean was even lower at 2.38. The Passive Combined score was 4.37 for the Smaller Institutions group with a range of 4.37, a low of 3.00 and a high of 6.00. The mean for the Larger Institutions group was 4.03 with a range of 4.25, a low of 1.75 and a high of 6.00. The differences in means for the Passive Combined score is statistically different at the .05 level;  $F(1,114) = 4.526$ ,  $p = .036$ . The effect size was small ( $\eta^2 = .03$ ). The Total Combined score, with the passive scores reversed, were low indicating two very passive groups. The mean for the Smaller Institutions group was 3.18 with a range of 2.63, a low of 1.63 and a high of 4.25. The mean for the Larger Institutions group was a bit higher at 3.33 and a range of 3.63, a low of 1.00 and a high of 4.63 (see Table 15.1 for the descriptive statistics and Table 15.2 for the results of the ANOVAs).

When asked what amount of participation institutional researchers should have on establishing budgets, resource allocation, retention issues, program review, curriculum, and student success seminars, both groups were in agreement about retention issues. The mean for the Smaller Institutions group was 5.02 and the mean for the Larger Institutions group was 5.00. Both had strong leptokurtic distributions of 2.618 and 2.019. Program review had the highest mean for the Larger Institutions group at 5.03 and a moderate kurtosis of 1.658. This was the second highest for the Smaller Institutions group with a mean of 4.78 and a kurtosis of 2.106. Working with student success programs was third for both groups followed by resource allocation, establishing budgets, and curriculum. The means for the curriculum participation was right at the mid-point range for the

Smaller Institutions group that was 3.50 and 3.31 for the Larger Institutions group. The distributions were only mildly platykurtic (-.512, -.459) indicating that some institutional researchers believed they should cross into the territory of faculty and be involved in curriculum issues. None of the differences in means were statistically significant (see Tables 15.3 and 15.4 for the related statistics).

Overall, the Larger Institutions group reported having more ability to influence decision than the Smaller Institutions group. “My reports are often used in decision-making” had the highest mean for the Larger Institutions group. Their mean was 5.05 compared to 4.56 the Smaller Institutions group. The distribution for the Larger Institutions group was slightly leptokurtic at .673 while the Smaller Institutions group was Mesokurtic at -.071. The differences in means for this statement was statistically significant at the .05 level,  $F(1,115)= 4.399$ ,  $p=.038$ . The effect size was small ( $\eta^2=.03$ ). The statement with the highest mean for the Smaller Institutions group was “My data are often used in decision-making” with a mean of 4.79. This was the second highest for the Larger Institutions group,  $M=5.00$ . Most of the statements for the Larger Institutions group had an average near 4.50 while several statements for the Smaller Institutions group were below 4.0. Most of the distributions had a mild kurtosis and were usually platykurtic. Similar to the overall sample, both groups felt they have little influence on departments or projects losing funding as the means were 2.26 for the Smaller Institutions group and 2.22 for the Larger Institutions group. But they did feel like they somewhat helped departments receive funding with 3.50 for the Smaller Institutions group’s mean and 3.55 for the Larger Institutions group’s mean. This pattern repeated itself for the statements about identifying issues and identifying

excellence/success. One other statement had a difference in means that was statistically significant at the .05 level was, “I am involved in helping to frame research questions for decision-making.” The mean for the Smaller Institutions group was 3.85 compared to 4.51 of the Larger Institutions group,  $F(1,114)= 5.436$ ,  $p=.021$ . The effect size was small ( $\eta\text{-squared}= .04$ ). The Ability to Influence Combined score was 3.98 for the Smaller Institutions group and 4.20 for the Larger Institutions group. The range of combined scores for the Smaller Institutions group was 3.83 with a low of 1.82 and a high of 5.75 while the range for the Larger Institutions group was 4.00 with a low of 2.00 and a high of 6.00 (Table 15.5 provides further details about the descriptive statistics and Table 15.6 provides ANOVA information).

When it comes to control over their work, both groups reported only having mild to moderate control. The highest statement was control over how their research was conducted with means of 4.78 for the Smaller Institutions group and 4.93 for the Larger Institutions group. Both distributions were mildly leptokurtic: .288 and .338. The second highest statement was control over how their data were presented with means of 4.51 for Smaller Institutions and 4.74 for Larger Institutions. There were some difference in the distributions as Smaller Institutions group’s distribution was .959 compared to -.099. The area of least control was when their work was due. The Smaller Institutions mean was 3.51 while the Larger Institutions mean was 3.43. Both kurtosis were mild: -.738 and -.379. There were no differences in means that were statistically significant (Table 15.7 provides further details about the descriptive statistics and Table 15.8 provides ANOVA information).

In summary, both groups had only a modest will to influence decisions as they both had higher means on the passive statements than the active statements. The Smaller Institutions group appeared to be less interested in being more active and scored higher on the passive statements. Clearly, both groups believed their outputs should be objective and free of personal philosophy and politics. However, both groups believed that IR could be change agents who provide solutions and also indicated an interest in being more involved in decision-making. Retention, student success and program reviews were the areas they felt they should participate in the most. Institutional researchers' ability to influence appeared to be modest. The most significant way they felt they had influence was through their reports for the Larger Institutions group and their data for the Smaller Institutions group. The Larger Institutions group felt they received more respect from both faculty and administrators than the Smaller Institutions group. Only the Larger Institutions group was involved with framing research questions at a significant level. Both groups seemed to be used for political posturing only slightly and both groups were not very active in identifying issues or causing departments to lose funding. In their own domain, both groups felt they had most control over how their projects were carried out, which seems like it would be closely related to the ability to frame research questions. Finally, participants felt that they had only modest influence on what projects they worked on and when they were due.

Table 15.1

*Will to Influence: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
Active Statements						
I am an active participant in decision-making	Smaller Institutions	59	3.36	1.423	.079	-.850
	Larger Institutions	57	3.61	1.645	-.047	-1.066
I want to be more involved in the decision-making process	Smaller Institutions	59	4.27	1.507	-.544	-.673
	Larger Institutions	58	4.19	1.561	-.355	-1.001
Institutional researchers should be change agents who provide solutions to problems	Smaller Institutions	59	4.41	1.275	-.767	.298
	Larger Institutions	58	4.36	1.410	-.641	-.121
I include a subjective component in my outputs	Smaller Institutions	56	2.98	1.342	.127	-.892
	Larger Institutions	57	3.00	1.439	.223	-.963
Active combined score	Smaller Institutions	56	3.75	.862	-.378	-.363
	Larger Institutions	56	3.78	1.096	-.201	-.475
Passive Statements						
My outputs are always objective	Smaller Institutions	59	4.86	1.106	-.832	-.015
	Larger Institutions	58	4.74	1.001	-.646	.347
I prefer not to be involved in the decision-making process other than providing information	Smaller Institutions	59	2.81	1.655	.686	-.795
	Larger Institutions	58	2.38	1.520	.937	-.130
The work of IR should be free of personal philosophy and politics	Smaller Institutions	58	5.02	1.116	-1.055	.360
	Larger Institutions	58	4.64	1.360	-.519	-1.128
IR has served its purpose when it has provided information and stimulated reflection	Smaller Institutions	58	4.78	1.044	-.585	-.383
	Larger Institutions	58	4.48	1.392	-.812	-.077
Passive combined score	Smaller Institutions	58	4.37	.705	.441	-.329
	Larger Institutions	58	4.06	.897	.032	.189
Total combined score	Smaller Institutions	56	3.18	.618	-.683	-.016
	Larger Institutions	56	3.33	.791	-.619	.186
IR is a powerful resource for decision-makers	Smaller Institutions	58	5.48	.843	-2.949	13.137
	Larger Institutions	58	5.57	.797	-2.063	3.855

Table 15.2

*Will to Influence: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
<b>Active Statements</b>						
I am an active participant in decision-making	Between Groups	1.931	1	1.931	.818	.368
	Within Groups	269.034	114	2.360		
	Total	270.966	115			
I want to be more involved in the decision-making process	Between Groups	.194	1	.194	.083	.774
	Within Groups	270.575	115	2.353		
	Total	270.769	116			
Institutional researchers should be change agents who provide solutions to problems	Between Groups	.058	1	.058	.032	.858
	Within Groups	207.634	115	1.806		
	Total	207.692	116			
I include a subjective component in my outputs	Between Groups	.009	1	.009	.005	.946
	Within Groups	214.982	111	1.937		
	Total	214.991	112			
Active combined score	Between Groups	.027	1	.027	.028	.867
	Within Groups	107.008	110	.973		
	Total	107.035	111			
<b>Passive Statements</b>						
My outputs are always objective	Between Groups	.443	1	.443	.398	.530
	Within Groups	128.036	115	1.113		
	Total	128.479	116			
I prefer not to be involved in the decision-making process other than providing information	Between Groups	5.515	1	5.515	2.183	.142
	Within Groups	290.604	115	2.527		
	Total	296.120	116			
The work of IR should be free of personal philosophy and politics	Between Groups	4.172	1	4.172	2.697	.103
	Within Groups	176.379	114	1.547		
	Total	180.552	115			
IR has served its purpose when it has provided information and stimulated reflection	Between Groups	2.491	1	2.491		
	Within Groups	172.569	114	1.514	1.646	.202
	Total	175.060	115			
Passive combined score	Between Groups	2.950	1	2.950	4.526	.036
	Within Groups	74.319	114	.652		
	Total	77.269	115			
Total combined score	Between Groups	.608	1	.608	1.205	.275
	Within Groups	55.481	110	.504		
	Total	56.089	111			
IR is a powerful resource for decision-makers	Between Groups	.216	1	.216	.320	.573
	Within Groups	76.707	114	.673		
	Total	76.922	115			



Table 15.3

*Amount of IR Influence: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
What amount of participation should IR have in...						
Establishing budgets	Smaller Institutions	58	3.60	1.401	-.319	-.628
	Larger Institutions	58	3.71	1.545	-.167	-.800
Resource allocation	Smaller Institutions	58	3.90	1.334	-.540	-.242
	Larger Institutions	58	3.78	1.390	-.354	-.422
Retention issues	Smaller Institutions	58	5.02	1.084	-1.404	2.618
	Larger Institutions	58	5.00	1.170	-1.430	2.019
Program review	Smaller Institutions	58	4.78	1.170	-1.245	2.016
	Larger Institutions	58	5.03	1.256	-1.497	1.658
Curriculum	Smaller Institutions	58	3.50	1.315	-.384	-.512
	Larger Institutions	58	3.31	1.366	.265	-.459
Student success programs	Smaller Institutions	58	4.72	1.295	-1.370	1.794
	Larger Institutions	58	4.72	1.268	-1.169	1.043

Table 15.4

*Amount of IR Influence: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
What amount of participation should IR have in...						
Establishing budgets	Between Groups	.310	1	.310	.143	.706
	Within Groups	247.897	114	2.175		
	Total	248.207	115			
Resource allocation	Between Groups	.422	1	.422	.228	.634
	Within Groups	211.466	114	1.855		
	Total	211.888	115			
Retention issues	Between Groups	.009	1	.009	.007	.935
	Within Groups	1444.983	114	1.272		
	Total	1444.991	115			
Program review	Between Groups	1.940	1	1.940	1.316	.254
	Within Groups	168.017	114	1.474		
	Total	169.957	115			
Curriculum	Between Groups	1.043	1	1.043	.580	.448
	Within Groups	204.914	114	1.797		
	Total	205.957	115			
Student success programs	Between Groups	.000	1	.000	.000	1.000
	Within Groups	187.175	114	1.642		
	Total	187.172	115			

Table 15.5

*Ability to Influence: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
My reports are often used in decision-making	Smaller Institutions	59	4.56	1.355	-.818	.071
	Larger Institutions	58	5.05	1.176	-1.242	.673
My data are often used in decision-making	Smaller Institutions	58	4.79	1.136	-.693	-.367
	Larger Institutions	58	5.00	1.284	-1.236	.777
My opinion is often considered in decision-making	Smaller Institutions	59	3.80	1.483	-.261	-.982
	Larger Institutions	58	4.02	1.573	-.422	-1.014
I feel that faculty respect my opinion and work	Smaller Institutions	59	3.93	1.244	-.202	-.592
	Larger Institutions	58	4.33	1.369	-.538	-.370
Administrators respect my opinion and work	Smaller Institutions	58	4.71	1.124	-.847	.032
	Larger Institutions	58	4.97	1.059	-1.123	.824
Projects and/or departments have lost funding because of my reports	Smaller Institutions	57	2.26	1.316	.562	-1.027
	Larger Institutions	58	2.22	1.439	1.017	.085
Projects and/or departments have received funding because of my reports	Smaller Institutions	58	3.50	1.417	-.651	-.780
	Larger Institutions	58	3.55	1.602	-.389	-1.067
My reporting defines our institution to external constituents	Smaller Institutions	59	4.54	1.454	-.888	-.039
	Larger Institutions	58	4.31	1.536	-.637	-.503
My reporting defines our institution to internal constituents	Smaller Institutions	59	4.29	1.498	-.610	-.615
	Larger Institutions	56	4.59	1.345	-1.103	.992
I am involved in helping to frame research questions for decision-making	Smaller Institutions	59	3.85	1.649	-.202	-1.116
	Larger Institutions	57	4.51	1.390	-.907	.041
I help identify issues on campus	Smaller Institutions	59	4.05	1.382	-.540	-.431
	Larger Institutions	57	4.37	1.531	-.778	-.340
I help identify excellence/success on campus	Smaller Institutions	58	4.12	1.546	-.681	-.377
	Larger Institutions	57	4.37	1.472	-.812	-.034
I am often asked to provide data that supports the particular viewpoint of a group	Smaller Institutions	59	3.46	1.601	.119	-.979
	Larger Institutions	58	3.50	1.636	.037	-1.235
Ability to Influence Combined score	Smaller Institutions	59	3.98	9.14	-.226	-.479
	Larger Institutions	58	4.20	.955	-.357	-.648

Table 15.6

*Ability to Influence: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
My reports are often used in decision-making	Between Groups	7.091	1	7.091	4.399	.038
	Within Groups	185.387	115	1.612		
	Total	192.479	116			
My data are often used in decision-making	Between Groups	1.241	1	1.241	.845	.360
	Within Groups	167.517	114	1.469		
	Total	168.759	115			
My opinion is often considered in decision-making	Between Groups	1.424	1	1.424	.610	.437
	Within Groups	268.542	115	2.335		
	Total	269.966	116			
I feel that faculty respect my opinion and work	Between Groups	4.572	1	4.572	2.676	.105
	Within Groups	196.505	115	1.709		
	Total	201.077	116			
Administrators respect my opinion and work	Between Groups	1.940	1	1.940	1.627	.205
	Within Groups	135.948	114	1.193		
	Total	137.888	115			
Projects and/or departments have lost funding because of my reports	Between Groups	.044	1	.044	.023	.880
	Within Groups	215.139	113	1.904		
	Total	215.183	114			
Projects and/or departments have received funding because of my reports	Between Groups	.078	1	.078	.034	.854
	Within Groups	260.845	114	2.288		
	Total	260.922	115			
My reporting defines our institution to external constituents	Between Groups	1.575	1	1.575	.704	.403
	Within Groups	257.058	115	2.235		
	Total	258.632	116			
My reporting defines our institution to internal constituents	Between Groups	2.606	1	2.606	1.282	.260
	Within Groups	229.655	113	2.032		
	Total	232.261	114			
I am involved in helping to frame research questions for decision-making	Between Groups	12.679	1	12.679	5.436	.021
	Within Groups	265.873	114	2.332		
	Total	278.552	115			
I help identify issues on campus	Between Groups	2.924	1	2.924	1.377	.243
	Within Groups	242.111	114	2.124		
	Total	245.034	115			
I help identify excellence/success on campus	Between Groups	1.764	1	1.764	.774	.381
	Within Groups	257.418	113	2.278		
	Total	259.183	114			
I am often asked to provide data that supports the particular viewpoint of a group	Between Groups	.053	1	.053	.020	.888
	Within Groups	301.144	115	2.619		
	Total	301.197	116			
Ability to Influence Combined score	Between Groups	1.344	1	1.344	1.537	.218
	Within Groups	100.520	115	.874		
	Total	101.863	116			

Table 15.7

*Control Over Their Own Work: Descriptive Statistics by Institutional Size*

	Student Sample	n	M	SD	Skewness	Kurtosis
How much control do you have over..						
What projects you work on	Smaller Institutions	59	4.02	1.266	-.455	-.302
	Larger Institutions	58	4.00	1.298	-.249	-.773
How your research is conducted	Smaller Institutions	58	4.78	1.257	-.931	.288
	Larger Institutions	58	4.93	1.074	-.915	.338
When your work is due	Smaller Institutions	59	3.51	1.292	.006	-.738
	Larger Institutions	58	3.43	1.299	.281	-.379
How your data are interpreted	Smaller Institutions	59	3.76	1.442	-.317	-.951
	Larger Institutions	58	3.97	1.350	-.245	-.687
How your data are presented	Smaller Institutions	59	4.51	1.237	-1.067	.959
	Larger Institutions	58	4.74	1.085	-.738	-.099
How your budget is spent	Smaller Institutions	59	4.19	1.747	-.718	-.742
	Larger Institutions	57	3.58	1.927	-.241	-1.497

Table 15.8

*Control Over Their Own Work: ANOVA by Institutional Size*

	Source	SS	df	MS	F	Sig.
How much control do you have over..						
What projects you work on	Between Groups	.008	1	.008	.005	9.43
	Within Groups	188.983	115	1.643		
	Total	188.991	116			
How your research is conducted	Between Groups	.698	1	.698	.511	.476
	Within Groups	155.810	114	1.367		
	Total	156.509	115			
When your work is due	Between Groups	.175	1	.175	.105	.747
	Within Groups	192.970	115	1.678		
	Total	193.145	116			
How your data are interpreted	Between Groups	1.203	1	1.203	.616	.434
	Within Groups	224.609	115	1.953		
	Total	225.812	116			
How your data are presented	Between Groups	1.587	1	1.587	1.171	.282
	Within Groups	155.866	115	1.355		
	Total	157.453	116			
How your budget is spent	Between Groups	10.699	1	10.699	3.169	.078
	Within Groups	384.844	114	3.376		
	Total	395.543	115			

### **Institutional Type Will and Ability Comparison**

There were very little differences between public, 4-year institutions and private for-profit, 4-year institutions when comparing institutional researchers' will and ability to influence decision-making. No statistically significant differences were found in any of the means for these sets of statements. For the Will to Influence Total Combined scores, the means for both groups were under the 3.50 mid-point on the agreement scale. The Public group's mean was 3.25 compared to the Private group's mean of 3.12. The range of combined scores for the Public group was 3.63 with a low of 1.00 but a high of only 4.63. The high for the Private group was lower, 4.25, with a low of 1.63 and a range of 2.63. The means for the Passive Combined score was 4.12 for the Public group with a range of 3.50, a low of 2.50 and a high of 6.00. The Private group's mean was 4.33 with a range of 4.25, a low of 1.75 and a high of 6.00. The statement the Private group felt most strongly about was that the work of IR should be free of personal philosophy and politics; the mean was 5.05 with a mild leptokurtic distribution of .632. For the same statement, the Public group's mean was 4.56 and the distribution was platykurtic, -1.082. The Public group's highest statement was; "IR has served its purpose when it has provided information and stimulated reflection." Their mean for this statement was 4.68 with a kurtosis of .956. The mean was higher than the Private group's mean of 4.12 with a kurtosis of -.820. Both groups felt their outputs were mostly objective; the Public group's mean was 4.62 while the Private group's was 4.95. Both responses were slightly leptokurtic: .250 and .200. By having low means for the preferring not to be involved in decision making, both groups inversely indicated some interest in being more active in decision-making.

The Active Combined score means were 3.63 for the Public group and 3.69 for the Private group; both were barely over the mid-point of the scale and had only a slight platykurtic distribution. Institutional researchers in the Private group reported being more active in decision-making and in their desire to be more involved;  $M= 3.38$  and  $M= 4.29$  respectively. The Public group's mean was 3.22 for being actively involved and 4.02 for wanting to be more involved. For all of the active statements, the distribution was mildly platykurtic indicating some level of disagreement. Both groups expressed agreement that IR should be change agents but also disagreed with the statement that they included subjectivity in their work. Strong agreement was expressed with the idea that IR was a powerful resource for decision-makers (Table 16.1 has the descriptive statements for the will to influence statements and Table 16.2 contains the ANOVA information).

Retention issues and program review were the two areas both groups felt IR should be involved to a fairly significant amount. The Private group felt most strongly about retention issues with a mean of 5.10 and strong leptokurtic distribution of 4.297. For the same statement, the Public group's mean was 4.94, also with a strong leptokurtic distribution, 2.292. Involvement in program reviews also brought strong agreement with the Public group. The peaked kurtosis (3.439) surrounded a mean of 4.98, while the mean of the Public group was 4.61 and only slight agreement with a kurtosis of .362. Curriculum issues had a difference in means that was near statistical significance. The Private group felt that it was more acceptable to be involved with curriculum with a mean of 3.61 and only a mildly platykurtic distribution of -.449. The mean on this statement for the Public group was 3.06, also with a mild platykurtic distribution, -.223 (see Tables 16.3 and 16.4 for the descriptive statistics and ANOVA results).

Institutional researchers at public institutions were very similar to institutional researchers who worked at private institutions in their ability to influence decisions. Both groups had a mean of 4.00 for the Ability to Influence combined score with mildly platykurtic distributions. The range of combined scores for the Public group was 3.85 with a low of 1.92 and a high of 5.77. The range for the Private group was slightly more constricted at 3.44 with a low of 2.31 and a high of 5.75. Three statements had reasonably high levels of agreements. “Administrators respect my opinion and work” had a mean of 4.84 for the Public group and 4.90 for the Private group. The Public group had a mild distribution of .522 while the Private group was moderately peaked at 1.040. The next highest was, “My data is often used in decision-making” with a Public group mean of 4.65 and a Private group mean of 4.90. Both distributions were slightly platykurtic. Slightly less agreement was found on the statement, “My reports are often used in decision-making.” The mean for the Public group was 4.62 with a slight platykurtic distribution of -.357. The mean for the Private group was 4.76 with a slight leptokurtic distribution, .590. Despite having their data and reports used in decision-making, the means for “my opinion is often considered in decision-making” were barely above the mid-point range. On this statement, the Public group was higher with a mean of 3.84 and a moderate platykurtic distribution of -1.117. The mean for the Private group was 3.73 and a distribution of -.974. The low means of this statement were in agreement with the high means of providing objective outputs and low means of adding subjectivity. All remaining statements had means below 4.45 and were slightly platykurtic in their distributions. Like the overall sample and the comparisons by institutional size, these groups did not feel they caused projects or departments to lose funding; they did not feel

like they identified issues; and they also had lower means on identifying success and excellence. Both groups felt that they helped define the institution internally and externally and neither were used very much in supporting the viewpoints of various groups (Table 16.5 contains the descriptive statistics followed by the ANOVA results in Table 16.6).

When asked their level of control over their own work, there were two areas that had statistically significant means at the .05 level. The first was control over what projects the participants work on,  $F(1,89)= 3.267, p=.038$ . The effect size was small (eta-squared= .03). The mean for the Public group was 3.72 compared to the Private group mean of 4.20. Control over when the work is due was the other statement,  $F(1,89)= 4.486, p=.040$ . The effect size was small (eta-squared= .04). The mean for the Public group was 3.08 while the mean for the Private group was 3.61. Both had mild platykurtic distributions. Control over due dates was the area with the lowest mean. The area with the highest mean was control over how the research was conducted with a Public mean of 4.62 and Private mean of 4.83. The Private group had moderate agreement with a kurtosis of 1.270 while the Public group's responses were evenly distributed.

Both the Public and the Private groups generally had low means on the will to influence and the ability to influence decisions. The Public group reported a surprisingly low mean for being an active participant in decision-making, but the Private group had a mean only slightly higher for the same statement; both were under 3.50. Both groups felt strongly about remaining objective in their work but the Private group felt particularly strong about keeping personal philosophies and politics out of their work. Involvement in curriculum issues was another area that stood out for the Private Group. The Private



group also felt stronger that their data and reports were used in decision-making but neither group felt that their opinions were considered in the decision-making process. In all, when divided by Public and Private institutions, institutional researchers showed a stronger inclination toward passive participation in decision-making and only mild levels of agreement in their ability to influence decisions.

Table 16.1

*Will to Influence: Descriptive Statistics by Institutional Type*

	Institutional Type	n	M	SD	Skewness	Kurtosis
<b>Active Statements</b>						
I am an active participant in decision-making	Public	50	3.22	1.447	.146	-.557
	Private	40	3.38	1.390	.061	-.976
I want to be more involved in the decision-making process	Public	50	4.02	1.597	-.378	-.986
	Private	41	4.29	1.453	-.438	-.529
Institutional researchers should be change agents who provide solutions to problems	Public	50	4.30	1.474	-.665	-.296
	Private	41	4.51	1.207	-.748	.446
I include a subjective component in my outputs	Public	48	2.98	1.391	.286	-.662
	Private	39	2.74	1.312	.209	-1.138
Active combined score	Public	48	3.63	1.032	-.599	-.468
	Private	38	3.69	.760	-.129	-.808
<b>Passive Statements</b>						
My outputs are always objective	Public	50	4.62	1.008	-.530	.250
	Private	41	4.95	1.094	-.982	.200
I prefer not to be involved in the decision-making process other than providing information	Public	50	2.64	1.626	.763	-.563
	Private	38	2.66	1.575	.802	-.439
The work of IR should be free of personal philosophy and politics	Public	50	4.56	1.296	-.401	-1.082
	Private	40	5.05	1.176	-1.198	.632
IR has served its purpose when it has provided information and stimulated reflection	Public	50	4.68	1.186	-.947	.956
	Private	40	4.63	1.234	-.519	-.820
Passive combined score	Public	50	4.12	.739	.454	.575
	Private	40	4.33	.879	-.299	.781
Total combined score	Public	48	3.25	.753	-.932	.864
	Private	38	3.12	.638	-.576	-.385
IR is a powerful resource for decision makers	Public	50	5.40	.990	-2.473	7.700
	Private	40	5.53	.716	-1.638	2.871

Table 16.2

*Will to Influence: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
Active Statements						
I am an active participant in decision-making	Between Groups	.543	1	.534	.264	.609
	Within Groups	177.955	88	2.022		
	Total	178.489	89			
I want to be more involved in the decision-making process	Between Groups	1.675	1	1.675	.712	.401
	Within Groups	209.468	89	2.354		
	Total	211.143	90			
Institutional researchers should be change agents who provide solutions to problems	Between Groups	1.014	1	1.014	.548	.461
	Within Groups	164.744	89	1.851		
	Total	165.758	90			
I include a subjective component in my outputs	Between Groups	1.194	1	1.194	.649	.423
	Within Groups	156.415	85	1.840		
	Total	157.609	86			
Active combined score	Between Groups	.081	1	.081	.096	.758
	Within Groups	71.515	84	.851		
	Total	71.596	85			
Passive Statements						
My outputs are always objective	Between Groups	2.471	1	2.471	2.252	.137
	Within Groups	97.682	89	1.098		
	Total	100.154	90			
I prefer not to be involved in the decision-making process other than providing information	Between Groups	.008	1	.008	.003	.956
	Within Groups	228.740	89	2.570		
	Total	228.747	90			
The work of IR should be free of personal philosophy and politics	Between Groups	5.336	1	5.336	3.447	.067
	Within Groups	136.220	88	1.548		
	Total	141.556	89			
IR has served its purpose when it has provided information and stimulated reflection	Between Groups	.067	1	.067	.046	.830
	Within Groups	128.255	88	1.457		
	Total	128.322	89			
Passive combined score	Between Groups	1.003	1	1.003	1.550	.758
	Within Groups	56.975	88	.647		
	Total	57.978	89			
Total combined score	Between Groups	.356	1	3.56	.716	.400
	Within Groups	41.747	84	.497		
	Total	42.102	85			
IR is a powerful resource for decision-makers	Between Groups	.347	1	.347	.450	.504
	Within Groups	67.975	88	.772		
	Total	68.322	89			

Table 16.3

*Amount of Influence: Descriptive Statistics by Institutional Type*

	Institutional		M	SD	Skewness	Kurtosis
	Type	n				
What amount of participation should IR have in...						
Establishing budgets	Public	49	3.78	1.636	-.336	-.961
	Private	41	3.51	1.247	-.192	-.201
Resource allocation	Public	49	3.86	1.443	-.737	-.225
	Private	41	3.95	1.264	-3.73	-.126
Retention issues	Public	49	4.94	1.215	-1.551	2.292
	Private	41	5.10	1.044	-1.588	4.297
Program review	Public	49	4.61	1.397	-1.078	.362
	Private	41	4.98	1.060	-1.404	3.439
Curriculum	Public	49	3.06	1.265	.203	-.223
	Private	41	3.61	1.376	-.331	-.449
Student success programs	Public	49	4.65	1.362	-1.445	1.575
	Private	41	4.68	1.331	-1.117	.986

Table 16.4

*Amount of Influence: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
What amount of participation should IR have in...						
Establishing budgets	Between Groups	1.548	1	1.548	.714	.400
	Within Groups	190.775	88	2.168		
	Total	192.322	89			
Resource allocation	Between Groups	.198	1	.198	.106	.745
	Within Groups	163.902	88	1.863		
	Total	164.100	89			
Retention issues	Between Groups	.563	1	.563	.433	.512
	Within Groups	114.426	88	1.300		
	Total	114.989	89			
Program review	Between Groups	2.947	1	2.947	1.871	.175
	Within Groups	138.608	88	1.575		
	Total	141.556	89			
Curriculum	Between Groups	6.716	1	6.716	3.874	.052
	Within Groups	152.572	88	1.734		
	Total	159.289	89			
Student success programs	Between Groups	.020	1	.020	.011	.917
	Within Groups	159.980	88	1.818		
	Total	160.000	89			

Table 16.5

*Ability to Influence: Descriptive Statistics by Institutional Type*

	Institutional					
	Type	n	M	SD	Skewness	Kurtosis
My reports are often used in decision-making	Public	50	4.62	1.455	-.910	-.357
	Private	41	4.76	1.220	-.894	.590
My data are often used in decision-making	Public	49	4.65	1.393	-.788	-.392
	Private	41	4.90	1.136	-.769	-.371
My opinion is often considered in decision-making	Public	50	3.84	1.583	-.273	-1.117
	Private	41	3.73	1.467	-.208	-.974
I feel that faculty respect my opinion and work	Public	50	4.06	1.268	-.117	-.554
	Private	41	4.12	1.269	-.240	-.859
Administrators respect my opinion and work	Public	50	4.84	1.076	-1.00	.522
	Private	41	4.90	.970	-1.008	1.040
Projects and/or departments have lost funding because of my reports	Public	50	2.28	1.356	.744	-.315
	Private	39	2.13	1.361	.747	-.940
Projects and/or departments have received funding because of my reports	Public	50	3.34	1.533	-.180	-.949
	Private	40	3.48	1.467	-.692	-.851
My reporting defines our institution to external constituents	Public	50	4.34	1.465	-.664	-.476
	Private	41	4.44	1.517	-.713	-.267
My reporting defines our institution to internal constituents	Public	48	4.44	1.319	-.758	-.038
	Private	41	4.34	1.460	-.735	.016
I am involved in helping to frame research questions for decision-making	Public	50	4.02	1.574	-.547	-.780
	Private	41	3.90	1.562	-.244	-.982
I help identify issues on campus	Public	50	4.06	1.621	-.550	-.881
	Private	41	4.02	1.351	-.494	-.156
I help identify excellence/success on campus	Public	50	4.18	1.466	-.729	-.218
	Private	40	4.03	1.625	-.571	-.604
I am often asked to provide data that supports the particular viewpoint of a group	Public	50	3.54	1.541	.061	-1.148
	Private	41	3.22	1.605	.348	-.756
Ability to Influence Combined score	Public	50	4.00	.983	-.444	-.564
	Private	41	4.00	.853	.028	-.634

Table 16.6

*Ability to Influence: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
My reports are often used in decision-making	Between Groups	.417	1	.417	.227	.871
	Within Groups	163.341	89	1.835		
	Total	163.758	90			
My data are often used in decision-making	Between Groups	1.388	1	1.388	.844	.515
	Within Groups	144.712	88	1.644		
	Total	146.100	89			
My opinion is often considered in decision-making	Between Groups	.264	1	.264	.113	.708
	Within Groups	208.769	89	2.346		
	Total	209.033	90			
I feel that faculty respect my opinion and work	Between Groups	.086	1	.086	.054	.768
	Within Groups	143.210	89	1.609		
	Total	143.297	90			
Administrators respect my opinion and work	Between Groups	.088	1	.088	.083	.915
	Within Groups	94.330	89	1.060		
	Total	94.418	90			
Projects and/or departments have lost funding because of my reports	Between Groups	.505	1	.505	.274	.557
	Within Groups	160.439	87	1.844		
	Total	160.944	88			
Projects and/or departments have received funding because of my reports	Between Groups	.405	1	.405	.179	.560
	Within Groups	199.195	88	2.264		
	Total	199.600	89			
My reporting defines our institution to external constituents	Between Groups	.221	1	.221	.100	.700
	Within Groups	197.318	89	2.217		
	Total	197.538	90			
My reporting defines our institution to internal constituents	Between Groups	.204	1	.204	.106	.796
	Within Groups	167.032	87	1.920		
	Total	167.236	88			
I am involved in helping to frame research questions for decision-making	Between Groups	.311	1	.311	.126	.670
	Within Groups	220.590	89	2.479		
	Total	220.901	90			
I help identify issues on campus	Between Groups	.029	1	.029	.013	.639
	Within Groups	201.796	89	2.267		
	Total	201.824	90			
I help identify excellence/success on campus	Between Groups	.534	1	.534	.225	.690
	Within Groups	208.355	88	2.368		
	Total	208.889	89			
I am often asked to provide data that supports the particular viewpoint of a group	Between Groups	2.134	1	2.314	.938	.333
	Within Groups	219.444	89	2.466		
	Total	221.758	90			
Ability to Influence Combined score	Between Groups	.000	1	.000	.000	.857
	Within Groups	76.580	89	.860		
	Total	76.580	90			

Table 16.7

*IR Control Over Their Own Work: Descriptive Statistics by Institutional Type*

	Institutional Type	n	M	SD	Skewness	Kurtosis
How much control do you have over..						
What projects you work on	Public	50	3.72	1.230	.084	-.619
	Private	41	4.20	1.269	-.926	.516
How your research is conducted	Public	50	4.62	1.048	-.609	.011
	Private	40	4.83	1.279	-1.282	1.270
When your work is due	Public	50	3.08	1.192	.141	-.276
	Private	41	3.61	1.181	-.132	-.770
How your data are interpreted	Public	50	3.74	1.352	-.174	-.549
	Private	41	3.85	1.406	-.521	-.644
How your data are presented	Public	50	4.62	1.141	-.566	-.543
	Private	41	4.44	1.226	-1.436	1.776
How your budget is spent	Public	49	3.57	1.756	-.389	-1.274
	Private	41	4.17	1.856	-.706	-.850

Table 16.8

*IR Control Over Their Own Work: ANOVA by Institutional Type*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
How much control do you have over..						
What projects you work on	Between Groups	5.085	1	5.085	3.267	.038
	Within Groups	138.519	89	1.556		
	Total	143.604	90			
How your research is conducted	Between Groups	.934	1	.934	.699	.166
	Within Groups	117.555	88	1.336		
	Total	118.489	89			
When your work is due	Between Groups	6.322	1	6.322	4.486	.040
	Within Groups	125.436	89	1.409		
	Total	131.758	90			
How your data are interpreted	Between Groups	.291	1	.291	.153	.573
	Within Groups	168.742	89	1.896		
	Total	169.033	90			
How your data are presented	Between Groups	.738	1	.738	.530	.542
	Within Groups	123.878	89	1.392		
	Total	124.615	90			
How your budget is spent	Between Groups	8.017	1	8.017	2.469	.076
	Within Groups	285.805	88	3.248		
	Total	293.822	89			

## **Job Description Will and Ability Comparison**

Institutional researchers who were not in management did not indicate having much of a will to influence decisions. None of the means for the active statements for the IR Staff group were above 3.93. The mean for the statement, "I am an active participant in decision-making had a very low mean of 2.90 and only a mildly platykurtic distribution of -.499, which indicated that not many participants strayed too far from the mean. More participants in the IR Staff group desired to be more involved, but the mean for this statement was only 3.79; it had a broader distribution of -1.021. The belief that institutional researchers should be change agents had a mean of 3.93 with a moderate platykurtic distribution of -1.019. In comparison, the statement with the highest mean for the IR Manager group was "I want to be more involved" and had a mean of 4.42 but a slightly platykurtic distribution. There was more agreement about IR acting as change agents as the mean was 4.39 with a slight leptokurtic distribution. IR managers barely had a mean over the midpoint for the statement "I am active participant in decision-making." The mean was 3.59 and had a mild platykurtic distribution of -.972. However this mean had a statistically significant difference from the mean of the IR Staff at the .05 level,  $F(1,93)=4.300, p=.039$ . The effect size was small ( $\eta^2=.04$ ). The Active Combined score for the IR Staff group was below the midpoint at 3.37. The range of combined scores was 4.23, the low was 1.00, and the high was 5.23. The mean for the IR Manager group on the Active Combined score was 3.83 with a range of 4.00. The low was 1.50 and the high was 5.50. Both groups had very low means for including a subjective component in their work and neither group indicated much will to actively

influence decisions on any statements. However, the IR Manager group had higher means on every statement.

As could be expected based on the active means, the IR Staff had higher means on all of the passive statements except one; “My outputs are always objective.” The mean for the IR Staff group was 4.72 with a mild platykurtic distribution while the IR Manager group had a mean of 4.87 with a small leptokurtic distribution. Both groups showed strong agreement that the work of IR should be free of personal philosophy and politics and that IR has served its purpose once it provides information and stimulated reflection. The means for the IR Staff group were 4.93 and 4.79 respectively. In comparison, the IR Manager group’s means were 4.82 and 4.79. These responses for both groups were mildly platykurtic for the first statement and mildly leptokurtic for the second. For the statement, “I prefer not to be involved in decision-making other than providing information,” the IR Staff had a mean of 3.10 with a moderate distribution of -1.253 while the IR Manager group had a mean of 2.46 and a very mild platykurtic distribution, -.181. The Passive Combined score for the IR Staff group was 4.38 with a range of 3.50, a low of 2.50 and a high of 6.00. The mean for the IR Manager group was 4.18 with the same range, low and high as the IR Staff group. The Total Combined score for the IR Staff was 3.00 with a range of 3.63, a low of 1.00 and a high of 4.63. IR Manager’s had a mean of 3.31, a range of 3.00, a low of 1.63 and high of 4.63, There was a statistically significant difference in the means,  $F(1,91)=3.870$ ,  $p=.046$ . The effect size was small ( $\eta^2=.04$ ) (Table 17.1 has the descriptive statistics for this group and Table 17.2 has the results of the ANOVA).



Like the previous comparison groups, the IR Staff and the IR Manager groups selected retention issues as the area in which they should be most actively involved. This was followed by program review, student success programs, resource allocation, establishing budgets, and curriculum. The mean for the retention issues was 4.93 with a mild leptokurtic distribution of .374 while the IR Manager group's mean was 5.02 and a strong leptokurtic distribution of 3.156. Issues with program review ranked second (IR Staff M= 4.90, IR Manager M=4.80) but there was more agreement with student success program participation. The means were 4.66 and 4.79 with leptokurtic distributions of .365 and 2.408. Neither of the means for the curriculum issues were above the 3.50 midpoint (see Tables 17.3 and 17.4 for more statistical information).

IR Staff indicated that there were two areas in which they felt strongly about having the ability to influence decisions: the use of their reports (M=5.07) and data (M=5.03) in decision making. Both of the statements had a mild leptokurtic distribution. By comparison, the IR Manager group's means were 4.76 and 4.94. These statements were the highest rated for both groups and the only two statements (other than causing programs and departments to lose funding) in which the IR Staff had higher means than the IR Managers. Two other statements were also rated fairly high for the IR managers. The first was, "Administrators respect my opinion." The IR Manager group had a mean of 4.80 and a mesokurtic distribution, .070, whereas the IR Staff group had a mean of 4.55 and distribution of -.094. The other statement with a high mean was, "My reporting defines our institution to external constituents," which had a mean of 4.73 and leptokurtic distribution of .412 for the IR Manager group and a mean of 4.03 with a moderate platykurtic distribution for the IR Staff group. Again, neither group felt they had

influence on departments or projects losing funding or in identifying issues on campus. Nor did they feel departments or projects received funding because of them, although the IR Managers moderately felt that they did help identify success (IR Manager M=4.30, IR Staff M=3.66). Being asked to provide data to support for a particular viewpoint was low for both groups with means under the 3.50 midpoint. Both groups felt they had mild influence on framing research questions; the IR Staff group's mean was 3.79 with a moderate distribution of -1.117, whereas the IR Manager group's mean was 4.20 with a mild distribution of -.491. There was no statistically significant difference between any of the means. IR Managers had a higher mean on the Ability to Influence combined score, 4.11 with a mild platykurtic distribution of -.269. Their range for combined scores was 3.83 with a low of 1.92 and a high of 4.75. The mean for the IR Staff group was 3.88 with a mild platykurtic distribution of -.682. The range was 3.77; the low was 2.00 and the high was 5.77 (the complete statistical information can be found on Tables 17.3 and 17.4).

IR Managers have more control over their projects, how research is conducted, due dates, data interpretation, data presentation, and their budget than the IR Staff. The area in which they had the most control over was how they conduct research. The mean for the IR Managers was 4.99 (Kurt= -.429) but the mean for the IR Staff was 4.41 (Kurt= -.014). The next highest area was control over how their data was presented. The IR Manager mean was 4.67 and the IR Staff mean was 4.38. How the budget was spent was their third highest area with the IR Managers group having a mean of 4.39 compared to 2.34 for the IR Staff group. The difference in mean was a statistically significant difference at the .05 level;  $F(1,93)= 31.941, p=.001$ . The effect size was medium (eta-

squared=.25). Two other areas also had statistically significant differences. Determining what projects they work on had means of 4.16 for the IR Managers and 3.52 for the IR Staff;  $F(1,94)=5.438$ ,  $p=.023$ . The effect size was small ( $\eta$ -squared=.05). How their data is interpreted was the last area with a significant difference. The IR Manager mean was 4.06 while the IR Staff group's mean was 3.38;  $F(1,94)=4.720$ ,  $p=.024$ . The effect size was small ( $\eta$ -squared=.04) (Table 17.5 has the descriptive statistics for the areas of control. Table 17.6 has the related ANOVA results).

To summarize the results for the comparison of IR Staff and IR Managers, the IR Manager group had more will and ability to influence decisions than the IR Staff, which was not surprising considering the inherent differences in positions. IR Staff had a very low mean for their active participation in decision-making and less desire to be involved than the IR Manager group. How similar the two groups were in their agreement with the passive influence statements was somewhat surprising. This can be seen as an affirmation that passive and objective approach to institutional research is common with the profession in general rather than being related to the position within institutional research. Both groups felt that IR should be involved with issues related to retention, program reviews and student success. Regarding the ability to influence decision-making, both groups felt that their reports and data were the strongest ways they influence, but the IR Staff group's means were higher than the IR Managers group. This could possibly be because the IR Staff group had fewer ways of influencing so that their reports and data were rated higher or it could mean that IR Managers group produced fewer reports and less data and see it as a less significant part of their job. IR Managers also had high means in the respect they receive from administrators and in their role in defining the

institution for external constituents. Within the IR office, both groups indicated that they had the most influence over how their work is conducted and how their data is presented.

Table 17.1

*Will to Influence: Descriptive Statistics by Job Description*

	Job Description	n	M	SD	Skewness	Kurtosis
Active Statements						
I am an active participant in decision-making	IR Staff	29	2.90	1.372	.377	-.499
	IR Manager	66	3.59	1.549	-.124	-.972
I want to be more involved in the decision-making process	IR Staff	29	3.79	1.497	.174	-1.021
	IR Manager	67	4.42	1.509	-.724	-.400
Institutional researchers should be change agents who provide solutions to problems	IR Staff	29	3.93	1.646	-.347	-1.019
	IR Manager	67	4.39	1.243	-.639	.257
I include a subjective component in my outputs	IR Staff	28	2.82	1.634	.473	-.950
	IR Manager	66	2.97	1.189	.060	-.949
Active combined score	IR Staff	28	3.37	1.102	-.007	-.715
	IR Manager	65	3.83	.874	-.460	-.391
Passive Statements						
My outputs are always objective	IR Staff	29	4.72	1.099	-.446	-.331
	IR Manager	67	4.87	1.028	-.929	.489
I prefer not to be involved in the decision-making process other than providing information	IR Staff	29	3.10	1.633	.192	-1.253
	IR Manager	67	2.46	1.531	.922	-.181
The work of IR should be free of personal philosophy and politics	IR Staff	29	4.93	1.280	-.851	-.647
	IR Manager	67	4.82	1.230	-.755	-.573
IR has served its purpose when it has provided information and stimulated reflection	IR Staff	29	4.79	1.424	-1.203	.705
	IR Manager	67	4.58	1.130	-.794	.550
Passive combined score	IR Staff	29	4.38	.838	-.372	.246
	IR Manager	67	4.18	.751	.353	-.095
Total combined score	IR Staff	28	3.00	.802	-.033	.325
	IR Manager	65	3.31	.652	-.614	.229
IR is a powerful resource for decision makers	IR Staff	29	5.48	.911	-1.771	2.262
	IR Manager	66	5.52	.864	-2.856	11.263

Table 17.2

*Will to Influence: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
Active Statements						
I am an active participant in decision-making	Between Groups	9.714	1	9.714	4.300	.039
	Within Groups	208.644	93	2.243		
	Total	218.358	94			
I want to be more involved in the decision-making process	Between Groups	7.901	1	7.901	3.486	.052
	Within Groups	213.057	94	2.267		
	Total	220.958	95			
Institutional researchers should be change agents who provide solutions to problems	Between Groups	4.227	1	4.227	2.235	.252
	Within Groups	177.773	94	1.891		
	Total	182.000	95			
I include a subjective component in my outputs	Between Groups	.432	1	.432	.242	.451
	Within Groups	164.047	92	1.783		
	Total	164.479	93			
Active combined score	Between Groups	4.065	1	4.065	4.528	.068
	Within Groups	81.701	91	.898		
	Total	85.766	92			
Passive Statements						
My outputs are always objective	Between Groups	.405	1	.405	.368	.492
	Within Groups	103.584	94	1.102		
	Total	103.990	95			
I prefer not to be involved in the decision-making process other than providing information	Between Groups	8.310	1	8.310	3.406	.066
	Within Groups	229.346	94	2.440		
	Total	237.656	95			
The work of IR should be free of personal philosophy and politics	Between Groups	.246	1	.246	.158	.571
	Within Groups	145.713	94	1.550		
	Total	145.958	95			
IR has served its purpose when it has provided information and stimulated reflection	Between Groups	.901	1	.901	.601	.176
	Within Groups	141.057	94	1.501		
	Total	141.958	95			
Passive combined score	Between Groups	.851	1	.851	1.403	.158
	Within Groups	57.021	94	.607		
	Total	57.872	95			
Total combined score	Between Groups	1.899	1	1.899	3.870	.046
	Within Groups	44.660	91	.491		
	Total	46.559	92			
IR is a powerful resource for decision-makers	Between Groups	.021	1	.021	.027	.900
	Within Groups	71.726	93	.771		
	Total	71.747	94			

Table 17.3

*Amount of Influence: Descriptive Statistics by Job Description*

	Job Description	n	M	SD	Skewness	Kurtosis
What amount of participation should IR have in...						
Establishing budgets	IR Staff	29	3.79	1.677	-.235	-1.002
	IR Manager	66	3.53	1.480	-.252	-.823
Resource allocation	IR Staff	29	3.72	1.461	-.441	-.721
	IR Manager	66	3.79	1.387	-.320	-.515
Retention issues	IR Staff	29	4.93	1.252	-1.153	.374
	IR Manager	66	5.02	1.015	-1.396	3.156
Program review	IR Staff	29	4.90	1.345	-1.122	.137
	IR Manager	66	4.80	1.180	-1.170	1.567
Curriculum	IR Staff	29	3.38	1.590	.065	-1.089
	IR Manager	66	3.23	1.200	-.070	-.289
Student success programs	IR Staff	29	4.66	1.370	-1.021	.365
	IR Manager	66	4.79	1.234	-1.505	2.408

Table 17.4

*Amount of Influence: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
What amount of participation should IR have in...						
Establishing budgets	Between Groups	1.391	1	1.391	.585	.456
	Within Groups	221.198	93	2.378		
	Total	222.589	94			
Resource allocation	Between Groups	.082	1	.082	.041	.934
	Within Groups	184.823	93	1.987		
	Total	184.905	94			
Retention issues	Between Groups	.143	1	.143	.120	.888
	Within Groups	110.847	93	1.192		
	Total	100.989	94			
Program review	Between Groups	.176	1	.176	.116	.444
	Within Groups	141.129	93	1.518		
	Total	141.305	94			
Curriculum	Between Groups	.466	1	.466	.263	.681
	Within Groups	164.418	93	1.768		
	Total	164.884	94			
Student success programs	Between Groups	.355	1	.355	.218	.798
	Within Groups	151.582	93	1.630		
	Total	151.937	94			

Table 17.5

*Ability to Influence: Descriptive Statistics by Job Description*

	Job Description	n	M	SD	Skewness	Kurtosis
My reports are often used in decision-making	IR Staff	29	5.07	1.252	-1.313	.785
	IR Manager	67	4.76	1.256	-.901	.207
My data are often used in decision-making	IR Staff	29	5.03	1.267	-1.200	.450
	IR Manager	66	4.94	1.108	-.788	-.433
My opinion is often considered in decision-making	IR Staff	29	3.31	1.628	-.008	-1.315
	IR Manager	67	3.96	1.451	-.350	-.963
I feel that faculty respect my opinion and work	IR Staff	29	3.97	1.349	-.308	-.466
	IR Manager	66	3.98	1.353	-.126	-.738
Administrators respect my opinion and work	IR Staff	29	4.55	1.152	-.662	-.094
	IR Manager	66	4.80	1.140	-.949	.070
Projects and/or departments have lost funding because of my reports	IR Staff	29	2.28	1.461	.884	-.175
	IR Manager	64	2.23	1.269	.696	-.632
Projects and/or departments have received funding because of my reports	IR Staff	29	3.38	1.545	-.381	-1.048
	IR Manager	65	3.52	1.491	-.470	-.923
My reporting defines our institution to external constituents	IR Staff	29	4.03	1.721	-.418	-1.081
	IR Manager	66	4.73	1.296	-.959	.412
My reporting defines our institution to internal constituents	IR Staff	28	4.43	1.526	-.932	.085
	IR Manager	65	4.45	1.358	-.751	-.161
I am involved in helping to frame research questions for decision-making	IR Staff	29	3.79	1.634	-.223	-1.117
	IR Manager	66	4.20	1.521	-.642	-.491
I help identify issues on campus	IR Staff	29	3.66	1.565	-.339	-.870
	IR Manager	65	4.18	1.402	-.586	-.391
I help identify excellence/success on campus	IR Staff	29	3.66	1.758	-.150	-1.190
	IR Manager	64	4.30	1.388	-.961	.562
I am often asked to provide data that supports the particular viewpoints of a group	IR Staff	29	3.34	1.758	.531	-1.145
	IR Manager	67	3.45	1.530	-.068	-1.013
Ability to Influence Combined score	IR Staff	29	3.88	.975	.021	-.682
	IR Manager	67	4.11	.896	-.553	-.269

Table 17.6

*Ability to Influence: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
My reports are often used in decision-making	Between Groups	1.917	1	1.917	1.217	.179
	Within Groups	148.041	94	1.575		
	Total	149.958	95			
My data are often used in decision-making	Between Groups	.182	1	.182	.136	.467
	Within Groups	124.723	93	1.341		
	Total	124.905	94			
My opinion is often considered in decision-making	Between Groups	8.417	1	8.417	3.713	.070
	Within Groups	213.073	94	2.267		
	Total	221.490	95			
I feel that faculty respect my opinion and work	Between Groups	.008	1	.008	.004	.987
	Within Groups	169.950	93	1.827		
	Total	169.958	94			
Administrators respect my opinion and work	Between Groups	1.272	1	1.272	.973	.236
	Within Groups	121.612	93	1.308		
	Total	122.884	94			
Projects and/or departments have lost funding because of my reports	Between Groups	.034	1	.034	.019	.910
	Within Groups	161.277	91	1.772		
	Total	161.312	92			
Projects and/or departments have received funding because of my reports	Between Groups	.414	1	.414	.182	.671
	Within Groups	209.043	92	2.272		
	Total	209.457	93			
My reporting defines our institution to external constituents	Between Groups	9.670	1	9.670	4.682	.079
	Within Groups	192.056	93	2.065		
	Total	201.726	94			
My reporting defines our institution to internal constituents	Between Groups	.006	1	.006	.003	.890
	Within Groups	180.919	91	1.988		
	Total	180.925	92			
I am involved in helping to frame research questions for decision-making	Between Groups	3.286	1	3.286	1.357	.260
	Within Groups	225.198	93	2.421		
	Total	228.484	94			
I help identify issues on campus	Between Groups	5.621	1	5.621	2.661	.126
	Within Groups	194.336	92	2.112		
	Total	199.597	93			
I help identify excellence/success on campus	Between Groups	8.218	1	8.218	3.597	.091
	Within Groups	207.911	91	2.285		
	Total	216.129	92			
I am often asked to provide data that supports the particular viewpoints of a group	Between Groups	.214	1	.214	.084	.635
	Within Groups	241.119	94	2.565		
	Total	241.333	95			
Ability to Influence Combined score	Between Groups	1.129	1	1.129	1.331	.237
	Within Groups	79.741	94	.848		
	Total	80.870	95			



Table 17.7

*IR Control Over Their Own Work: Descriptive Statistics by Job Description*

	Job Description	n	M	SD	Skewness	Kurtosis
How much control do you have over..						
What projects you work on	IR Staff	29	3.52	1.271	-.322	-.470
	IR Manager	67	4.16	1.238	-.470	-.487
How your research is conducted						
When your work is due	IR Staff	29	4.41	1.402	-.813	-.014
	IR Manager	67	4.99	1.121	-.834	-.429
How your data are interpreted						
How your data are presented	IR Staff	29	3.07	1.252	.214	-.253
	IR Manager	67	3.54	1.247	-.015	-.654
How your budget is spent						
How your budget is spent	IR Staff	29	3.38	1.293	-.033	-.679
	IR Manager	67	4.06	1.455	-.472	-.865
How your budget is spent	IR Staff	29	4.38	1.347	-.759	.034
	IR Manager	67	4.67	1.160	-1.003	.841
How your budget is spent	IR Staff	29	2.34	1.565	.580	-1.292
	IR Manager	66	4.39	1.654	-.976	-.186

Table 17.8

*IR Control Over Their Own Work: ANOVA by Job Description*

	Source	SS	df	MS	F	Kruskal-Wallis Sig.
How much control do you have over..						
What projects you work on	Between Groups	8.471	1	8.471	5.438	.023
	Within Groups	146.435	94	1.558		
	Total	154.906	95			
How your research is conducted						
When your work is due	Between Groups	6.605	1	6.605	4.499	.052
	Within Groups	138.020	94	1.468		
	Total	144.625	95			
How your data are interpreted						
How your data are presented	Between Groups	4.440	1	4.440		
	Within Groups	146.519	94	1.559	2.848	.101
	Total	150.958	95			
How your data are presented						
How your data are presented	Between Groups	9.370	1	9.370	4.720	.024
	Within Groups	186.589	94	1.985		
	Total	195.958	95			
How your budget is spent						
How your budget is spent	Between Groups	1.730	1	1.730	1.165	.338
	Within Groups	139.604	94	1.485		
	Total	141.333	95			
How your budget is spent						
How your budget is spent	Between Groups	84.596	1	84.896	31.941	.000
	Within Groups	246.309	93	2.648		
	Total	330.905	94			

## **IR Managers by Institutional Type Will and Ability Comparison**

Only two of the four active will to influence statements had means over 3.50 when IR managers of public institutions were compared to IR managers of private institutions. The statement “Institutional researchers should be change agents who provide solutions to problems” had a mean of 4.37 and a leptokurtic distribution of .331 for the Public Manager group. The Private Manager group had a mean of 4.52 and a slightly more leptokurtic distribution of .897 for the same statement. The other statement with a mean above 3.50 was “I want to be more involved in the decision-making process.” The mean for the Public Manager group was 4.30 with a slight platykurtic distribution of -.435 whereas the Private Manager group’s mean was 4.40 with a distribution of -.685. Neither group considered themselves to be active participants in decision-making as the mean for the Public Manager group was 3.41 with a distribution of -.801 and the mean for the Private Manager group was 3.50 with a distribution of -.835. Adding subjective components to outputs was something else, neither group engaged in as indicated by the low means of 2.92 for the Public Managers and 2.84 for the Private Managers. The Public Manager groups’ Active Combined score was 3.74 with a range of 3.50, a minimum of 1.50, and a maximum of 5.00. For the Private Manager group, the mean was 3.79, the range was 3.00, the minimum was 2.25, and the maximum was 5.25. None of the statements that measured the will to influence decisions had a difference of means that was statistically significant; although it appeared that the Private Manager group had slightly more desire to influence decisions than the Public Manager group.

At the same time, the Private Manager group also reported being more passive in the decision making process as their means were higher on all of the passive statements. The statement with the highest means was “My outputs are always objective” with means of 4.67 for the Public Managers and 5.12 for the Private Managers. Both distributions were slightly leptokurtic. “The work of IR should be free of personal philosophy and politics” had means of 4.48 for the Public Managers and 5.04 for the Private Managers. It was the second highest for the Private Managers but only third for the Public Managers. The Public Managers had more variety in their distribution, which was -1.075 compared to -.550 for the Private Managers group. The Public Managers felt more strongly that IR had served its purpose when it provided information and stimulated reflection. Their mean was 4.56 with a mesokurtic distribution of -.066 compared to a mean of 4.64 and a moderate platykurtic distribution of -1.107 for the Private Managers. Again, both groups expressed their desire to be involved in decision-making by having low means in the statement “I prefer not to be involved in the decision-making process other than providing information.” The Public Manager’s mean was 2.37 while the Private Manager group’s was 2.76. The Passive Combined score was 4.01 for the Public Manager group with a narrow range of 2.25, a low of 3.00 and a high of 5.25. The Mean for the Private Manager group was 4.39 with a range of 3.00, a low of 3.00 and a high of 6.00. Despite having a lower Active combined score, the Public Manager group had a higher Total Combined mean, which indicated an overall desire to be more active. Their mean was 3.35 with a range of 2.63, a low of 1.75 and a high of 4.38 whereas the Private Manager group had a mean of 3.17, a range of 2.25, a low of 1.63, and a high of 3.88. Both groups

strongly felt that IR was a powerful resource for decision-makers (see Table 18.1 for the descriptive data and Table 18.2 for the results of the ANOVA).

Both the Public Manager group and the Private Manager group felt strongly that they should be involved in retention issues. The means for this statement were 4.96 and 5.08 respectively. The Public Manager group's distribution was a moderate 1.260 but the Private Manager group's distribution was a strong 5.458. Both groups also felt strongly about being involved with student success programs and program reviews. For student success programs, the mean was 4.77 for the Public Managers and 4.76 for the Private Managers and both had strong leptokurtic distributions of 2.328 and 2.695. On program reviews, the mean was 4.42 for the Public Managers and 4.92 for the Private Managers. The Private Managers group had a strong leptokurtic distribution of 3.743 but the Public Manager's distribution was only .394. The groups felt less strongly about establishing budgets and resource allocations with means between 3.50 and 3.95. There was, however, a statistically significant difference of means, at the .05 level for involvement in curriculum issues,  $F(1,49)=4.611$ ,  $p=.037$ . The effect size was small ( $\eta^2=.086$ ). The Public Manager group's mean was 2.92 compared to 3.64 for the Private Manager group. Both distributions were mildly platykurtic (see Tables 18.3 and 18.4 for the complete statistics).

When it comes to the ability to influence decisions, the Private Manager group had a higher mean on seven statements, the Public group had higher means on four statements, and the two groups were near equal on three statements. There were no differences in means that were statistically significant at the .05 level. The Private Managers had higher means on the statements regarding the use of their data and reports

for decision making. Their mean was 4.80 with a moderately platykurtic distribution, -1.253, for the use of reports compared to 4.48 for the Public manager group with a slight platykurtic distribution, -.356. The highest of all the statements, with a mean of 5.00, was for the use of data in decision-making for the Private Managers. For the same statement, the Public group mean was 4.69 and both groups' distribution were nearly equal. Neither group felt that their opinion was considered in decision-making with means of 3.81 for the Public Managers and 3.92 for the Private Managers. For this statement, the Public Managers showed less agreement with distribution of -1.104 compared to -.724 for the Private Managers group. Again, the Private Manager group showed higher means for faculty and administrators respecting their opinion and work. Both groups felt like they received more respect from administrators than faculty. The Public Managers had higher means for the statement regarding departments and/or projects receiving or losing funding because of their work, although neither statement for either group was very high. The mean for departments receiving funding was 3.52 for the Public Manager group and 3.29 for the Private Manager group who also had greater distribution in their responses. Both groups had low means for identifying issues on compass but the Private Manager group was slightly higher, 4.12 compared to 3.93 but they were near equal on identifying excellence or success, (Public Manager M= 4.19, Private Manager M=4.17). The Public Manager group felt more strongly that their reports defined their institution to external constituents with a mean of 4.96, which was the highest mean for the Public Managers and had a mild leptokurtic distribution of .863. For the same statements, the Private Manager group's mean was 4.64 with a distribution of -.255. The two groups were nearly equal on defining their institutions for internal constituents, 4.46 and 4.44. The last area

in which the Public group reported a higher mean was in providing data to support a particular group's viewpoint but the mean was only barely above the midpoint range at 3.56. The moderate platykurtic distribution, -1.068 indicated that some Public Managers were asked to be involved with campus politics. The mean for the Private Managers was 3.32 with a mild platykurtic distribution, -.782. The last area for which the Private Manager group reported having more ability to influence was in helping to frame research questions. Their mean was 4.24 compared to the Public Manager group's mean of 3.81. The Public Managers also had a broader distribution, -1.040. On the Ability to Influence Combined score measure, the means for the two groups were very close. The mean for the Public Manager group was 4.04 with a mild platykurtic distribution of -.556, and the mean for the Private Manager group was 4.08 with a slight leptokurtic distribution of .127. The range for combined scores for the Public Manager group was 3.28 with a low of 1.92 and a high of 5.31. For the Private Manager group, the range was 3.44 with a low of 2.31 and a high of 5.75 (see Tables 18.5 and 18.6 for the corresponding descriptive statistics and ANOVA results).

The Private Managers reported having more control over all measured areas of their work. How their work is conducted was the area with the highest means of 5.20 and a mild leptokurtic distribution, 1.350. The mean for the Public Managers was 4.59 with a mild platykurtic distribution of -.645. The difference in means was statistically significant at the .05 level,  $F(1,50)=4.237$ ,  $p=.045$ . The effect size was small ( $\eta^2=.07$ ). How the budget is spent was the next highest and also had a statistically significant difference in means,  $F(1,49)=6.975$ ,  $p=.011$ . The effect size was small ( $\eta^2=.12$ ). The mean for the Private Manager group was 5.00 compared to the Public Manager group at 3.92.

The Private Managers were also in strong agreement as their distribution was 3.436. The Private Managers were also in good agreement over how their data was presented with a leptokurtic distribution of 2.681 around the mean of 4.64. The mean for the Public Managers was 4.53 with a mild platykurtic distribution of -.509. The remaining areas of control had means below the 4.0 mark with the exception of what projects the Private group worked on. The means for that statement was 4.44. The remaining means, in descending order are what projects IR works on, how data are interpreted, and when their work was due (the complete descriptive statistics for the areas of control can be found on Table 18.7 while the ANOVA results can be found on Table 18.8)

In general, the Public and Private Manager groups were very similar. Although the Private Managers had a slightly higher combined active score, they were considerably higher on the passive combined score so that the total combined score for the Public Manager group was higher than the Private Managers. The Public Managers indicated that they were slightly more subjective, less objective and perhaps more open to IR moving beyond the traditional role of just providing data for discussion. Retention issues and student success programs were areas that both groups felt were important to be involved in but they differed significantly on their involvement with curriculum issues. The Private Manager group was much more interested in being involved in this area. The data and reports were the ways both groups reported to have the most ability to influence decisions but the Public Manager group had more influence in programs receiving or losing funding. They were also more likely to be used as a resource in campus politics by providing supporting data. The two groups were very close on the Ability to Influence combined score. There were differences between how much control they had in their own

areas. How research was conducted and how the budget was spent were the two areas where the difference was statistically significant with the Private Managers having the higher means. Overall, the Private Managers reported more control over all of the various areas related to their work.

Table 18.1

*Will to Influence: Descriptive Statistics IR Managers by Institutional Type*

	Manager Type	n	M	SD	Skewness	Kurtosis
Active Statements						
I am an active participant in decision-making	Public Manager	27	3.41	1.500	-.103	-.801
	Private Manager	24	3.50	1.383	-.269	-.835
I want to be more involved in the decision-making process	Public Manager	27	4.30	1.564	-.730	-.435
	Private Manager	25	4.40	1.658	-.644	-.685
Institutional researchers should be change agents who provide solutions to problems	Public Manager	27	4.37	1.334	-.748	.331
	Private Manager	25	4.52	1.262	-.860	.897
I include a subjective component in my outputs	Public Manager	26	2.92	1.294	.033	-1.127
	Private Manager	25	2.84	1.068	.120	-.868
Active combined score	Public Manager	26	3.74	.973	-.594	-.557
	Private Manager	24	3.79	.761	-.424	-.443
Passive Statements						
My outputs are always objective	Public Manager	27	4.67	1.109	-.913	.758
	Private Manager	25	5.12	.971	-1.146	.685
I prefer not to be involved in the decision-making process other than providing information	Public Manager	27	2.37	1.497	1.013	.093
	Private Manager	25	2.76	1.715	.675	-.668
The work of IR should be free of personal philosophy and politics	Public Manager	27	4.48	1.397	-.507	-1.075
	Private Manager	25	5.04	.978	-.666	-.550
IR has served its purpose when it has provided information and stimulated reflection	Public Manager	27	4.56	1.050	-.481	-.066
	Private Manager	25	4.64	1.075	-.286	-1.107
Passive combined score	Public Manager	27	4.01	.616	.291	-.554
	Private Manager	25	4.39	.794	.626	-.185
Total combined score	Public Manager	26	3.35	.641	-.814	.354
	Private Manager	24	3.17	.667	-1.112	.252
IR is a powerful resource for decision makers	Public Manager	27	5.33	1.074	-2.748	9.797
	Private Manager	24	5.50	.780	-1.798	3.499



Table 18.2

*Will to Influence: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig.
Active Statements						
I am an active participant in decision-making	Between Groups	.109	1	.109	.052	.820
	Within Groups	102.519	49	2.092		
	Total	102.627	50			
I want to be more involved in the decision-making process	Between Groups	.140	1	.140	.054	.817
	Within Groups	129.630	50	2.593		
	Total	129.769	51			
Institutional researchers should be change agents who provide solutions to problems	Between Groups	.291	1	.291	.172	.680
	Within Groups	84.536	50	1.691		
	Total	84.827	51			
I include a subjective component in my outputs	Between Groups	.088	1	.088	.062	.804
	Within Groups	69.206	49	1.412		
	Total	69.294	50			
Active combined score	Between Groups	.033	1	.033	.043	.837
	Within Groups	37.018	48	.771		
	Total	37.051	49			
Passive Statements						
My outputs are always objective	Between Groups	2.668	1	2.668	2.441	.124
	Within Groups	54.640	50	1.093		
	Total	57.308	51			
I prefer not to be involved in the decision-making process other than providing information	Between Groups	1.971	1	1.971	.765	.386
	Within Groups	128.856	50	2.577		
	Total	130.827	51			
The work of IR should be free of personal philosophy and politics	Between Groups	4.049	1	4.049	2.747	.104
	Within Groups	73.701	50	1.474		
	Total	77.750	51			
IR has served its purpose when it has provided information and stimulated reflection	Between Groups	.093	1	.093	.082	.776
	Within Groups	56.427	50	1.129		
	Total	56.519	51			
Passive combined score	Between Groups	1.791	1	1.791	3.583	.064
	Within Groups	25.001	50	.500		
	Total	26.792	51			
Total combined score	Between Groups	.422	1	.422	.986	.326
	Within Groups	20.547	48	.428		
	Total	20.969	49			
IR is a powerful resource for decision-makers	Between Groups	.353	1	.353	.939	.534
	Within Groups	44.000	49	.898		
	Total	44.353	50			

Table 18.3

*Amount of Influence: Descriptive Statistics IR Managers by Institutional Type*

	Manager Type	n	M	SD	Skewness	Kurtosis
What amount of participation should IR have in...						
Establishing budgets	Public Manager	26	3.81	1.524	-.457	-.628
	Private Manager	25	3.52	1.229	-.563	-.450
Resource allocation	Public Manager	26	3.92	1.440	-.726	.137
	Private Manager	25	3.92	1.288	-.348	-.439
Retention issues	Public Manager	26	4.96	1.038	-1.079	1.260
	Private Manager	25	5.08	1.152	-1.946	5.458
Program review	Public Manager	26	4.42	1.270	-.765	.394
	Private Manager	25	4.92	1.187	-1.619	3.734
Curriculum	Public Manager	26	2.92	.935	-.475	-.567
	Private Manager	25	3.64	1.411	-.456	-.215
Student success programs	Public Manager	26	4.77	1.275	-1.539	2.328
	Private Manager	25	4.76	1.393	-1.645	2.695

Table 18.4

*Amount of Influence: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig.
What amount of participation should IR have in...						
Establishing budgets	Between Groups	1.055	1	1.055	.548	.436
	Within Groups	94.278	49	1.924		
	Total	95.333	50			
Resource allocation	Between Groups	.000	1	.000	.000	.994
	Within Groups	91.686	49	1.871		
	Total	91.686	50			
Retention issues	Between Groups	.179	1	.179	.149	.701
	Within Groups	58.802	49	1.200		
	Total	58.980	50			
Program review	Between Groups	3.147	1	3.147	2.079	.156
	Within Groups	74.786	49	1.514		
	Total	77.333	50			
Curriculum	Between Groups	6.551	1	6.551	4.611	.037
	Within Groups	69.606	49	1.421		
	Total	76.157	50			
Student success programs	Between Groups	.001	1	.001	.001	.980
	Within Groups	87.175	49	1.779		
	Total	87.176	50			

Table 18.5

*Ability to Influence: Descriptive Statistics IR Managers by Institutional Type*

	Manager Type	n	M	SD	Skewness	Kurtosis
My reports are often used in decision-making	Public Manager	27	4.48	1.503	-.842	-.356
	Private Manager	25	4.80	1.118	-.350	-1.253
My data are often used in decision-making	Public Manager	26	4.69	1.225	-.626	-.741
	Private Manager	25	5.00	1.118	-.778	-.743
My opinion is often considered in decision-making	Public Manager	27	3.81	1.545	-.342	-1.104
	Private Manager	25	3.92	1.382	-.257	-.724
I feel that faculty respect my opinion and work	Public Manager	27	3.96	1.400	-.020	-.777
	Private Manager	25	4.12	1.301	.007	-.926
Administrators respect my opinion and work	Public Manager	27	4.78	1.155	-.825	-.151
	Private Manager	25	4.88	1.013	-1.310	1.888
Projects and/or departments have lost funding because of my reports	Public Manager	27	2.48	1.369	.285	-1.230
	Private Manager	23	2.00	1.206	1.022	.157
Projects and/or departments have received funding because of my reports	Public Manager	27	3.52	1.553	-.370	-.783
	Private Manager	24	3.29	1.459	-.465	-1.026
My reporting defines our institution to external constituents	Public Manager	27	4.96	1.055	-.981	.863
	Private Manager	25	4.64	1.440	-.760	-.255
My reporting defines our institution to internal constituents	Public Manager	26	4.46	1.272	-.601	-.409
	Private Manager	25	4.44	1.387	-.680	-.015
I am involved in helping to frame research questions for decision-making	Public Manager	27	3.81	1.688	-.464	-1.040
	Private Manager	25	4.24	1.393	-.467	-.193
I help identify issues on campus	Public Manager	27	3.93	1.517	-.365	-.847
	Private Manager	25	4.12	1.333	-.581	.144
I help identify excellence/success on campus	Public Manager	27	4.19	1.442	-.848	.039
	Private Manager	24	4.17	1.551	-.912	.298
I am often asked to provide data that supports the particular viewpoints of a group	Public Manager	27	3.56	1.528	-.218	-1.068
	Private Manager	25	3.32	1.626	.256	-.782
Ability to Influence Combined score	Public Manager	27	4.03	1.027	-.701	-.556
	Private Manager	25	4.08	.809	-.105	.127

Table 18.6

*Ability to Influence: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig.
My reports are often used in decision-making	Between Groups	1.317	1	1.317	.742	.393
	Within Groups	88.741	50	1.775		
	Total	90.058	51			
My data are often used in decision-making	Between Groups	1.207	1	1.207	.875	.354
	Within Groups	67.538	49	1.378		
	Total	68.745	50			
My opinion is often considered in decision-making	Between Groups	.144	1	.144	.067	.797
	Within Groups	107.914	50	2.158		
	Total	108.058	51			
I feel that faculty respect my opinion and work	Between Groups	.320	1	.320	.175	.678
	Within Groups	91.603	50	1.832		
	Total	91.923	51			
Administrators respect my opinion and work	Between Groups	.136	1	.136	.114	.737
	Within Groups	59.307	50	1.186		
	Total	59.442	51			
Projects and/or departments have lost funding because of my reports	Between Groups	2.879	1	2.879	1.712	.197
	Within Groups	80.741	48	1.682		
	Total	83.620	49			
Projects and/or departments have received funding because of my reports	Between Groups	.654	1	.654	.287	.595
	Within Groups	111.699	49	2.280		
	Total	112.353	50			
My reporting defines our institution to external constituents	Between Groups	1.354	1	1.354	.860	.358
	Within Groups	78.723	50	1.574		
	Total	80.077	51			
My reporting defines our institution to internal constituents	Between Groups	.006	1	.006	.003	.954
	Within Groups	86.622	49	1.768		
	Total	86.627	50			
I am involved in helping to frame research questions for decision-making	Between Groups	2.347	1	2.347	.973	.329
	Within Groups	120.634	50	2.413		
	Total	122.981	51			
I help identify issues on campus	Between Groups	.489	1	.489	.239	.627
	Within Groups	102.492	50	2.050		
	Total	102.981	51			
I help identify excellence/success on campus	Between Groups	.004	1	.004	.002	.965
	Within Groups	109.407	49	2.233		
	Total	109.412	50			
I am often asked to provide data that supports the particular viewpoints of a group	Between Groups	.720	1	.720	.290	.592
	Within Groups	124.107	50	2.482		
	Total	124.827	51			
Ability to Influence Combined score	Between Groups	.028	1	.028	.033	.857
	Within Groups	43.171	50	.863		
	Total	43.200	51			

Table 18.7

*IR Control Over Their Own Work: Descriptive Statistics IR Managers by Institutional Type*

	Manager Type	n	M	SD	Skewness	Kurtosis
How much control do you have over..						
What projects you work on	Public Manager	27	3.93	1.141	.322	-.627
	Private Manager	25	4.44	1.158	-1.506	2.472
How your research is conducted	Public Manager	27	4.59	1.152	-.407	-.645
	Private Manager	25	5.20	.957	-1.362	1.350
When your work is due	Public Manager	27	3.37	1.182	-.345	-.547
	Private Manager	25	3.52	1.229	-.123	-1.047
How your data are interpreted	Public Manager	27	3.89	1.502	-.238	-1.114
	Private Manager	25	3.96	1.457	-.628	-.617
How your data are presented	Public Manager	27	4.52	1.221	-.594	-.509
	Private Manager	25	4.64	1.221	-1.624	2.681
How your budget is spent	Public Manager	26	3.92	1.647	-.740	-.702
	Private Manager	25	5.00	1.225	-1.627	3.436

Table 18.8

*IR Control Over Their Own Work: ANOVA IR Managers by Institutional Type*

	Source	SS	df	MS	F	Sig.
How much control do you have over..						
What projects you work on	Between Groups	3.430	1	3.430	2.598	.113
	Within Groups	66.012	50	1.320		
	Total	69.442	51			
How your research is conducted	Between Groups	4.789	1	4.789	4.237	.045
	Within Groups	56.519	50	1.130		
	Total	61.308	51			
When your work is due	Between Groups	.291	1	.291	.200	.656
	Within Groups	72.536	50	1.451		
	Total	72.827	51			
How your data are interpreted	Between Groups	.066	1	.066	.030	.863
	Within Groups	109.627	50	2.193		
	Total	109.692	51			
How your data are presented	Between Groups	.192	1	.192	.129	.721
	Within Groups	74.501	50	1.490		
	Total	74.692	51			
How your budget is spent	Between Groups	14.781	1	14.781	6.975	.011
	Within Groups	103.846	49	2.119		
	Total	118.627	50			

## **IR Managers by Experience Will and Ability Comparison**

The final comparison for the will and the ability to influence decisions examines the differences between IR managers with 13 years of IR experience or less, called the “Less Time” group, with IR managers with 13 years of IR experience or more, called the “More Time” group. While there was only one statement measuring the will to influence that had a statistically significant difference in means, there were some trending differences. The Less Time group had higher means for all of the active statements but one while the More Time group had higher means for all of the passive statements. The one active statement in which the More Time group had a higher mean was “I am an active participant in decision-making.” The More Time group’s mean was 3.70 with a mild platykurtic distribution of  $-0.689$  while the Less Time group mean was under the midpoint mark at 3.48 with a moderate distribution of  $-1.221$ . As might be expected, the Less Time group indicated that they want to be more involved in the decision making process more than the More Time group did. The Less Time mean was 4.61 with a slight leptokurtic distribution compared to a mean of 4.25 and mild platykurtic distribution of  $-0.838$  for the More Time group. There was a moderate level of agreement for the Less Time group that IR staff should act as change agents. The distribution was  $1.093$  with a mean of 4.52. Managers in the More Time group were less inclined to agree with a distribution of  $-0.123$  and a mean of 4.26. Neither group felt strongly about including a subjective component to their outputs but the difference in means was statistically significant at the .05 level,  $F(1,64)=6.712$ ,  $p=.012$ . The effect size was small ( $\eta^2=.09$ ). The mean for the Less Time group was only 3.33 but the mean for the More Time group was even lower, 2.61. Both distributions were mildly platykurtic.

Managers with less experience had a higher mean on the Active combined score, 3.98 and a slight leptokurtic distribution of .293. Their range of combined scores was smaller than the More Time group, 3.25 with a low of 2.25 and a high of 5.50. The mean for the More Time group was 3.76 with a slight platykurtic distribution of -.347. Their range was 3.75, the low was 1.50 and the high was 5.25 (Tables 19.1 and 19.2 have the descriptive statistics and ANOVA results for the active will statements).

Corresponding to their lower means on the active statements, the More Time group had higher means on all of the passive will statements than the Less Time group, with one exception. The two groups' means on the statement "I prefer not to be involved in the decision-making process other than providing information" were near equal; the mean for the Less Time group was 2.48 and the mean for the More Time group was 2.44. Two statements had a mean of 4.91 in the More Time group: "My outputs are always objective" and "The work of IR should be free of personal philosophy and politics." By comparison, the Less Time group mean was 4.82 for the first statement and 4.73 for the second. The objective statement had mild leptokurtic distributions for both groups. For the philosophy and politics statements, the Less Time group was in moderate disagreement with a platykurtic distribution of -1.040 compared to -.256 for the More Time group. The remaining statement, "IR has served its purpose when it has provided information and stimulated reflection" revealed a wider difference between the groups. The Less Time group's mean was 4.39 with mild leptokurtic agreement whereas the More Time group's mean was 4.76 and mild platykurtic disagreement. The Passive Combined score for the Less Time group was 4.10 with a range of 3.50, a low of 2.50 and a high of 6.00. The mean for the More Time group was 4.25 with a range of 3.00, a low

of 3.00 and a high of 6.00. Overall, for the will to influence, the Total Combined score was 3.43 for the Less Time group with a mesokurtic distribution of .059. Their range of combined scores was 2.75 with a low of 1.88 and a high of 4.63. For the More Time group, the mean was a low 3.17, also with a mesokurtic distribution, -.064. Their range was narrower at 2.38 with a low of 1.63 and a high of 4.00. As with the rest of the study, both groups felt that IR is a powerful resource for decision-makers. The mean for the Less Time group was 5.61 with a slight leptokurtic distribution. The More Time group's mean was lower, 5.42, but they had a much stronger level of agreement with a distribution of 10.681 (see Tables 19.1 and 19.2 for the complete statistics).

Even though the more experienced IR managers indicated being more passive in their will to influence decisions, in terms of rating the amount of participation IR should have in budgets, resource allocations, retention issues, program review, curriculum, and student success, the More Time group had higher means than the Less Time group in every area. Retention was the area with the highest rating with means of 4.91 for the Less Time group and 5.12 for the More Time group. The Less Time group had a strong leptokurtic distribution of 4.084, but the More Time group was only moderate, 1.877. Participating in program reviews had moderate leptokurtic responses for both groups and means of 4.69 for the Less Time group and 4.91 for the More Time group. Student success programs had stronger leptokurtic responses of 2.372 and 2.949 respectively and means of 4.75 and 4.82. Establishing budgets, resource allocations, and curriculum all had means under 4.00 with platykurtic distributions. Curriculum issues had means for both groups under 3.35. None of the differences in means were statistically significant



(the complete statistics for the levels of participation ratings can be found on Tables 19.3 and 19.4).

Although the Less Time group had more of a will to influence decision-making, the More Time group reported having more ability to influence decision-making as they had higher means in the majority of the ability to influence statements. However, none of the difference in the means were statistically significant at the .05 level. Institutional researchers' data and reports had the most influence on decision-making based on their higher means. IR data statement was the higher of the two statements with a mean of 4.76 for the Less Time group and 5.12 for the More Time group with both distributions being mildly platykurtic. The use of reports had slightly lower means of 4.70 and a kurtosis of -.320 for the Less Time group compared to 4.82 and a moderate leptokurtic distribution of 1.071 for the More Time group. Both groups felt strongly that administrators respected their opinion and work with means of 4.66 and 4.94, the Less Time group being the lower of the two. Respect from faculty was lower with means of 3.76 for the Less Time group and 4.21 for the More Time group who had a moderately platykurtic distribution of -1.101. For the funding of projects and departments both groups felt they had little influence. The means for the loss of funding were below 2.50 and below 3.70, respectively, for receiving funding. The More Time group had a mean of 4.38 with a mesokurtic distribution for identifying issues on campus whereas the Less Time group mean was 4.06 with a mild platykurtic distribution. For identifying issues or excellence on campus, the Less Time group mean was 4.22 and the More Time group mean was 4.38. Both groups had leptokurtic responses. The More Time group also had higher means for defining their institutions for internal and external constituents than the Less

Time group. The means for both groups on both statements were in the low to mid-4.0 range. Framing research questions for decision-making was the one area where the Less Time group had the higher mean, 4.42 with a mesokurtic distribution compared to 3.97 for the More Time group with a mild platykurtic distribution. IR managers indicated that they did not get involved with campus politics and were not asked to provide data to support specific viewpoints. The mean for the Smaller Institutions group was 3.27 and the mean for the More Time group was 3.62. The two groups were essentially equal when responding to the statement “My opinion is often considered in decision-making.” The Less Time group mean was 3.97 with a kurtosis of -1.012 compared to a mean of 3.94 with a kurtosis of -.879 for the More Time group. Lastly, the More Time group had a higher mean on the Ability to Influence combined score. Their mean was 4.22 with a mesokurtic distribution, a range of 3.15, low of 2.31 and a high of 5.46. The mean for the Less Time was 4.00 with a range of 3.83, low of 1.92 and a high of 5.75 (Table 19.5 has the descriptive statistics for the ability to influence measure. Table 19.6 has the results of the ANOVA).

The ability to control their work had similar results to the ability to influence measures in that the More Time group felt they had more control than the Less Time group and there were no statistically significant differences. In order from the highest mean to the lowest, the areas of control for the Less Time group were how their research was conducted (4.85), how their data are presented (4.52), how their budget is spent (4.09), what projects they work on (4.09), how their data are interpreted (3.82), and when their work is due (3.70). Only the area of data presentation had a leptokurtic distribution, the other areas had mild to moderate platykurtic distributions. For the More Time group,

the order was similar, how their research is conducted (5.12), how their data is presented (4.82), how their budget is spent (4.70) and tied for fourth were what projects they work on and how their data is presented (4.29). The kurtosis for the More Time group ranged from -.770 to 1.534. Although there were no significant statistical differences, the More Time group felt they had more control over their work than the Less Time group (Tables 19.7 and 19.8 have all the related statistics for these measures).

To summarize the comparison of the IR managers with 13 years of experience or less with those with 13 years of experience or more, the Less Time group demonstrated a desire to take a more active role in decision making compared to the More Time group, but the More Time group felt they were already more involved than the Less Time group. The Less Time group felt more strongly about being change agents and being subjective in their work, whereas the More Time group was more passive and felt stronger about IR being limited to providing information for discussion that was objective and free of personal philosophy and politics. Retention issues, program reviews and student success programs were the three areas both groups felt they should be involved with the most. Regarding their ability to influence decisions, the More Time group indicated that they had more ability in all areas except in helping to frame research questions for decision-making. As with other comparison groups, the More Time group and the Less Time group felt that their data and reports were how they were most able to influence decisions and that funding issues was the least. How they conduct their research and how they present their data were areas over which both groups felt they had the most control.

Table 19.1

*Will to Influence: Descriptive Statistics IR Managers by Experience*

	Manager Experience	n	M	SD	Skewness	Kurtosis
<b>Active Statements</b>						
I am an active participant in decision-making	Less Time	33	3.48	1.623	-.158	-1.221
	More Time	33	3.70	1.489	-.046	-.689
I want to be more involved in the decision-making process	Less Time	33	4.61	1.345	-.938	.378
	More Time	34	4.24	1.653	-.528	-.838
Institutional researchers should be change agents who provide solutions to problems	Less Time	33	4.52	1.202	-.785	1.093
	More Time	34	4.26	1.286	-.529	-.123
I include a subjective component in my outputs	Less Time	33	3.33	1.109	-.136	-.913
	More Time	33	2.61	1.171	.350	-.698
Active combined score	Less Time	33	3.98	.838	-.595	.293
	More Time	32	3.67	.894	-.340	-.347
<b>Passive Statements</b>						
My outputs are always objective	Less Time	33	4.82	.983	-.874	.887
	More Time	34	4.91	1.083	-1.031	.475
I prefer not to be involved in the decision-making process other than providing information	Less Time	33	2.48	1.482	.737	-.539
	More Time	34	2.44	1.599	1.106	.217
The work of IR should be free of personal philosophy and politics	Less Time	33	4.73	1.098	-.473	-1.040
	More Time	34	4.91	1.357	-.992	-.256
IR has served its purpose when it has provided information and stimulated reflection	Less Time	33	4.39	1.298	-.711	.176
	More Time	34	4.76	.923	-.479	-.412
Passive combined score	Less Time	33	4.10	.762	.370	.293
	More Time	34	4.25	.744	.379	-.320
Total combined score	Less Time	33	3.43	.621	-.261	.059
	More Time	32	3.17	.668	-.920	-.064
IR is a powerful resource for decision makers	Less Time	33	5.61	6.59	-1.465	.998
	More Time	33	5.42	1.032	-2.965	10.681

Table 19.2

*Will to Influence: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig.
<b>Active Statements</b>						
I am an active participant in decision-making	Between Groups	.742	1	.742	.306	.582
	Within Groups	155.212	64	2.425		
	Total	155.955	65			
I want to be more involved in the decision-making process	Between Groups	2.302	1	2.302	1.011	.318
	Within Groups	147.996	65	2.277		
	Total	150.299	66			
Institutional researchers should be change agents who provide solutions to problems	Between Groups	1.050	1	1.050	.677	.414
	Within Groups	100.860	65	1.552		
	Total	101.910	66			
I include a subjective component in my outputs	Between Groups	8.727	1	8.727	6.712	.012
	Within Groups	83.212	64	1.300		
	Total	91.939	65			
Active combined score	Between Groups	1.591	1	1.591	2.210	.150
	Within Groups	47.297	63	.751		
	Total	48.888	64			
<b>Passive Statements</b>						
My outputs are always objective	Between Groups	.147	1	.147	.137	.713
	Within Groups	69.644	65	1.071		
	Total	69.791	66			
I prefer not to be involved in the decision-making process other than providing information	Between Groups	.032	1	.032	.013	.908
	Within Groups	154.625	65	2.379		
	Total	154.657	66			
The work of IR should be free of personal philosophy and politics	Between Groups	.570	1	.570	.373	.543
	Within Groups	99.281	65	1.527		
	Total	99.851	66			
IR has served its purpose when it has provided information and stimulated reflection	Between Groups	2.302	1	2.302	1.825	.181
	Within Groups	81.996	65	1.261		
	Total	84.299	66			
Passive combined score	Between Groups	.383	1	.383	.674	.414
	Within Groups	36.939	65	.568		
	Total	37.323	66			
Total combined score	Between Groups	1.096	1	1.096	2.636	.109
	Within Groups	26.189	63	.416		
	Total	27.285	64			
IR is a powerful resource for decision-makers	Between Groups	.545	1	.545	.728	.397
	Within Groups	47.939	64	.749		
	Total	48.485	65			

Table 19.3

*Amount of Influence: Descriptive Statistics IR Managers by Experience*

	Manager Experience	n	M	SD	Skewness	Kurtosis
What amount of participation should IR have in...						
Establishing budgets	Less Time	32	3.34	1.599	.051	-1.119
	More Time	34	3.71	1.360	-.579	-.078
Resource allocation	Less Time	32	3.59	1.500	-.040	-.815
	More Time	34	3.97	1.267	-.607	.265
Retention issues	Less Time	32	4.91	1.088	1.565	4.084
	More Time	34	5.12	.946	-1.159	1.877
Program review	Less Time	32	4.69	1.148	-1.107	1.976
	More Time	34	4.91	1.215	-1.329	1.850
Curriculum	Less Time	32	3.22	1.184	-.453	-.375
	More Time	34	3.24	1.232	.244	-.111
Student success programs	Less Time	32	4.75	1.320	-1.482	2.372
	More Time	34	4.82	1.167	-1.581	2.949

Table 19.4

*Amount of Influence: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig.
What amount of participation should IR have in...						
Establishing budgets	Between Groups	2.162	1	2.162	.986	.324
	Within Groups	140.278	64	2.192		
	Total	142.439	65			
Resource allocation	Between Groups	2.341	1	2.341	1.221	.273
	Within Groups	122.689	64	1.917		
	Total	125.030	65			
Retention issues	Between Groups	.737	1	.737	.712	.402
	Within Groups	66.248	64	1.035		
	Total	66.985	65			
Program review	Between Groups	.829	1	.829	.592	.444
	Within Groups	89.610	64	1.400		
	Total	90.439	65			
Curriculum	Between Groups	.005	1	.005	.003	.956
	Within Groups	93.586	64	1.462		
	Total	93.591	65			
Student success programs	Between Groups	.089	1	.089	.058	.811
	Within Groups	98.941	64	1.546		
	Total	99.030	65			

Table 19.5

*Ability to Influence: Descriptive Statistics IR Managers by Experience*

	Manager Experience	n	M	SD	Skewness	Kurtosis
My reports are often used in decision-making	Less Time	33	4.70	1.287	-.795	-.320
	More Time	34	4.82	1.242	-1.055	1.071
My data are often used in decision-making	Less Time	33	4.76	1.146	-.683	-.443
	More Time	33	5.12	1.053	-.938	-.339
My opinion is often considered in decision-making	Less Time	33	3.97	1.447	-.406	-1.012
	More Time	34	3.94	1.476	-.314	-.879
I feel that faculty respect my opinion and work	Less Time	33	3.76	1.393	-.128	-.578
	More Time	33	4.21	1.293	-.052	-1.101
Administrators respect my opinion and work	Less Time	32	4.66	1.208	-.802	-.295
	More Time	34	4.94	1.071	-1.134	.762
Projects and/or departments have lost funding because of my reports	Less Time	32	2.03	1.204	.882	-.353
	More Time	32	2.44	1.318	.550	-.761
Projects and/or departments have received funding because of my reports	Less Time	33	3.36	1.578	-.292	-1.195
	More Time	32	3.69	1.401	-.675	-.424
My reporting defines our institution to external constituents	Less Time	33	4.61	1.413	-.725	-.391
	More Time	33	4.85	1.176	-1.285	2.157
My reporting defines our institution to internal constituents	Less Time	33	4.21	1.576	-.475	-.892
	More Time	32	4.69	1.061	-.875	.874
I am involved in helping to frame research questions for decision-making	Less Time	33	4.42	1.562	-.924	.031
	More Time	33	3.97	1.468	-.449	-.646
I help identify issues on campus	Less Time	33	4.06	1.368	-.428	-.518
	More Time	32	4.31	1.447	-.793	-.015
I help identify excellence/success on campus	Less Time	32	4.22	1.362	-.832	.376
	More Time	32	4.38	1.431	-1.140	1.086
I am often asked to provide data that supports the particular viewpoints of a group	Less Time	33	3.27	1.464	.194	-.868
	More Time	34	3.62	1.596	-.323	-.937
Ability to Influence Combined score	Less Time	33	4.00	.937	-.409	-.300
	More Time	34	4.22	.855	-.711	-.031

Table 19.6

*Ability to Influence: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig.
My reports are often used in decision-making	Between Groups	.268	1	.268	.168	.683
	Within Groups	103.911	65	1.599		
	Total	104.179	66			
My data are often used in decision-making	Between Groups	2.182	1	2.182	1.800	.184
	Within Groups	77.576	64	1.212		
	Total	79.758	65			
My opinion is often considered in decision-making	Between Groups	.014	1	.014	.006	.937
	Within Groups	138.852	65	2.136		
	Total	138.866	66			
I feel that faculty respect my opinion and work	Between Groups	3.409	1	3.409	1.888	.174
	Within Groups	115.576	64	1.806		
	Total	118.985	65			
Administrators respect my opinion and work	Between Groups	1.338	1	1.338	1.031	.314
	Within Groups	83.101	64	1.298		
	Total	84.439	65			
Projects and/or departments have lost funding because of my reports	Between Groups	2.641	1	2.641	1.656	.203
	Within Groups	98.844	62	1.594		
	Total	101.484	63			
Projects and/or departments have received funding because of my reports	Between Groups	1.704	1	1.704	.764	.385
	Within Groups	140.511	63	2.230		
	Total	142.215	64			
My reporting defines our institution to external constituents	Between Groups	.970	1	.970	.574	.451
	Within Groups	108.121	64	1.689		
	Total	190.091	65			
My reporting defines our institution to internal constituents	Between Groups	3.671	1	3.671	2.022	.160
	Within Groups	114.390	63	1.816		
	Total	118.062	64			
I am involved in helping to frame research questions for decision-making	Between Groups	3.409	1	3.409	1.484	.228
	Within Groups	147.030	64	2.297		
	Total	150.439	65			
I help identify issues on campus	Between Groups	1.031	1	1.031	.521	.473
	Within Groups	124.754	63	1.980		
	Total	125.785	64			
I help identify excellence/success on campus	Between Groups	.391	1	.391	.200	.656
	Within Groups	120.969	62	1.951		
	Total	121.359	63			
I am often asked to provide data that supports the particular viewpoints of a group	Between Groups	1.992	1	1.992	.849	.360
	Within Groups	152.575	65	2.347		
	Total	154.567	66			
Ability to Influence Combined score	Between Groups	.776	1	.776	.965	.330
	Within Groups	52.294	65	.805		
	Total	53.070	66			



Table 19.7

*IR Control Over Their Own Work: Descriptive Statistics IR Managers by Experience*

	Manager Experience	n	M	SD	Skewness	Kurtosis
How much control do you have over..						
What projects you work on	Less Time	33	4.03	1.262	-.259	-1.095
	More Time	34	4.29	1.219	-.713	.482
How your research is conducted	Less Time	33	4.85	1.149	-.476	-1.226
	More Time	34	5.12	1.094	-1.277	.993
When your work is due	Less Time	33	3.70	1.212	-.045	-.417
	More Time	34	3.38	1.280	.048	-.770
How your data are interpreted	Less Time	33	3.82	1.530	-.176	-1.079
	More Time	34	4.29	1.360	-.803	-.258
How your data are presented	Less Time	33	4.52	1.253	-.797	.579
	More Time	34	4.82	1.058	-1.257	1.534
How your budget is spent	Less Time	33	4.09	1.739	-.756	-.763
	More Time	33	4.70	1.531	-1.289	.983

Table 19.8

*IR Control Over Their Own Work: ANOVA IR Managers by Experience*

	Source	SS	df	MS	F	Sig.
How much control do you have over..						
What projects you work on	Between Groups	1.166	1	1.166	.757	.387
	Within Groups	100.029	65	1.539		
	Total	101.194	66			
How your research is conducted	Between Groups	1.213	1	1.213	.964	.330
	Within Groups	81.772	65	1.258		
	Total	82.985	66			
When your work is due	Between Groups	1.658	1	1.658	1.067	.306
	Within Groups	100.999	65	1.554		
	Total	102.657	66			
How your data are interpreted	Between Groups	3.793	1	3.793	1.813	.183
	Within Groups	135.968	65	2.092		
	Total	139.761	66			
How your data are presented	Between Groups	1.593	1	1.593	1.187	.280
	Within Groups	87.184	65	1.341		
	Total	88.776	66			
How your budget is spent	Between Groups	6.061	1	6.061	2.259	.138
	Within Groups	171.697	64	2.683		
	Total	177.758	65			

## **Summary of the Comparisons of the Will and the Ability to Influence Decision**

Overall, there were not a lot of differences within the comparison subgroups when examining their will and ability to influence decision-making. Generally speaking, institutional researchers reported taking a passive approach to influencing decision but indicated they want to be more involved with decision-making and that institutional researchers should act as change agents. At the same time, there were very strong feelings that their work should be objective and free of personal philosophy and politics; they viewed their task as complete after they presented data and stimulated reflection. As far as being actively involved in making decisions, for the statement “I am an active participant in decision-making,” the group with the lowest mean was the IR Staff (2.90); the group with the highest mean was the IR managers with more experience (3.70). The group with the least will to be more involved was the IR Staff group (3.79) and the group who demonstrated the most will to be more involved was their counterpart, the IR Manager group (4.42). Managers with 13 years of experience or less (Less Time) had the highest mean for the Active Will combined score (3.98) and the Total Combined Will (3.43) indicating their overall desire to be more active participants in decision-making. The group with the highest mean on the Passive Combined score was the Private Managers group (4:39) indicating the strongest desire to remain objected and less influential in the decision decision-making process. There were only a few areas that had statistically significant differences in means on their statements: The Smaller Institutions group had a higher mean on the Passive Combined score than the Larger Institutions group; IR Managers had higher means than IR Staff on the Active Will combined score and the Total Will Combined score; and Less Time managers had a higher mean than the

More Time group for the statement “I add a subjective component to my outputs.”

Across the board, all groups selected retention, program review and student success programs as areas in which they should participate.

Participants indicated that their ability to influence decisions was only moderate. Their data and reporting are how they influence decisions the most overall, but they felt as though their opinions were not often considered in decision-making. IR managers with 13 or more years of experience had the highest mean for this statement, 3.94, whereas IR staff had the lowest mean, 3.31. These two groups also had the highest and lowest means for the Ability to Influence Combined score; the More Time group’s mean was 4.22 and the IR Staff group’s mean was 3.88. There were only two comparisons that had a statistically significant difference in means and both were in the comparisons by institutional size: the Larger Institutions group had a higher mean than the Smaller Institutions group regarding the use of their data in decision-making; and the Larger Institutions group also was more involved in framing research questions. All groups were in agreement in that they had the most control over how their research is conducted and how their data are presented.

### **Research Question Seven**

“Which variables related to power best explained institutional researchers’ ability to influence decisions?”

Research Question Seven sought to understand which of the variables in the survey best determined the participants’ ability to influence decisions. This question was exploratory in nature in that it was trying to identify variables that contribute most to institutional researchers’ ability to influence decisions rather than being a confirmatory question that sought to affirm an existing model or theory, nor was the question seeking to actually predict institutional researchers’ ability to influence decisions (Lomax, 2001; Stevens, 1999). To answer the question, a linear regression was used to determine the independent variables that had greatest impact on influencing the dependent variable. The Ability to Influence Combined, an average of responses from the Ability to Influence series of statements explored in research questions five and six, served as the dependent variable. Within that series of statements, participants reported that their data and reports were used in decision-making; these two statements consistently had the highest means and narrowest distributions in all groupings. A total of 24 independent variables were considered for the regression, which is generally considered to be too many for a predictive model and raises concerns over multicollinearity (Lomax, 2001; Stevens, 1999). However, none of the inter-correlations were near the .80 level recommended by Stevens (1999). Three of the possible 24 independent variables were not used in the regression. The Control of Resources and Technical Skills combined scores from the power source measurement were not used because of their very high ratings for all

participants. The job description of the participant, IR staff or IR manager, was not used because it is generally understood that a manager would naturally have more ability to influence decisions than would an analyst/researcher who reports to the manager. The variables used in the regression included the combined scores for the remaining power sources, various background data, power orientations ratings, and the Will to Influence Combined score (see Table 20.1 for the complete list of variables).

Table 20.1

*Ability to Influence Regression Variables*

Unique Knowledge Combined Score	Years Working in Institutional Research
Legal Prerogative Combined Score	Years Working in Higher Education
Access to Decision-Makers Combined Score	Years Working at Current Institution
Will to Influence Combined Score	Size of Institutional Research Staff
Power is Exciting and Desirable Rating	Number of Institutional Level Committees Served On
Power is Controlling Information Rating	Number of Departmental Level Committees Served On
Power is Natural and Good Rating	Job Title
Power is Having Political Connections Rating	Level of Education Achieved
Power is Having Personal Charisma Rating	Institutional Size (Student Sample)
Power is Control and Autonomy	Institutional Type ( Public or Private 4 year or more)

Because there was no theory or predetermined model driving this research question, the variables were entered simultaneously in the order they appeared in the survey. The stepwise selection procedure was selected to identify which variables were the most related to the Ability to Influence Combined score. The stepwise method was chosen because of its ability to continuously assess and re-assess the contribution of each variable (Lomax, 2001; Stevens, 1999). After conducting tests using the forward, backward and block methods, it was decided to use the stepwise method with

simultaneous loading of variables as it produced the highest  $R^2$  with very little shrinkage in the adjusted  $R^2$  as new variables were added (Lomax, 2001). The stepwise process produced seven models from the 21 variables. Each new model produced a significant F change. The final model resulted in an  $R^2$  of .771. Because of the large number of variables entered into the regression and the small sample size, it was important to report the adjusted  $R^2$  to compensate for the possibility of the model overstating the independent variables' predictive power (Lomax, 2001; Stevens, 1999). The shrinkage from  $R^2$  to the adjusted  $R^2$  was small, as the adjusted  $R^2$  for the seventh model was .742; in other words, the final model accounted for 74% of the variance in the Ability to Influence score (Table 20.2 provides the summary of the seven models produced in the regression).

Table 20.2

*Ability to Influence Regression Model Summary*

Model	R	$R^2$	$R^2$ Adjusted	SE of Estimate	$R^2$ Change	F Change	Change Statistics		Sig. F Change
							Df1	Df2	
1	.696 <sup>a</sup>	.484	.476	.70649	.484	57.224	1	61	.000
2	.799 <sup>b</sup>	.639	.627	.59612	.155	25.680	1	60	.000
3	.821 <sup>c</sup>	.674	.658	.57094	.035	6.408	1	59	.014
4	.841 <sup>d</sup>	.707	.687	.54618	.033	6.470	1	58	.014
5	.858 <sup>e</sup>	.736	.713	.52273	.029	6.322	1	57	.015
5	.868 <sup>f</sup>	.754	.728	.50912	.018	4.087	1	56	.048
7	.878 <sup>g</sup>	.771	.742	.49534	.017	4.160	1	55	.046

The seventh model produced in the stepwise process resulted in the use of seven variables that made significant contributions to the variance in the Ability to Influence: Unique Knowledge Combined score, Access to Decision-Makers Combined score, Legal Prerogatives Combined score, Years Working at Current Institution, Institutional Size,

Power as Personal Charisma, and Power as Having Political Connections. The following results utilized the unstandardized coefficients (see Table 20.3 for the complete coefficient statistics). The results for models one through six are located in Appendix C. For every one unit increase in the Unique Knowledge Combined score, there was a .490 unit increase in the Ability to Influence score after partialling the effects of the remaining predictors. This was a significant predictor,  $p=.000$ . For every one unit increase in the Access to Decision Makers Combined score, there was a .187 unit increase in the Ability to Influence score after partialling the effects of the remaining predictors. This was a significant predictor,  $p=.008$ . For every one unit increase in the Legal Prerogatives Combined score, there was a .200 increase in the Ability to Influence score after partialling the effects of the remaining predictors. This was a significant predictor,  $p=.001$ . For every one unit increase in the Years Working at Current Institution variable, there was a -.022 decrease in the Ability to Influence score after partialling the effects of the remaining predictors. This was a significant negative predictor,  $p= .004$ . For every one unit increase in the Institutional Size, there was a .128 increase in the Ability to Influence score after partialling the effects of the remaining predictors,  $p= .012$ . For every one unit increase in Power as Personal Charisma rating, there was a .103 increase in the Ability to Influence score after partialling the effects of the remaining predictors,  $p=.030$ . For every one unit increase in Power as Having Political Connections, there was a .097 increase in the Ability to Influence score after partialling the effects of the remaining predictors,  $p= .046$ .

Table 20.3

*Ability to Influence Model 7 Coefficients*

Model 7	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	SE	B			Zero-order	Partial	Part
(Constant)	-1.002	.422		-2.374	.021			
Unique Knowledge	.490	.071	.544	6.937	.000	.696	.683	.447
Access to Decision-Makers	.187	.068	.231	2.769	.008	.658	.350	.179
Legal Prerogatives	.200	.059	.257	3.375	.001	.556	.414	.218
Yrs. at Institution	-.022	.007	-.206	-3.026	.004	-.014	-.378	-.195
Institutional Size	.128	.049	.177	2.601	.012	.043	.331	.168
Charisma	.103	.046	.159	2.222	.030	.376	.287	.143
Political	.097	.048	.138	2.040	.046	.200	.265	.132

Based on the high  $R^2$  and the small shrinkage to the adjusted  $R^2$ , model seven with its corresponding seven variables was the best model for understanding the variance in the Ability to Influence scores. With the addition of each variable there was a significant F change and all variables in the final model were significant contributors to the model. A close approximation of the contribution of each variable was achieved by squaring the semi-partial correlation. The Unique Knowledge Combined score was the largest contributor (19.2%) followed by the Legal Prerogatives Combined score (4.8%), Access to Decision-Makers Combined score (3.8%), Institutional Size (2.8%), Power as Personal Charisma (2.0%), Power as Having Political Connections (1.7%), and last, Years Working at Current Institution (-3.8%). Having all three power sources available was important in order to utilize power in different ways: having unique knowledge provides an additional controllable resource; having legal prerogatives provides leverage to influence; and having access to decision-makers provides a more direct way to



influence the decision-maker. Seeing power as being related to charisma and political connections may indicate an understanding and presence of social power and people skills, which was not measured in this survey. Institutional size may be related to having a larger presence on campus; however, one could argue that on a smaller campus the institutional researchers could work more directly with the decisions-makers. The final variable, Years Working at Current Institution, was a bit more confusing as it was reasonable to expect that more time at an institution would increase institutional researchers' ability to influence through networking and relationships as well as their unique knowledge through the accumulation of historical knowledge, but that did not seem to be the case. It might be that many of the participants with more IR experience, did not have doctoral degrees, but Level of Education Achieved did not significantly contribute to the model. Missing from the model was the Will to Influence Combined score which confirmed that just because institutional researchers have the will to influence decisions, they may not have the power and ability to do so.

## **Chapter V Discussion**

### **Introduction**

This research sought to gain an understanding of power as it relates to the position of institutional research in institutions of higher education. More specifically, this research attempted to confirm and determine at what level institutional researchers possess the necessary power, as described by Mintzberg (1983b), to influence decision-makers both directly and indirectly and if so, what were their orientations toward the concept of power and their feelings regarding their role in decision making. The format of this chapter follows the conceptual framework of this study; it will begin with a discussion about the background and contextual information of the participants and is followed by a discussion of Mintzberg's five power sources. Next, the participants' orientations toward power are discussed followed by a discussion of institutional researchers' will to influence decisions and the ability to influence. Finally, this chapter discusses the variables that best explained the reasons behind the participants' ability to influence decisions. Unlike the results section in the previous chapter, subgroups and the overall sample are discussed together and the research questions are combined according to the conceptual framework of the study. The chapter ends with a final statement of conclusions and recommendations for further research topics.

### **Discussion of Background Variables**

The overall sample of participants in this study had an average of almost 10 years of experience working in IR and an average of nine years working at their current institution. All comparison groups were very close in their years of experience with the

exception of the IR Staff group who had significantly less experience than IR Managers; IR staff reported working in their position an average of 5.58 years compared to IR managers who had 10.65 years of experience. A comparison of IR Managers by years of experience showed a statistically significant difference in years of experience, which by definition makes sense, but the amount of difference was surprising; IR managers with 13 years of experience or less had an average of 6.5 years of experience compared to 20.9 years of experience for the more experienced group. The literature review indicated that institutional researchers with more experience considered themselves to be more effective and influential in their jobs (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005). This study was unable to confirm this observation as the total years of experience was not a variable that contributed significantly to the participants' Ability to Influence Combined score but the study did find that years served at their current institution had an inverse relationship with the Ability to Influence score. It should be noted that the number of years worked at an institution was a contributing factor to the participants' ability to influence decisions but the number of years worked in IR as a variable was not. This finding might suggest a shift in the ideology of IR as the study found that less experienced IR managers are seeking to have more influence on decision-making compared to a more passive approach of the more experienced group. This is an area for future research.

Another explanation for the inverse relationship between years of experience and the ability to influence might be related to the level of education achieved by the participants. Overall, 43.7% of the sample in the study had earned a Ph.D. or Ed.D. and 42.9% had earned a Master's degree. However, when comparing years of experience,

60.6% of IR managers in the Less Time group had a Ph.D. compared to 35.5% of the More Time group. Having a Ph.D., regardless of the specialty, has been found to be related to institutional researchers' effectiveness and influence (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005). This might be because of the collegial aspect of higher education; having degree credentials might allow institutional researchers to be seen as equal to faculty. However, this research did not confirm the previous findings in the literature as the educational level was not found to be a significant variable in explaining the participants' Ability to Influence Combined score. Participants from larger institutions were more likely to have earned a Ph.D. or Ed.D. than participants from smaller institutions, which is consistent with the literature review (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005). Half of the participants from institutions with more than 10,000 students had a Ph.D. compared to 36.7% at the smaller institutions. IR managers were also more likely to have earned a Ph.D. than IR staff.

The group with the highest scores on the Ability to Influence Combined score, the More Time managers, also had one of the lowest percentages of doctoral degrees, which may explain why the level of degree was not a contributing factor to the Ability to Influence Combined scores. Conversely, the group with the highest Will to Influence scores, the Less Time managers also had the highest percentages of doctoral degrees. It may be that at this time, the doctoral degree is associated with a desire to influence, but as these institutional researchers gain experience and the percentage of More Time managers with doctoral degrees increases, the doctoral degree might become a contributing factor to the Ability to Influence Combine score.

Having the title of Assistant Director has also been found to be an indicator of effectiveness and influence for institutional researchers, but only 10.9% of the participants in this study indicated they had the title of Assistant Director, which was too small a number to serve as a subgroup for this study to confirm the literature (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Walton, 2005). Just over 51.0% of participants indicated they held the title of Director of IR with the remaining 40.0% having titles of analyst, researcher or “other.” Because of the smaller IR staffs in private institutions, there was a higher percentage of participants from private institutions who held the title of Director. In all cases, the percentage of participants who indicated that Manager of IR was the best description of their job, was higher than the percentage of those who indicated that Director best described their title; 56.8% of the overall sample indicated that IR Manager best described their role. For this study, no implications were made based on the participants’ job titles other than the understanding that a manager inherently has more power than staff.

The size of the institution was significant in this study as the different levels of school size were not fully representative of the AIR population; 30.5% of respondents came from institutions with more than 20,000 students while 33.3% came from the smallest two levels, under 5,000 students. Compared to the AIR population, this is an overrepresentation of the largest institutions and an underrepresentation of the smaller institutions. Many of the comparison subgroupings echoed the findings of the comparison subgroups by size because, after dividing the group by other attributes, it was found that they were essentially split by institutional size, which may have limited the variation in the findings of the comparison groups. In the comparison of public institutions to private

institutions, the private institutions tended to be small and the public institutions tended to be large. This was also true when the managers from private institutions were compared to managers of public institutions. Even in comparing IR Staff to IR Managers, it played a role because the larger institutions are more likely to have more IR Staff than the smaller institutions. Ultimately, the size of the institution was found to be a significant variable in predicting the participants' Ability to Influence Combined score. Institutional size as a variable and its contribution to the Ability to Influence Combined score will be addressed in the discussion of research question seven.

The roles performed by institutional researchers were the same across all comparison subgroups with a few exceptions. Institutional research for decision making and institutional use was the role that was most often identified, followed by IR for external reporting and statistical analysis. IR staff reported qualitative research and analysis as the fourth most popular role while being much further down on every other group's list. Another difference was that less experienced managers listed accreditation and planning high on the list, with supervision of IR staff very low on the list. No other group, besides the Less Time group, ranked accreditation and planning that high. This may be another indication of a shift in a changing role of IR. The more experienced group that listed supervision of IR staff third but should be noted again, that the More Time group had a larger IR staff than the Less Time group. The roles of institutional research discussed in the literature review are slightly different, although closely related to those asked in the background information section of the survey. The roles in the literature review, such as framing questions and managing data, will be addressed later in this section. The purpose for collecting information about the roles performed by

participants for this study was to determine if the participants performed similar roles. Having similar roles and responsibilities increased the validity of the study. Had the participants had very different roles, it would have been difficult to make comparisons across subgroups.

Working in a centralized IR office, having a strong network of relationships, and having a strong understanding of issues across campus either by having a multidisciplinary background or by having responsibilities across campus also increases the chances of institutional researchers being influential (Ehrenberg, 2005; Serban & Luan, 2002; Suslow, 1972). This study found that only a moderate percentage of the overall sample considered their office to be centralized. Offices in smaller institutions and in private institutions tended to have less centralized offices than the larger and public institutions and had more variation in their answers indicating that smaller and private institutions have more diversity in their organizational structure. Whether or not the IR office was centralized, there was much agreement with the statement “I have responsibilities that involved many departments across campus.” Having cross-campus responsibilities is a good conduit that helps institutional researchers to increase their knowledge, network, and expertise, but for some reason, the Less Time IR manager group stands had a higher level of agreement with the statement than the rest of the groups. Perhaps this is a reflection of the high percentage of doctoral degrees in the Less Time group combined with the fact that they are affiliated with smaller institutions.

Reporting to the president of the institution or other high ranking administrators has been shown to be a factor related to influence. Reporting to a high level administrator also reflects the idea that the work of IR is of central importance to the institution and

will increase the scope of responsibility of the IR office (Knight & Leimer, 2009; Knight, et al., 1995; Leimer, 2011; Matsen, 1993; Saupe, 1990; Suslow, 1972; Walton, 2005).

Participants in this study reported that their offices were situated on the organizational chart, 1.48 levels below the president. Participants associated with smaller and/or private institutions were situated slightly closer to the office of president than participants associated with the larger institutions. Unfortunately, this study was not set up in such a way that it could definitively determine the exact title of the person to whom IR reports; there is too much variety in higher education to do so. Several participants indicated that they either report to multiple administrators or that the administrator to whom they report maintains multiple titles. Because of the variety of responses and the way the data were collected, it is not possible to determine how the reporting structure of the institution affected the participants' power or its use.

In the final analysis of the variables that influenced the participants' Ability to Influence Combined score, nine variables related to the participants' background were used and only two had a significant contribution to the variance in scores: institutional size and years worked at their current institution, which was a negative predictor. However, it appears that the size of the institution is also related to the level of education the participants were likely to have obtained, whether or not they were affiliated with a private institution, and how far removed the IR office was from the President's office. The reason for this appears to be nothing more than the characteristics of the institutions. The smaller institutions included community colleges that do not require doctoral degrees to teach or work. The same can be said for some smaller private institutions. As far as the distance the IR office is from the President's office, this would be reflective of the fact



that smaller institutions have fewer organizational levels than larger institutions and therefore IR offices are more likely to be closer to the president on the organizational chart. The numbers of years participants spent working in IR was also used for a comparison group, which exposed some differences in IR managers and areas of potential research. This difference, as well as others, will be more evident in the discussions of power sources and the will to influence decisions.

### **Discussion of Power Sources**

Mintzberg (1983b) described five sources of power common to analysts. To be successful in influencing decisions, analysts must have at least one of the five powers that include the ability to control resources, technical skills, unique knowledge, legal prerogatives, and access to decision-makers. The control of resources was the first power source measured and proved to be the strongest power source of the five. Seven of the eleven statements in the control of resources section had means over 5.00 for the overall sample and for almost all of the comparison groups as well. The Control of Resources Combined score for the overall sample was 4.87. The survey asked about data and information. The term “data” was defined as a single or statistic or a set of numbers or statistics while information was defined as providing context in relation to numbers or statistics. There were very little differences between the statements concerning data and information, although generating institutional level data and information generally ranked higher than gathering or collecting data and information. There was a statistically significant difference between smaller institutions and larger ones for collecting institutional information but there were no other statistically significant differences

concerning the collection/ creation/ distribution of data and/or information. For these six questions, the Larger Institutions group had higher means than the Smaller Institutions group, the Private group had higher means than the Public group, IR managers had higher means than the IR staff, IR managers at private institutions had higher means than those at public institutions, and IR managers with more experience had higher means than those with less experience. All of the scores were high confirming the belief that the number one strength of IR is the ability to provide and analyze information (Knight & Leimer, 2009; Leimer, 2011; Matsen, 1993; Saunders, 1983; Terenzini, 1999). Information is power as well as a commodity, but do institutional research truly control it (Bahniuk, et al., 1996; Farley, 1987; Frost, 1987; Morgan, 2006; Pfeffer, 1981)?

To control information is to control the decision-making process (Suslow, 1972). For information to be power, one must be able to control access to it and it must be a valuable, irreplaceable and uncertain (Casciaro & Piskorski, 2005; Emerson, 1962; Frost, 1987; Morgan, 2006; Pfeffer, 1981). The statement with the consistently highest means in the controlling resources was “Faculty, administrators, and/or staff often ask me for information and/or data”; the More Time group of IR managers’ mean was near 6.00. There is clear agreement that IR is a major source of information for their institutions. However, they might not be the only source. The statement “When an institutional level decision is to be made, it is my office that provides data and reports needed” only had a moderate mean for the overall sample. The mean was low for the same statement about departmental decisions. In fact, the statement “Most institutional level data and/or reports come from my office” also only had a moderate mean. For the departmental level information statement the lowest means were associated with the Less Time IR manager

group and the Private institutions group. Survey participants also indicated that they were not very involved with managing data warehouses and repositories, which would provide further control over data and information. It is clear that IR is involved with a valuable and needed resource as demonstrated by their collecting/creating/distributing of data and information. It is also clear that they are a “go to” resource when faculty, administrators, and staff on campus need information, but what is not clearly evident is how much they are truly able to control the information and if they are the only source of the information. Resource dependency theory holds that in order to have power, the resource must be valuable, irreplaceable, and uncertain (Casciaro & Piskorski, 2005; Emerson, 1962; Frost, 1987; Morgan, 2006; Pfeffer, 1981). The one who controls the resource must be able to control access to the resource and its release (Morgan, 2006; Pfeffer, 1981). It may be possible that IR controls only a portion of the information needed for decision-making, which would still provide IR with power but if the same information can be found elsewhere, then IR does not have the control of information in the truest sense of resource dependency theory. As a result IR, does not have the control of resources power source at the high levels as one might expect.

There were a few additional pieces of information worth noting from the control of resources analysis. When comparing institutional types, private institutions have considerably higher means than public institutions in providing institutional level information but they were very similar in providing departmental information. IR staff had lower means than IR managers for collecting/creating/distributing information and/or data but higher means when it came to providing information at both the institutional and departmental level. There were statistically significant differences between Less Time

managers and More Time managers in the statement “Most institutional level information comes from my office” and in the Control of Resources Combined scores; More Time managers were higher in both statements. The Control of Resources was the highest rated power source of the five and was followed by the Technical Skills power source.

Mintzberg (1983b) referred to analysts’ systems of expertise, their technical skills, as their primary means of influence. The ability to provide and analyze information has been called IR’s number one strength (Knight & Leimer, 2009; Leimer, 2011; Matsen, 1993; Saunders, 1983; Terenzini, 1999). For institutional researchers, the system of expertise involves managing data, assessing the needs of their clients, capturing, pulling and reporting data (Delaney, 1997; Leimer, 2011; Lyons, 1976; Matsen, 1993; Saupe, 1990). The technical skills portion of the survey was designed to measure these matters. For the overall sample, report writing was the highest ranked skill. This fits well with the literature that states that quality reporting that is comprehensive, objective and accurate is what is expected by high level administrators who also expect it to be contextual (Billups & Delucia, 1990; Ehrenberg, 2005; Fincher, 1981; Serban & Luan, 2002). Subgroups who felt they met this expectation and had means for report writing over 5.00 include: large institutions, public and private institutions, IR managers, IR managers at private institutions and IR managers in both the less experienced and more experienced groups.

Before any report can be written, the research must be conducted, and prior to that, the research must be conceptualized. Conceptualizing and planning research was the technical skill with the second highest mean. Being involved in framing the research questions, determining who should be involved, identifying issues and defining situations are how institutional researchers can influence the decision-making process in a way that

will utilize their skills in conceptualizing research and their unique knowledge and still allow them to write objective reports (Bahniuk, et al., 1996; Billups & Delucia, 1990; Pfeffer & Salancik, 1978).

Data management was the third highest ranked technical skill with a mean for the overall sample. While not defined in the survey, data management generally means determining the data that is to be captured, the data that needs to be pulled for research, and cleaning data so that it can be used accurately and correctly (Delaney, 1997; Leimer, 2011; Lyons, 1976; Matsen, 1993; Saupe, 1990). Every group in this study reported having strong data management skills but the IR managers with less experience reported a slightly lower mean than the rest of the subgroups. Separate, but related to data management, is the skill of data mining that is not a very highly rated skill in this study. In fact, it was the lowest ranked skill for the overall sample. The two groups with highest means were the IR staff group and the IR managers with more experience. The least skilled in data mining were the IR managers with less experience; the difference between them and the more experienced group was statistically significant.

Having good presentations skills has been found to increase the effectiveness and influence of institutional researchers and was the fourth ranked skill in the survey (Billups & Delucia, 1990). The overall sample's mean was strong but there was a statistically significant difference between participants who work at smaller institutions and those who work at larger ones. It seems that institutional researchers have confidence in their ability to produce quality final products, reports and presentations, and in their ability at the beginning of the process, data management and conceptualizing research; however, they appear to much less confident in their ability to conduct the research.

The three remaining skills- statistical methods, quantitative research and analytics, and qualitative research and analytics- were the three lowest ranked skills not including data mining. Quantitative research and analytics had a moderate mean for the overall sampling and was the highest of the three remaining skills. Participants at larger institutions had a statistically significant different mean from the participants who work at smaller institutions. The statistical methods skill had a modest mean for the overall sampling. Leimer (2011) and Walton (2005) listed qualitative research as a necessary skill in order to have organizational intelligence but qualitative research skills was not highly ranked in this survey. Private institutions had a larger and statistically significant different mean from public institutions for qualitative research and analytics.

The Technical Skills Combined score was moderately strong for the overall sample but the strength of this skill set is not found in the actual research performed by institutional researchers. Instead it was the front and back end of the process. Participants report being skilled at data management, conceptualizing research, report writing and presentation but were less confident in their ability to perform statistical methods, qualitative and quantitative research, and data mining. This probably may not keep institutional researchers from being effective in influencing decisions but it may limit their scope and ability to influence decisions.

Having control of information and technical skills is needed to produce meaningful outcomes, but institutional researchers' unique knowledge of their institutions enables them to improve their work by providing context to their reports. Their understanding of multiple perspectives and internal issues across campus and external issues can be very valuable in helping committees make decisions (Ehrenberg, 2005;

Knight, et al., 1997; Saupe, 1990; Terenzini, 1999). For the unique knowledge power source, the mean of the Unique Knowledge Combined score for the overall sample was moderately strong even though previous studies have indicated that institutional researchers feel under qualified in the area of contextual knowledge of issues (Knight, et al., 1997). In fact, the mean for the statement “People respect my opinion because I have a very good understanding of issues at my campus” was moderate at 4.47. Participants also indicated that they understand the impact decisions have on departments and resources across campus. The mean for this statement was also strong and was tied for the statement with the highest mean in this power source. The other statement was “I have responsibilities that involve many departments across campus.” Perhaps it is in understanding campus relationships and politics that institutional researchers feel under qualified. The statement regarding their understanding of the interrelationships of departments had a lower mean while the statement regarding their understanding of campus politics was even lower. The work of IR is often used in political conflict to pursue decisions, refute accusations, and to increase power but this statement indicates that is perhaps not the case with the participants of this survey (Rourke & Brooks, 1966; Walton, 2005). Serban and Luan (2002) and Saunders (1983) suggest that IR staff must understand the campus relationships in the political realm work if they wish to participate in policy formation. This is especially important when the institution’s decision-making process can be described as political and in some decisions in cybernetic organizations (Vires, 2009).

The study of unique knowledge across comparison subgroups did reveal some differences. Larger institutions had higher means than smaller ones on the unique

knowledge statements with the exception of understanding departmental interrelations. Private institutions, which were generally smaller in this study, had higher means than public institutions in all statements except for understanding political issues. Additionally, there was a statistically significant difference between the means for understanding the impact decisions have on departments and resources. IR managers had higher means than IR staff in all areas with statistically significant differences in understanding the impact of decisions and interrelationships. The comparison of managers by public and private institutions revealed very high means for both groups for having cross-campus responsibilities and understanding the impact of decisions. IR managers with more experience were higher in all areas than the managers with less experience except for having cross-camps responsibilities. There was a statistically significant difference between the two groups for understanding the interrelationships of departments. Overall, institutional researchers do have a unique knowledge in their understanding of campus issues and by having cross-campus responsibilities but perhaps they may need to gain a better understanding of departmental interrelationships and politics if they wish to have a greater impact on decision-making. In fact, as will be discussed later, understanding power as being related to having political connections is a variable that contributes to the Ability to Influence Combined score.

Having legal prerogatives gives one the power to require others to act in a certain way to ensure there is no violation of the law. This was Mintzberg's (1983b) fourth power source and was expected to be the weakest of the five power sources for institutional research, and it was. Nowhere in the literature were the legal prerogatives of IR discussed although completing reports for IPEDS, Regents, and grants are a traditional



part of the work of IR. The legal requirements are present, but they are not often viewed as a means for power. Although legal prerogatives were the weakest power source for the overall sample, it was the power source with the most diversity and statistically significant difference in means. In each comparison group, one group had a higher means than the other on every statement. The groups with the higher means and therefore more power related to having legal prerogatives were: smaller institutions, private institutions, IR managers, IR managers at private institutions, and IR managers with more experience. Having to complete reports that are required by law or government had the highest score of the statements. There were statistically significant differences between the smaller institutions and the larger ones, IR staff and IR managers, and managers with more and less experience. Managers with more experience had the highest mean. Completing reports required for grants or other funding sources had the weakest mean for the overall sample.

Despite having reports to complete that were required by law and government regulations, participants did not feel that they had authority to demand work from others on campus in order to complete their reports. The overall sample's mean for this statement was low, but the group with the highest mean was the IR managers with more experience. Their mean was in the moderate range and was significantly different from the less experienced managers. Apparently the participants did not need to demand work from others in order to complete their work because the statement "People on my campus comply with my request for information because they understand my required reporting needs" had a moderate mean for the overall sample. Much of the work of IR has apparently been incorporated into the culture of the institution. There was a statistically

significant difference of the means for the IR managers at private institutions and those at public institutions. The final statement attempted to understand if the participants actually used their legal prerogatives to get needed information from staff or faculty. For the statement “I have used legal obligations or regulations to get data and information I need from faculty or staff” the mean for the overall sample was 3.88 but there are those who have used this power source. The mean for the more experienced IR managers had a strong mean that was statistically significant from the less experienced IR managers. The IR staff group had the lowest mean. As previously mentioned, the Legal Prerogative Combined score was low to moderate for the overall sample with the only group with statistically significant different means being the IR managers with more and less experience. It is clear from this portion of the study that institutional researchers do have legal requirements related to their work but they do not necessarily see that as giving them the right to demand others to comply with their reporting needs. There are those, however, who have used legal requirements as way to get others to comply with their needs. It appears that most institutions have a culture that understand IR’s reporting needs and comply without institutional researchers having to use this power source. Lastly, this power source is more related to government and legal reporting than it is related to grants and funding, perhaps because grants are often a departmental issue.

Having access to high ranking decision-makers is the last of Mintzberg’s (1983b) power sources and one that is most dependent on the organizational structure of the institution. IR offices that are situated high on the organizational chart have more access to decision-makers (Delaney, 1997; Knight, et al., 1995; Matsen, 1993; Suslow, 1972; Walton, 2005). In addition to having access, institutional researchers can increase their

influence through their cross-campus responsibilities and by developing formal and informal relationships that will help them understand the expectations and style of the decision-makers as well as the decision-making process (Billups & Delucia, 1990; Knight, et al., 1995; Matsen, 1993; Serban & Luan, 2002; Suslow, 1972). Access to decision-makers is important enough that some scholars in the field feel that IR managers should act as Chief Information Officers and be members of the president's cabinet (Knight & Leimer, 2009). IR offices that report to lower levels of administration or are housed in specialized units (decentralized) will have less influence on decision-makers (Delaney, 1997; Fincher, 1981; Knight, et al., 1997; Serban & Luan, 2002; Suslow, 1972). The access to decision-makers power source appears to be reasonably strong for institutional researchers in this study.

The Access to Decision-Makers Combined score for the overall sample was one of the highest ranked power sources. As previously discussed, there is some variation in whether or not the participants' offices are centralized as the mean was moderate for the agreement with the statement "I consider my IR office to be centralized". The largest difference in means was between the larger institutions and the smaller institutions. Larger institutions in this study tended to have more centralized offices than the smaller ones and the difference was statistically significant. However, the smaller schools tended to be situated closer to the president on the organizational chart. Even though some offices are not centralized, there was strong agreement that the person to whom IR reports to is considered a high level decision maker. Every group, except for IR Staff reported that its boss was a high level decision-maker; participants who worked at private institutions had the highest mean. Having a supervisor who is a decision-maker does not

mean that institutional researchers meet with them regularly. The statement “I meet with high level decision makers regularly” had only a weak mean for the overall sample. IR Staff had the lowest means and was statistically different from the mean of the IR Managers. Participants did feel that they could ask a high level-decision maker to intervene on their behalf if it was needed. For the overall sample, the mean was strong for this statement. There was a statistically significant difference between the means of the IR managers at private institution and those at public institutions. For the Access to Decision-Makers Combined scores, there were several groups with statistically significant differences: the larger schools had a higher mean than the smaller institutions; IR managers had higher means than the IR Staff; IR managers at private institutions had higher means than IR managers at public institutions; and IR managers with more experience had higher means than IR managers with less experience.

Access to decision-makers is a moderately strong power source because of two factors: participants’ bosses are high-level decision-makers and they can ask a high level decision-maker to intervene on their behalf if needed. However, the participants seem to be lacking in regular meetings with high level decision-makers, which is where they can have the most influence on the decisions by sharing information and recommendations. It may be possible that participants do meet regularly with their bosses, but view it simply as “just a meeting with my boss” and not an “important meeting with a high-level decision-maker”. More importantly, is whether or not these meetings are held to discuss administrative issues concerning the IR office or if the meetings are held to discuss institutional issues.

All of Mintzberg's (1983b) power sources are present in the role of instructional research at a moderate to strong level. However, there appears to be weak areas within each of the power sources. In the Control of Resources power source, institutional researchers are very strong in the area of collecting, creating and distributing data and/or information and they affirmed that IR is a source of information for faculty, administrators, and staff. However, it appears that information for decision making at both the institutional level and departmental level is available from other sources in addition to IR, which weakens the use of resource dependency theory in this situation. If this is truly the case, the power associated with the control of resources depends on individual decision that needs to be made and who has the information needed for the decision. The technical skills power source is also a strength for institutional researchers. Participants felt they were best skilled at report writing, presentations and conceptualizing research but were weaker in the areas of statistical methods, qualitative research and analytics, and data mining. They reported a moderate confidence in the skills in quantitative research and analytics. It is the middle part of the IR production process (research, analytics, and data mining) that institutional researchers can improve on. There is no reason to doubt that participants cannot perform the statistics needed for their analysis and reporting, but there may be a question as to whether or not they can confidently perform advanced inferential statistical methods and data mining needed to dig deeper in their research of institutional issues. If IR desires to move toward the role of "action research" in order to be change agents, they may need skills in advanced statistical methods and in data mining to really develop new solutions to their institution's problems.

Understanding problems and implementing change requires knowledge of the institution as well as knowledge of the interdepartmental relations and politics. Participants in this study felt that their strength in the unique knowledge power source was related to their having responsibilities across campus and in their understanding about how decisions affect departments and resources. However, they did not feel very strong about their understanding of the interrelatedness of departments and politics on campus, which are two areas that are vital if institutional researchers wish to be influential in the decision-making process. Participants could increase their unique knowledge power in these areas by increasing their access to decision-makers power. While most participants felt that their boss was a high level decision-maker and that there was a high level decision maker on whom they could call on to intervene on their behalf, they did not meet with high level decision-makers regularly. Increasing the number of meetings with decision-makers may build stronger professional relationships that may increase the usage of their data and information, help conceptualize research to solve issues, and increase their understanding of relationships and politics on campus. The last power source, legal prerogatives, had the most variation in responses and the lowest score. Participants have legal and governmental requirements to complete reports but this is not seen as a way to demand that others comply with requests. Even if it were true, the power probably would not extend beyond getting other people to provide the data needed to complete reports. Only IR managers with more experience indicated that they have actually used their legal requirements as a way to influence the actions of others.

In summary, all five power sources are present within institutional research, which provides the potential for this group of analysts to be able to intentionally

influence decisions. However, in each power source, there appears to be areas of weaknesses that may inhibit or limit how much power is actually present. How that power is used, or not used, may be a factor of the institutional researcher's natural orientation toward and understanding of power.

### **Discussion of Power Orientations**

The purpose of the power orientation measure was to understand if there was a common orientation within the profession of institutional research and also to try to understand how institutional researchers might use their power to influence decisions. According to Goldberg, Cavanaugh, and Larson (1983), the way power is used is dependent on the person's orientation toward power. As previously mentioned, the full Power Orientation Survey (POS) consists of 40 questions based on six power orientation constructs: power is exciting and desirable, power is controlling information, power is a natural and instinctive force, power is having political connections, power is personal charisma, and power is having control and autonomy. Because of the need to shorten the overall survey, the POS was reduced to one question asking participants to rank the type of orientations that best reflected their understanding of power; no definitions or explanations were provided. Peoples' orientation toward power is based on their own meaning of power and is a reflection of their past experience (Bahniuk, et al., 1996; Goldberg, et al., 1983).

Two power orientations were clearly more prevalent among the participants of this survey. The first was the understanding of power as being related to control and autonomy. A person with this understanding will view power as the ability to get others

to do as they wish, and in doing so, the person who gains power will also gain independence and autonomy (Bahniuk, et al., 1996; Farley, 1987; Goldberg, et al., 1983). This study provided no indication that institutional researchers desire to control others to get them to do as they wish for political reasons. The word “control” might have been associated with autonomy and perhaps, if the full POS had been administered, control and autonomy might not have been the highest ranked orientation. However, autonomy is a concept that is generally synonymous with higher education and also fits the personality of one who enjoys working with data and numbers. Institutional researchers who understand power as control and autonomy may use their power to enable them to work independently and free of political pressure.

The second highest ranked orientation was seeing power through political relationships. Persons with this orientation would seek to gain and use power via the political process (Bahniuk, et al., 1996; Farley, 1987; Goldberg, et al., 1983). The fact that understanding power as political was the second highest ranked is somewhat surprising considering how low the means were for the unique knowledge power source statement “I know more about campus politics than most people on campus.” Perhaps institutional researchers, in their work with high level decision-makers, have witnessed politics within the decision-making process or perhaps have seen their objective and rational data set aside for political reasons, which may explain why the political orientation is so prevalent. There were only two exceptions to these two rankings. The first group who ranked politics above control and autonomy was the IR Staff. The second were the more experienced IR managers who ranked control and autonomy first, but ranked charisma second while politics and controlling information tied for third.



The fact that the controlling information power source was not ranked higher for all participants emphasizes the point made in the power orientation section; despite having control of information and having power that is inherent in controlling information, institutional researchers do not see the information they provide as source of power. The reason for this was not clear from this survey. Perhaps it is because they simply do not associate information with power. Higher education is based on the creation and transfer knowledge, so the sharing of knowledge may be seen as normal within IR. Withholding knowledge may be the exception. Regardless of whether or not the control of information was highly ranked, the two that were- control and autonomy and political- makes sense when viewing institutes of higher education as cybernetic organizations. The idea that a person is autonomous fits well with the characteristics of the collegial and professional bureaucracy organizations where everyone is seen being equal and has freedom and autonomy in their own area of expertise. The political orientation fits the understanding that decisions are often negotiated and there is a constant struggle to secure resources within higher education (Vires, 2009). People who view power as autonomy seek to use power as a way to freedom and the ability to self-govern. Their interest in influencing decisions may not extend beyond protecting their freedom to carry out their duties as they best see fit. This orientation might partially explain why institutional researchers prefer their work to remain objective. By focusing on “just the facts” without a subjective component to their reports, they might be avoiding politics and conflict. This leads us to the next discussion, the will and the ability to influence.

## **Discussion of the Will and the Ability to Influence Decisions**

Mintzberg (1983b) felt that analysts had no real interest in using their power to influence decisions other than to secure their continued employment. They are interested in the betterment of the organization for which they work, but not necessarily interested in gaining or using power for purposes other than their own autonomy. Therefore, analysts have power, but often lack the will to use it. Within the profession of institutional research there are those who believe institutional researchers should be intentionally active participants in the decision-making process and those who believe that institutional researchers should remain objective and passive in their influence. This study sought to determine whether or not institutional researchers felt they were a powerful resource and if they had the will to actively influence the decision-making process. Almost every participant in this study felt that IR was a powerful resource for decision-makers. While participants agreed that they are a powerful resource they had a stronger inclination for the passive will as opposed to the active will.

It has been stated that the intention of IR is to promote action regardless of whether or not institutional researchers purposefully influence the decision-making process (Rourke & Brooks, 1966; Serban, 2002). For those who believe that IR should have an active will to influence decisions, they feel that IR should be “change agents” that engage in action research; not only should IR identify issues on campus and departments that are underperforming, they should also provide solutions for change and problem-solving (Delaney, 2009; Donhardt, 2012; Knight & Leimer, 2009; Saunders, 1983; Saupe, 1990; Serban, 2002). Both Perry (1972) and Saunders (1983) felt that IR should be involved in policy-making and development. Some institutional researchers

have expressed frustration because of their limited ability to have an influence on policy confirms a desire to be more involved (Hearn, 1988; Knight & Leimer, 2009).

The results for the active will portion of the study indicated a low level of agreement for the having an active will. Most participants were not actively involved in the decision-making process and there was only a moderate level of agreement in their desire to be more involved. For the statement “I am an active participant in decision-making” the mean level of agreement for the overall sample was low while the desire to be more involved statement had a more moderate mean. There was a statistically significant difference between IR Staff and IR Managers in their being actively involved. The IR managers had the higher score for this statement. Perhaps this difference is inherent in the differences between management and staff positions. If an IR staff member had a greater desire to be involved in making decision, this might be an indication of a desire to advance to a management position.

The highest of all the active will statements was “Institutional researchers should be change agents who provide solutions to problems”. This statement had a modest mean indicating a reasonable level of agreement with the associated literature. The group with the highest mean was the less experienced IR managers. Currently, however, participants in this study are not providing a subjective component that includes their feelings or political influence to their outputs that might be required if IR wish to in act change. The mean for the overall sample for this statement (“I include a subjective component in my outputs”) was very low indicating moderate disagreement. The less experienced IR managers also had a higher agreement indicating more of a willingness to be subjective.

The less experienced IR managers also had the highest Active Combined score making them the group with the most will to actively influence decisions.

Those who believe that IR should take a passive role in influencing decisions argue that studies and research conducted by IR already represent a very active role and that objectivity and rationality are the hallmark of the institutional researcher (Fincher, 1981; Knight & Leimer, 2009; Suslow, 1972). Giving opinions and recommendations are not part of the traditional role of IR. Instead, IR traditionally remains neutral and objective and free of personal philosophy and politics (Suslow, 1972; Walton, 2005). The means for this study reflected the passive perspective in literature more than the active perspective. The agreement level for the statement “My outputs are always objective” was strong for the overall sample with the IR managers at private institutions having the highest mean. There was also moderate to strong levels of agreement for the statements “The work of IR should be free of personal philosophy and politics” and “IR has served its purpose when it has provided information and stimulated reflection.” The smaller institutions, private institutions, and IR managers at private institutions all had very strong means for the first statement. However, when asked about their level of agreement with the statement “I prefer not to be involved in the decision-making process other than providing information” the mean for the overall sample was very low inversely indicating a moderate desire to be involved at a deeper level than being the provider of information. The IR staff group had the highest level of agreement while the IR managers in public institutions had the lowest level of agreement. The only statistically significant difference in means for the passive statements was the Passive Combined score for the comparison by institutional size where the larger institutions had the lower passive score. The Passive

Combined score for the overall sample was low to moderate indicating moderate levels of agreement with the passive will statements but considerably higher than the mean for the active will statements. Most of the groups were very similar in their responses with very few statistically significant differences.

Total Combined score for the active and passive will statements had the passive statements reversed scored so that the Total Combined score measured an overall level of a desire to be actively involved in the decision-making process. For the overall sample, the Total Combined score was low reflecting the traditional roles and philosophy of IR. The group that had the highest mean was the less experienced IR managers perhaps indicating a desire to change the role of IR. Their counterpart, the more experienced IR managers had a much lower mean. It is unclear why there is such a difference in means (even though it is non-significant). Perhaps it is the differences in age, experience, level of education (there were more Ph.D.s and Ed.D.s in the Less Time group) that are factors. A final question for the will to influence section asked the level of influence IR should have on the following areas: establishing budgets, resource allocation, retention issues, program review, curriculum, and student success programs. Across the board, the top three areas were always retention issues, program review, and student success programs. For the overall sample, retention issues ranked first followed by program review and then student success programs. There were some slight variations in ranking but all groups had these three and all three had high means.

Decisions in higher education are never based solely on the work of institutional researchers but are based on the academic and professional judgment of the decision-makers (Saupe, 1990). The work of IR does reflect an active role but is traditionally

passive and non-directional (Suslow, 1972). Although it is not a very strong voice, this study did indicate that institutional researchers felt that they can act as change agents who can provide solutions and that they want to be more involved in decision-making beyond providing information. Perry (1972) and Saunders (1983) advocated for IR to act as a third voice in decision making that provides rational options in policy making and process development. To do this, institutional researchers must learn to provide a subjective aspect to their work that includes their professional opinion and make recommendations to solutions or they can remain objective and provide as many rational solutions as possible. Even this approach would involve some subjectivity in determining what solutions are put into their reports. It appears that if there is a shift to a more active involvement, it may come from the less experienced group of IR managers as they had the highest scores on the active will statements. But just having a will to be influential does not mean that they will have the ability to influence.

The ability to influence decisions section was developed from the possible ways institutional researchers can have an influence found in the literature review. There was a large range of mean scores across the possible ways of influence, from as low as 2.00 to a high of 5.12. The Ability to Influence Combined score for the overall sample, however, was mild to moderate. The group with the highest combined score was the IR managers with more experience while the low was the IR Staff group. There was only one statement in all of the comparisons that was found to be statistically significant; the larger institutions had a higher mean for their involvement in framing research questions than the smaller institutions. All groups had very similar means.

As discussed in the will to influence section, traditionally, providing an opinion or recommendation is not a part of the regular routine for institutional researchers (Suslow, 1972; Walton, 2005). When presented with the statement, “My opinion is often considered in decision-making” the mean level of agreement was mild overall. IR at larger institutions had their opinions considered the most while the least considered group was the IR Staff. Even though their opinion is not often considered, institutional researchers’ reports and data are. After all, objective and rational reporting are the hallmarks of IR work (Fincher, 1981; Knight & Leimer, 2009; Suslow, 1972). When IR gives their data and reports to others, they are providing a source of power to the receiver (Hearn, 1988; Rourke & Brooks, 1966). However, the information is only as powerful as the decision-maker’s inclination to use it. When a decision-maker does not utilize the information provided by IR, IR loses power and the information is not a valuable resource. In such cases, IR may need to work on educating the decision-makers about the value of the data and what all is available to them (Ehrenberg, 2005; Fincher, 1981). The statement (s), “My reports (data) are often used in decision-making” had the highest means for all the ability to influence statements. Generally, data statements had a higher mean than the reports statements did. The group with the most influence was the more experienced IR managers while the lowest group was IR managers at public institutions.

Even though institutional researchers’ reports and data were being used at a pretty strong level, participants indicated that their opinions and work outputs were not respected at the same strong level. The statement (s), “I feel faculty (administrators) respect my opinion and work” had mild agreement levels for the overall sample for the faculty statement and moderate for the administrator statement. All participants felt that

the administrator respected their work more than the faculty. The group with the highest mean was the participants at the larger institutions for the administrators statement while the lowest mean was the group of IR managers with less experience for the faculty statement. Suslow (1972) suggested that IR needs to keep a balance between appeasing faculty and administrators because he felt that working more with one will negatively influence the relation with other. It appears that participants in this study are on the administrative side of the balance. Having a Ph.D. and faculty experience can help build relationships with faculty; however, it was the less experienced IR managers who had more Ph.D.'s but had the lowest mean for the faculty statement (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Saunders, 1983; Suslow, 1972; Walton, 2005).

Retention issues, program review, and student success programs were the three areas that participants felt that IR should participate in the most. IR's potential powers in these areas were discussed in the literature review. Institutional researchers can identify units and programs that are no longer fulfilling their objectives and/or missions or are unable to prove their contribution to the mission of the institution, which could affect the programs funding (Saunders, 1983; Saupe, 1990; Suslow, 1972). Beyond reviewing programs, IR can identify internal issues with administrative units and external issues that may affect the institution. Conversely, they can also identify successful units and programs that can positively affect their funding (Fincher, 1981; Knight, et al., 1997; Matsen, 1993; Saupe, 1990). Participants in this study indicated that they had very little to do with departments or programs losing funding. The lowest group's mean being related to IR managers at private institutions. There was more agreement with the statement about helping departments or programs to receive funding but the overall mean



was still weak. The most influential was the more experienced IR managers. They also had the highest mean for identifying success and excellence on campus. The overall mean score for identifying success and excellence was slightly higher than the mean for identifying issues. Again, it was the IR managers at private institutions who had the lowest means. While the participants of the study indicated a belief that they should be involved in program review, they did not indicate that they actually have much influence in it, especially when it comes to influencing funding.

Identifying issues, determining the measure of success or failure, and understanding who should be involved in making decisions are related to having institutional knowledge and the ability to properly frame research questions and conduct research (Morgan, 2006). When asked their level of agreement with the statement, “I am involved in helping to frame research questions for decision-making” the overall sample had a mild to moderate mean agreement. The group with the highest mean was the more experienced IR manager group while the lowest was the IR staff. Conceptualizing research was one of the highest technical skills for all of the participants, which makes the low rating of the ability to influence in this manner somewhat surprising, although it ranked in the middle of the other manners of influence in the study. As Saunders (1983) stated, helping to define the research question is helping to influence the decision. How the research question is framed influences how to determine which departments or programs are successful and which are not. This in turn helps to define the institution both internally and externally.

By creating new knowledge and making recommendations, institutional research engages in social construction that can define the institution based on its strengths and

weaknesses, to both internal and external constituents (Matsen, 1993). The level of agreement for the statement (s), “My reports define our institution to internal (external) constituents” had moderate level means for the overall sample. Even though they did not feel that they influence funding or even identify success or failure very often, participants did feel they are at least defining the institution. This might be on the level of completing fact books that create an image for public consumption or it might be identifying retention issues that refocus the energies and resources of the institution and redefines institutional priorities. Between the internal and external statements, the IR managers and public institutions had the highest mean for defining the institution for external constituents. The lowest mean was from the IR Staff group in defining the institution internally.

Of course any report or data that will influence the distribution of resources, internally or externally, introduces political maneuvering into the decision-making process. As much as IR would like to treat decision-making as a rational process based on data, that is not the case. Institutional research must understand the political realm and characteristics of their institutions (Saunders, 1983). Institutional research is called upon to provide data that can be used to persuade a decision-maker, to refute an accusation, or to increase power of a smaller player in a political conflict (Rourke & Brooks, 1966; Walton, 2005). As previously reported, participants’ understanding of political relations on campus was very low and they do not feel that they are used very often in political conflicts. The statement, “I am often asked to provide data that supports the particular view point of a group” had a low mean for the overall sample. The group used most in political maneuvering was the more experienced IR managers. The group with the lowest

group mean was the private institution group. It is possible that when faculty or staff comes to IR for data and information, IR might not be aware of whether or not the information is being used for political purposes. Once the data are released to the recipient, power is transferred and is used how the recipient chooses.

The follow-up question to the ability to influence section asked participants to rate how much control they had over issues in their own areas. The issues included: what projects you work on, how your research was conducted, when your work is due, how your data is interpreted, how your data are presented, and how your budget is spent. Every group and the overall sample determined that they had the most control over how their research was conducted. This is interesting considering they only had moderate levels in the ability to influence the framing of the research question and the technical skills of qualitative and quantitative research were not high, nor were skills related to statistical methods. On the other hand, conceptualizing research was one of the highest ranked technical skills. The participants indicated that they had the most control over how their data were interpreted and how their data were presented. What projects participants worked on and how their budgets were spent were the next highest picked areas of control. When their work was due was the lowest. How their research is conducted had consistently strong means. The purpose of this follow up question was simply to get an initial impression about how much power institutional researchers had over their immediate area and work. The implications are that they have a moderate level of influence but if they were more involved in identifying issues and defining the research questions, they might have more control over how their research is conducted and what

projects they work on. Institutional researchers whose power orientation is autonomy might be interested in using their power in this way.

Overall, the institutional researchers who participated in this study tended to agree with the more traditional roles of IR in the literature that describe the work of IR as objective, rational, free of personal opinion and politics, and that it is complete once it has stimulated conversation. They do not have a very strong will to influence decisions but would like to act as change agents by identifying issues and making suggestions for improvement. There is very little subjective content included in their output, which may need to change if they wish to be more involved with the decision-making process beyond providing information. Currently, their opinion is not considered in decision-making very often unless they are a manager who has worked in IR for some time. Their work has won the respect of the administration but is only slightly respected by the faculty. This could be improved by increasing their presence in departmental issues and improving their networking skills. As was expected, the reports and data are how IR has the most influence on decisions as they are often used in the decision-making process, although meeting more regularly with high level decision-makers and pushing to have their data and expertise used more, would increase the use of their data and therefore their influence. Being more involved in framing research questions will also increase their ability to influence decisions. Participants indicated that IR should be involved in program reviews but it appears their work has little to do with funding of departments and programs. To be influential, IR would need to work more closely with those who determine if funds will increase or decrease for the departments and programs under review. This of course will increase their presence in the political struggles for resources,

which they feel they are not currently involved in. Understanding power from a political perspective was the second highest ranked power orientation in this study and perhaps could be one area that could most increase their ability to influence. This would require them to increase their networking, understand the political relations on campus and be more aware of when they are being asked to support a particular view point. As it turns out, having a political orientation toward power was one of the variables that most explained the participants' ability to influence decisions.

### **Discussion of the Variables that Contribute to the Ability to Influence**

After exploring the power sources available to IR, power orientations, and the will to influence, this study sought to understand what variables might contribute to some institutional researchers being more influential than others. The final model produced by the linear regression using the step-wise method identified seven contributing variables that helped explain the variances in the Ability to Influence Combined score. From Mintzberg's power sources, the control of information power source and the technical skills power source were not included in the regression because these two sources are at the heart of what IR does. The control of information can be used in all decision-making models to influence decisions. Institutional researchers can influence decisions in two main ways by controlling information. First, if IR is the sole source of information, the information they provide can define the problem, limit or expand the solutions, and determine who is involved simply based on the objective or subjective data/information they provide. Secondly, the information institutional researchers provide is power; so if IR controls who does or does not receive information, they influence who does or does not have power in the decision-making process. This would probably be most useful in

the political model where decisions are negotiated or the bureaucratic model where the rational decisions are often based on IR information. However, the control of information might not be as effective in the collegial model where decisions are based on faculty knowledge and expertise. Since the cybernetic models uses all three types, controlling information can be influential in that model as well. Having the technical skills power source can be effective in bureaucratic model as long as IR has unique skills that the decision-makers do not have and are therefore dependent on the skilled outputs of IR. Technical skills can also help in collegial models if IR is respected by the faculty. Institutional researchers who help faculty in their research and publications might be able to have their skills respected enough to be invited to participate in the collegial decision-making process. In the political process, technical skills will be influential only to the extent that they are able to support the political parties involved. While the controlling resource power source and technical skills power source were not included in the regression model, the remaining three power sources were.

Higher scores in unique knowledge, access to decision-makers, and legal prerogatives were included in the regression and proved to be major contributors. Within the unique knowledge measurements, most participants had strong scores in the statements regarding understanding how decisions impact departments, having cross-campus responsibilities, and having their opinion respected because of their understanding of the institution. That leaves the variance in the remaining two statements, the understanding of interdepartmental relationships and campus politics. This finding emphasized the need for institutional researchers to have some level of awareness concerning the political reality of decision-making and the need for institutional

researchers to have people skills and an understanding of people with whom they are working (Saunders, 1983). Unique knowledge can help institutional researchers in collegial decision-making if the knowledge is seen as relevant and the institutional researcher is seen as a subject matter expert. This power source can also be influential in the bureaucratic model, especially in a highly structured decision-making process. IR's unique knowledge might provide broader information to decision-makers who might have a narrow scope of influence and a limited understanding of the situation because of the specialization that occurs in a bureaucracy. In the political model, unique knowledge is knowledge that the political actors do not have but need to obtain in order to support their cause and negotiate a solution.

The legal prerogative power source contribution appears to come from two possible areas, either from affecting funding related to grants or other funding sources, which few participants felt they did, or from their belief that they have authority to demand work and the willingness to actually use it. As mentioned earlier, the ability to demand work from others probably does not extend beyond demanding constituents to provide data needed for reporting, unless the IR department has some additional non-traditional responsibilities. What is more likely is the idea that someone who has the authority to demand work would actually use that authority. In other words, the fact that participants used their authority, or power, demonstrates a higher will to influence than those who have not used their authority. The actual use of power, then, contributes to a high Ability to Influence Combined score. It would seem that legal prerogatives would be used the same way in all decision-making models, assuming that decision-makers are interested in complying with legal requirements. However, if the legal requirement power

source is dependent on the willingness of the institutional researcher to use it, it might be more effective in the political model as a tool for negotiation but threatening legal requirements might be seen as offensive in the collegial or bureaucratic model.

Demanding action based on legal requirements might not set well in the collegial model when decision makers are considered equal nor would it set well in the bureaucratic model if the institutional researcher threatens the established chain of command.

Since most participants reported to a high level decision-maker, the probable statement that makes access to high level decision-makers power source a contributing factor to explaining the variance of the Ability to Influence Combined score was the statement about meeting with high level decision-makers regularly. This is another reflection of the need for institutional researchers to have a reasonable level of political and people skills. The more decision-makers and/or faculty know IR, the more likely they will be able to trust their data, consider their opinion, and be aware of all the reports and information available to them through IR. Institutional researchers can still be objective and rational in their work, but meeting more regularly with decision-makers will increase the likelihood that IR is included in the framing of the research questions, finding solutions, and considering the broader impact of decisions (Billups & Delucia, 1990; Ehrenberg, 2005; Fincher, 1981; Serban & Luan, 2002). Of course, having access to high level decision makers would be helpful in any decision-making model but perhaps less so in the political and the collegial models where decisions are negotiated or mutually agreed upon, unless the access to the decision maker enables institutional researchers to be seen as an equal to those involved in making the decision. It would be most beneficial in a bureaucratic model when the decisions can be handed down from the highest level of



the organization. The higher the level of access, the more influential the institutional researcher could be.

Institutional size, based on student population, was the fourth largest contributor to the variance in the Ability to Influence Combined score. There are two reasons that may explain this based on this study. First, there seems to be more variation in the placement of the IR department in the smaller institutions. While institutional researchers at smaller institutions reported being closer to the president on the organizational chart, they also reported that they are less centralized and have more of a chance of reporting to a more specialized area such as enrollment management. Larger institutions have IR departments that are more centralized and are more likely to report to a higher level decision-maker. Being more centralized provides the department with more exposure on campus and promotes the image of being a part of the larger decision-making structure (Knight & Leimer, 2009; Knight, et al., 1995; Matsen, 1993; Saupe, 1990; Suslow, 1972; Walton, 2005). Being involved at a higher level allows the IR office at larger institutions to have more of an influence. The second explanation is that the larger institutions have larger IR departments. With larger departments comes more resources and stature in addition to the ability to engage in a larger variety of institutional research projects. Additionally, the participants from the larger institutions served on more institutional level committees than the smaller institutions. More involvement increases opportunity and therefore the ability to influence decisions. Larger institutions of higher education are more likely than smaller ones to be described as a cybernetic organization because of the increasing complexity of the organization (Vires, 2009). Therefore, institutional researchers who desire to actively influence decisions must be prepared to determine if a

decision being made is using a collegial, political or bureaucratic process and act accordingly.

The next two variables in the model were the power orientations of personal charisma and political connections. Both charisma and political connections place emphasis on the need to understand people and the interrelationships on campus. It is not necessary for institutional researchers to become charismatic individuals in order that they may have greater influence, but they should be aware of who on campus has the charismatic personalities and learn to work with those individuals. Often, it will be the more charismatic individuals who have the political connections. Decision-making processes that involve charismatic individuals and political negotiation have a need for the objective and rational voice represented by IR (Perry, 1972; Saunders, 1983; Suslow, 1972). The objective and rational voice can represent a perspective that sees the needs of the institution as a whole instead of the needs of an individual or a political group. In order to be present at the decision-making table, institutional researchers must learn to understand and work with both of these orientations. Institutional researchers can use both the charisma and political orientations to be very effective in influencing decision-making in the collegial and political organization. Using charisma can help them to be seen as an equal to the decision makers. Being politically oriented can increase their willingness to engage in the political negotiations. Additionally, institutional researchers can influence decisions by attempting to be a rational voice in both processes. However, in the bureaucratic organization, the institutional research might be most effective by focusing on providing rational data, information, and solutions.

Years of experience was the final variable that was related to the variance in the Ability to Influence score and the only variable that had an inverse relationship. It seems reasonable to assume that having spent more time at an institution would increase institutional researchers' unique knowledge and expand their political network thereby increasing their ability to influence decisions but that does not seem to be this case. From the information gathered in this study, there are two plausible explanations for the inverse-relationship. First, there were fewer participants who had earned a Ph.D. or Ed.D. in the more experienced IR managers group than the less experienced IR managers. This might have resulted in a decrease in their agreement with statements regarding having their work and opinions respected by faculty and administrators. When decisions are made that have a collegial component to the process, the lack of a terminal degree, and therefore lack of faculty experience, might be a factor in their ability to influence the decision-makers, faculty in particular (Delaney, 1997; Knight, et al., 1997; Rourke & Brooks, 1966; Vires, 2009; Walton, 2005). The second explanation from the data is that the more experienced IR managers simply did not have a very high mean on the Will to Influence Combined score. This group had the means to influence but simply remained true to the traditional role of IR of not engaging in the decision-making process beyond providing objective information and reporting for the consideration of the decision-makers.

What was clear from the linear regression was that most of these variables involve the ability to understand and interact with people. Understanding the political process and having people skills appear to be underlying themes related to the ability to influence decisions. In the collegial process, institutional researchers must understand the

requirements to be seen as equals to decisions makers. They can do this by increasing their credentials or by being viewed as a subject matter expert. Decisions based on the political process require the institutional researcher to understand who is participating in the process and their information needs. IR can then provide or withhold information as is needed to influence the negotiations. In the bureaucratic process, IR can provide the rational voice and use their access to decision makers to influence decisions based on their rational opinions. The cybernetic organization requires institutional researchers to work with all three processes and to be able to understand which process is being used on each decision that is being made. Not every contributing variable is needed to actively influence decisions, but the more variables institutional researchers have at their disposal, the more opportunity they will have should they decide to actively influence a decision.

### **Conclusion**

This study confirmed the presence of all five of Mintzberg's power sources within the position of institutional research even though each power source has areas of weakness. The reports and data that are the main outputs of IR are the anchors of the control of resource power source. IR is a powerful resource for decision-makers but it is not the only source of information in institutions of higher education. While IR will probably never be able to control information in the truest sense of resource dependency theory, institutional researchers can strive to produce accurate and useful information that is placed in context to the decision being made, thereby controlling information by being the most trusted and respected source of information. Institutional researchers have very good skills in reporting, presenting information, and conceptualizing research, which

makes their technical skills a strong power source. By increasing their skills in data mining and more complex research techniques in quantitative/qualitative research and analytics, they can increase their ability to diagnose issues and develop solutions. The stronger their research skills are, the more objective and rational solutions they can present. Without increasing their skills in these areas, institutional researchers may need to increase the level of subjectivity in their reports if they wish to be more influential. A better understanding of campus politics and interdepartmental relationships would increase institutional researchers' unique knowledge power source and further complement their understanding of the impact of decisions across campus and help them with their cross-campus responsibilities. The legal prerogatives power source is present but will most likely be limited to helping IR get the information they need to complete reports. While having legal requirements is a contributor to the ability to influence decision, it may be more a reflection of a personality trait of someone who is willing to use their authority than actually having legal requirements that requires action to be taken by others. The final power source, access to high-level decision-makers, is present but appears to be underutilized as participants indicated that they do not meet with decision-makers regularly. Increasing their people skills and political orientation could help increase the strength of this power source.

Institutional researchers have two orientations or understandings of power. The strongest is the control and autonomy orientation, which would indicate that institutional researchers view power as a way to ensure they can do their jobs with as much freedom as possible. It appears to reflect an interest in working more with data and research rather than people and politics. To increase their influence, or to simply increase their

involvement in decision-making, institutional researchers can develop the second most popular orientation, political connections. This would place an emphasis on understanding the political realm of higher education, which does not necessarily mean that they would need to be directly involved with campus politics but at least understand it, how it works, and the needs of those engaged in the political conflicts of decision-making.

This study also revealed that institutional researchers wish to remain objective and rational in their work but would also like to be more involved in the decision-making process beyond simply providing information. To do so may require institutional researchers to increase their people skills and be willing to get more involved in campus politics. Their reports and data are used and are respected in the decision-making process but they have little influence on identifying programs and departments that have issues and they are not involved with influencing funding. To truly get involved as change agents, institutional researchers need be more involved in identifying problems and using their skills to provide rational and objective solutions and alternatives.

Finally, this study found that institutional researchers that have a greater ability to influence decisions have a strong presence of all five power sources. They view power as being related to having personal charisma and political connections indicating that they have a stronger understanding of the need for people skills and political relationships. And lastly, they are not necessarily the ones with more experience at their current institution; in fact, there is an inverse relationship between institutional experience and the ability to influence.

This study was able to contribute to the existing knowledge by confirming Mintzberg's (1983b) power sources in analysts who work in higher education in the role of institutional research. It demonstrated that the literature on institutional research reflects the attitudes of institutional researchers; they desire to increase their involvement in the decision-making process beyond providing information and they want to help improve their institutions by acting as change-agents. However, they also want to remain as the objective voice in decision-making and provide rational solutions for the consideration of others. It is the opinion of this researcher that if institutional researchers wish to increase their ability to have a positive impact on the decision-making process, they have the power sources and the opportunity to do so but it will require them to improve their understanding and comfort level of campus politics and increase their research skills to go deeper than descriptive statistics and into data mining and inferential statistics.

## **Implications**

### **Implications for Institutional Researchers**

The implications for this study begin with institutional researchers. If institutional researchers desire to increase their influence on decision-making in higher education, they have the power sources available to them to do so; however, it will require them to reorient themselves from viewing power as a means to protect their jobs and the freedom to carry out their work undisturbed (autonomy) to viewing power as being related to social interaction (political and charisma). The development of people skills will aid institutional researchers to better "market" their reports, solutions, and opinions to

decision-makers through increased interactions. Increasing the amount of meetings with decision-makers will increase the chances of being involved in framing research questions and planning research enabling institutional researchers to influence decisions from the beginning of the process. Institutional researchers can also focus on building stronger relationships with members of the faculty in order to gain more respect from the faculty and to increase their influence. Having a Ph.D. and some teaching and publication experience can help with this. Working with the faculty on research projects can also improve their relationships. Improving people skills of institutional researchers can increase their influence, but there are some power sources that could be improved as well.

The control of resources power source and the technical skills power source are complimentary power sources. It is unlikely that institutional researchers would be able to control all information within an institution, but by increasing their technical skills, particularly in the areas of data management and statistical methods, they can be the most trusted and valuable source of information on campus. By introducing more advanced statistical methods into their research, institutional researchers may be able to take their analytics deeper than correlations and closer to causation when researching institutional issues and making projections. This would allow institutional researchers to provide more data-based solutions that would allow them to provide solutions and recommendations while remaining objective in their reporting. Improving their people skills, as discussed in the previous paragraph, would increase the chances of institutional researchers meeting more regularly with high level decision-makers, and thereby improving their “access to high level decision-makers” power source. The remaining two power sources might have limitations to them. While institutional researchers have unique knowledge in their



understanding of the issues and complexity of their institution, it is only unique to the extent that others on campus do not bother to obtain it. Nevertheless, institutional researchers should strive to maintain an intimate knowledge of their institution in order to provide the proper context to their research and to properly design their research plans. The final power source, legal prerogatives, will probably not extend beyond the need to get other departments to provide information needed for reporting. This power source is probably not worth developing within the traditional scope of the duties of institutional researchers.

### **Implications for Administrators**

Institutional research is a valuable resource that can be further developed as a tool to improve decision-making by providing objective solutions to complex problems in a cybernetic organization. Institutional researchers desire to be more involved in the decision-making process by providing solutions that are unbiased by opinions and politics. Including institutional researchers at the beginning of the decision-making process can better utilize their research skills in planning research and framing research questions. Being included throughout the decision-making process will better utilize institutional researchers' unique knowledge of the institution, data sets, and research skills. Centralizing the IR office and perhaps elevating it on the organizational chart will improve institutional researchers' perspective of the institution and allow them to provide better contextual information in their reports. Providing resources needed for training will allow them to better develop their skill set and improve their research capabilities. Increasing the size of the IR staff will allow institutional researchers to expand beyond the duties mandatory reporting required by the governing bodies and be more involved in

helping to identify successful programs on campus and programs that may need to be reconsidered. Institutional researchers are lacking some respect from the members of faculty; while administrators cannot force that issue to improve, they can encourage institutional researchers to interact more with the faculty such as partnering in research. Institutional researchers can also be encouraged to pursue terminal degrees, teach, and publish in order to improve their standing in the collegial decision-making process as well as to allow for the personal development of the IR staff.

Power sources available to institutional researchers are available to the administrators to which they report. Therefore, the control of resources and institutional researchers' unique knowledge can be used to keep the administrator highly informed and enable the administrator to provide more objective solutions as well as the ability to engage in political debate armed with accurate and meaningful data. Of course, this information is a result of the technical skills available to the administrators via the institutional researchers. Institutional researchers with cross-campus responsibilities can provide administrators a means of knowing what is going on within the various departments across campus and the issues with which they may be dealing. The more administrators develop and utilize institutional researchers, the better they will be able to handle the increasing demand for accountability in higher education.

### **Implications for State Systems of Higher Education**

Like administrators within the institutions themselves, the state governing bodies can take advantage of the power sources available to institutional researchers. Control of resources, technical skills, access to decision-makers, and unique knowledge apply to institutional researchers at the state level as well as the institutional level. However,

institutional researchers for the state governing bodies might have more ability to develop legal prerogatives related to reporting and compliance than the IR staff working at the institutions. Developing better relationships between the IR staff at the two levels can increase the influence of institutional researchers at both levels by increasing the control of information, further developing unique knowledge beyond their institutions, and by providing more access to a different set of decision-makers. The two levels of institutional researchers working together could develop better reporting, better contextual knowledge, and better objective solutions to the issues facing higher education in their particular state system.

### **Implications for the Association of Institutional Research**

Institutional researchers with less experience expressed a greater desire to be involved in the decision making process than their more experienced counterparts. This might indicate a shifting, or perhaps a future shift in the ideology of institutional research to which AIR might wish to adjust their programming by adding components that focus on developing institutional researchers' ability to influence decisions. AIR's conferences, workshops, and professional development institutions provide plenty of opportunities for institutional researchers to develop their skills, but AIR might consider adding components that help members increase their ability to influence. Teaching them how to utilize the power sources available to them and perhaps more importantly, helping institutional researchers develop their people skills so that they are better equipped to navigate the political and collegial aspects of decision making in higher education. Additional training about higher education as an organization (history and decision-

making, for example) will increase institutional researchers' unique knowledge and awareness of their environment.

While every institution is unique in its organization and structure, it would benefit the profession of institutional research to develop recommendations to standardize the placement of IR offices and the scope of their responsibilities. This could include the recommendation to centralize the IR office and make it the responsibility of a higher level decision-maker, both of which would increase the level of influence that IR has on decisions. Perhaps the most important implication of this research is for AIR to continue to develop research opportunities to research institutional researchers themselves.

### **Recommendations for Future Research**

The nature of this research was exploratory with the intent to gain an understanding power as it relates to the position of institutional research. It was successful in that it confirmed the presence of power in the form of Mintzberg's (1983b) power sources, identified institutional researchers' orientation toward power, and it confirmed that some institutional researchers have more of a will and ability to influence decision than others. Lastly, it identified variables that appear to contribute to a higher ability to influence decisions. While there are several specific issues that could be further explored, such as why IR appears to have very little effect on departments or programs losing funding, there are four larger areas of potential research that stand out.

The first potential area of research is a qualitative study of highly influential institutional researchers. Doing so would provide richer data to help understand the roles the influential institutional researchers perform at their institutions, their attitudes toward

the work of IR, the areas in which they are most influential and the skills they feel help them the most. After analyzing the data, a better quantitative survey could be developed based on the themes derived from the qualitative analysis. This information could be used to shape the profession of institutional research should there be a need or desire for IR to shift into a more active role in decision-making.

If there is a division amongst institutional researchers as to whether or not the profession should be more active or not, it appears that the division is between less experienced IR managers and those with more experience; this is the second area of potential research. This study identified several areas where the two groups of IR managers differ; many were statistically significant: the roles they perform (less experienced managers perform more roles and include assessment and planning), active and passive will to influence, desire to act as change agents, and a desire to be more influential. These two groups may represent a shift in ideology from a more traditional role of simply providing information to a more aggressive role that includes subjective recommendations and has a more active role in decision-making. If that divide and ideological shift is truly there, it can provide direction for the future of IR.

The third area of potential research is to conduct a gap analysis between the perception how influential and effective institutional researchers believe they are and how influential and effective their constituents (bosses and decision-makers for example) believe they are. The benefit of this study is that it could provide a more complete understanding of IR's level of influence and identify areas that IR can improve upon. The information could help create professional development opportunities and provide a better understanding of IR's place in higher education. The difficulty in this type of

study, considering the diversity in IR, is identifying who is best qualified to evaluate the contributions of the institutional researcher and making sure it is a fair comparison amongst all participants.

The final area recommended for study is the institutional researchers themselves. A better understanding of the personalities and interests of institutional researchers who enjoy their profession can potentially help the development of the profession by identifying the traits needed for a long and fulfilling career. This study could include the full Power Orientation Survey that would confirm institutional researchers' understanding of power and how they might seek to use it. The results of this study must be viewed with caution because the Power Orientation Survey (POS) was reduced to one question; using the full POS would confirm these findings. The Strong Interest Inventory, which uses Holland Codes to match natural interests with careers, could be used to identify the type of codes that best describe institutional researchers: Realistic (enjoys working with tools, animals, or machines), Conventional (enjoys working with numbers, data, and records), Enterprising (enjoys leading, managing, and persuading), Social (enjoys informing, enlightening, and developing), Artistic (enjoys creativity and unstructured environments), or Investigative (likes to observe, learn analyze, evaluate, and problem solve) (Reardon & Lenz, 1998). Institutional research is not currently listed in the Dictionary of Holland Occupational codes, so perspective institutional researchers cannot look up the profile of an institutional researcher to determine if the career would be a good fit or not (Gettfredson & Holland, 1996). Institutional researchers come from a variety of backgrounds; so it would be beneficial to the profession to find as many common themes amongst the practitioners as possible.

Most of the research in higher education revolves around faculty or high level administrators; so any studies that focus on IR will help develop the profession.

Institutional researchers spend their days working with data about their institution and they rarely have time to conduct research on themselves. Perhaps this study and future studies will be able to assist in the continued development of the IR profession, and in doing so, enable institutional researchers to continue to help improve their institutions and higher education.

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## Appendix

### Appendix A: Survey Instrument

Stephen Crynes, a doctoral student at the University of Oklahoma (OU), is conducting research about power in institutional research. Specifically, he seeks to understand how institutional researchers view the power related to managing and/or creating data and information.

**1. Do you have experience working in institutional research or a related field for a higher education institution?**

Yes

No

## Informed Consent

University of Oklahoma  
Institutional Review Board  
Information Sheet to Participate in a Research Study

*Project Title:* Power in Institutional Research: A Study of Sources, Orientations, Will and Ability  
*Principal Investigators:* Stephen Crynes, PhD Candidate; Dr. David Tan, Committee Chair  
*Department:* Education Leadership and Policy Studies, College of Education, University of Oklahoma

You are being asked to volunteer for this research study. This study is being conducted online using the SurveyMonkey research tool. You were randomly selected as a possible participant because of your membership in the Association of Institutional Research. Please read this information sheet and contact me to ask any questions that you may have before agreeing to take part in this study.

*Purpose of the Research Study:* The purpose of this study is to gain an understanding of power related to the position of institutional research.

*Number of Participants:* 500 people have been invited to take part in this study.

*Procedures:* If you agree to participate in this study, you will be asked to complete an online survey in which you are asked to rate level of agreement with a series of statements. Expressing your agreement will require you to click the box corresponding to the level of agreement.

*Length of Participation:* Completing the survey will take approximately 20-30 minutes. The survey will be available for two weeks.

*Risks and Benefits:* There are no risks and no benefits from being in this study.

*Confidentiality:* In published reports, there will be no information included that will make it possible to identify you. The online survey tool will not allow the researcher to identify who has responded to the survey. Research records will be stored securely and only approved researchers will have access to the records. No identifying information will be made available to the research team. There are organizations that may inspect and/or copy your research records for quality assurance and data analysis. These organizations include the Association of Institutional Research and the OU Institutional Review Board.

*Voluntary Nature of the Study:* Participation in this study is voluntary. If you withdraw or decline participation, you will not be penalized or lose benefits or services unrelated to the study. If you decide to participate, you may decline to answer any question and may choose to withdraw at any time.

*Contacts and Questions:* If you have concerns or complaints about the research, the researcher(s) conducting this study can be contacted at (405) 325-4336, scrynes@ou.edu or Dr. David Tan at (405) 325-4202, dtan@ou.edu. Contact the researcher(s) if you have questions, or if you have experienced a research related injury. If you have questions for AIR, please contact Dr. Leah Ross, AIR Consultant, publications@airweb.org. If you have any questions about your rights as a research participant, concerns, or complaints about the research and wish to talk to someone other than individuals on the research team or if you cannot reach the research team, you may contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at 405-325-8110 or irb@ou.edu. Please print this page for your records.

### **2. By providing information to the researcher(s), I am agreeing to participate in this study.**

- I agree to participate
- I decline

## Control of Resources

Your participation in this study is requested in order to understand how institutional researchers view the power related to managing and/or creating data and information. The information obtained from this research can help shape the future of the profession. In your work, you likely encounter new scenarios on a daily basis. However, when answering the survey questions, please consider the totality of your job instead of specific instances.

This survey is comprised of 24 questions and will take 20-30 minutes to complete. Thank you for your participation.

**3. The first section is about your control of resources as it relates to the position of institutional research. Since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work.**

**For the following set of statements, data is defined as a single number or statistic or a set of numbers or statistics (60% of students returned to school). Information is defined as providing context in relation to numbers or statistics (60% of students returned to school which is a 5% increase from last year).**

**If a statement does not appear to be applicable, please answer by marking 1 for strongly disagree.**

	1 - Strongly Disagree	2	3	4	5	6 - Strongly Agree
I collect institutional level <u>data</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I collect institutional level <u>information</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generate institutional level <u>data</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generate institutional level <u>information</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distribute institutional level <u>data</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distribute institutional level <u>information</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty, administrators, and/or staff often ask me for information and/or data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I manage data warehouses and repositories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most institutional data and/or reports come from my office	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When there is a  
departmental decision to be  
made, it is my office that  
provides the data and  
reports needed





## Technical Skills

**4. The next section is about your technical skills as it relates to the position of institutional research. Since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work.**

**If a statement does not appear to be applicable, please answer by marking 1 for not good.**

**How would you rate your skills in the following areas?**

	1 - Not Good	2	3	4	5	6 - Excellent
Data management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing reports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Statistical methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conceptualizing and planning research.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quantitative research and analytics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Qualitative research and analytics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data mining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Knowledge

**5. The next section is about your unique knowledge as it relates to the position of institutional research. Since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work.**

**If a statement does not appear to be applicable, please answer by marking 1 for strongly disagree.**

	1 - Strongly Disagree	2	3	4	5	6 - Strongly Agree
People respect my opinion because I have a very good understanding of the issues at my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to understand the impact decisions have on departments and resources across campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have responsibilities that involve many departments across campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know more about the interrelationships of departments than most people on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know more about campus politics than most people on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Legal Perogatives

**6. The next section is about your legal prerogatives as it relates to the position of institutional research. Since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work.**

**If a statement does not appear to be applicable, please answer by marking 1 for strongly disagree.**

	1 - Strongly Disagree	2	3	4	5	6 - Strongly Agree
Legal reporting requirements give me the authority to demand work from other individuals on my campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I complete reports that are required by law or government regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I complete reports that are required by grants and other funding sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People on my campus comply with my requests for information because they understand my required reporting needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have used legal obligations or regulations to get data and information I need from faculty and/or staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Access to Decision Makers

**7. The next section is about your access to decision makers as it relates to the position of institutional research. Since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work.**

**If a statement does not appear to be applicable, please answer by marking 1 for strongly disagree.**

	1 - Strongly Disagree	2	3	4	5	6 - Strongly Agree
I meet with high level decision makers regularly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I need to, I can ask a high level decision maker to intervene on my behalf	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My boss is a high level decision maker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider my office of institutional research to be centralized within the organizational structure of my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Your Office

**8. What is the title of the person to whom you report?**

**9. How many levels is your office of institutional research removed from the president on the organizational chart? For example, if you report to a vice-president, you may be one level removed from the president, or if you report to a dean, you may be two or three levels removed from the president.**

## Decisions

**10. The next section focuses on your ability to influence decisions as it relates to the position of institutional research. Again, since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work.**

**If a statement does not appear to be applicable, please answer by marking 1 for strongly disagree.**

	1 - Strongly Disagree	2	3	4	5	6 - Strongly Agree
My reports are often used in decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My data are often used in decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My opinion is often considered in decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that faculty respect my opinion and work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administrators respect my opinion and work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects and/or departments have lost funding because of my reports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects and/or departments have received funding because of my reports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My reporting defines our institution to external constituent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My reporting defines our institution to internal constituents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am involved in helping to frame research questions for decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I help identify issues on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I help identify excellence/success on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often asked to provide data that supports the particular view point of a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Power and Influence

**11. The next section focuses on your feelings about power and influence as it relates to the position of institutional research. Again, since it is possible to have different answers with different situations in which you work, please answer in a way that considers the totality of your work. Please indicate your level of agreement using the scales on the right.**

**If a statement does not appear to be applicable, please answer by marking 1 for strongly disagree.**

	1 - Strongly Disagree	2	3	4	5	6 - Strongly Agree
I am an active participant in decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My outputs are always objective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to be more involved in the decision-making process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer not to be involved in the decision-making process other than providing information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The work of institutional research should be free of personal philosophy and politics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Institutional research has served its purpose when it has provided information and stimulated reflection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Institutional researchers should be change agents who provide solutions to problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I include a subjective component in my outputs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Institutional research is a powerful resource for decision makers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Understanding of Power

**12. This next question concerns your understanding of power. Please rank the following statements in the order in which you most identify. Note that you will choose 1 for the statement with which you identify the most, 2 for the statement with which you identify the second most, etc.**

	1 - Identify with the Most	2	3	4	5	6 - Identify with the Least
Power is exciting and desirable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power is controlling information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power is a natural and instinctive drive that is within everybody	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power is having political skills and connections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power is personal charisma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power is having control and autonomy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Background

**13. This next section asks you questions about your background and your work. Please answer as accurately as you are able.**

**How many years have you worked in institutional research?**

**14. How many years have you worked in higher education?**

**15. How many years have you worked at your current institution?**

**16. How many people who work in your office engage in some form of institutional research?**

**17. How many institutional level committees have you participated on in the past two years?**

**18. How many departmental level committees have you participated on in the past two years?**

## IR and Decision Making

**19. Please rate the amount of participation you think that institutional researchers should have in decision making regarding the following institutional matters:**

	1 - None	2	3	4	5	6 - A Lot
Establishing Budgets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resource Allocation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retention Issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Program Review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student Success Programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**20. Please rate the amount of control you have regarding the following matters:**

	1 - None	2	3	4	5	6 - Total
What projects you work on	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How your research is conducted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When your work is due	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How your data are interpreted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How your data are presented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How your budget is spent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Your Work

### 21. What best describes your work?

- Staff - institutional research
- Manager - institutional research
- Management/staff - assessment
- Faculty - teach institutional research
- Student - full-time
- Retired
- Work - non-profit other than higher education
- Work - for-profit other than higher education
- Other

### 22. Select all of the institutional research roles you perform:

- Supervision of other professional institutional research Staff
- Assessment of student learning outcomes
- Institutional research for decision and institutional use
- Institutional research for external reporting
- College/university planning
- IPEDS key holder/coordinator
- Accreditation
- Institutional effectiveness studies
- Statistical analysis
- Qualitative analysis

### 23. What title most closely identifies your position in institutional research?

- Director
- Associate Director
- Analyst/Researcher
- Other

**24. What is your level of education?**

- Less than a bachelor's degree
- Bachelor's degree
- Master's degree
- Ph.D./Ed.D.
- J.D., M.D., D.P.A.

**25. Based on the IPEDS categorizations of institutions by sector, which type of institution best describes yours?**

- Public 4-year or above
- Private not-for-profit 4-year or above
- Public 2-year
- Private not-for-profit 2-year
- Public less than 2-year
- Private not-for-profit less than 2-year
- Other
- My college/university is not a U.S. institution

**26. Based on the IPEDS categorizations of institutions by size, what size of institution best describes yours?**

- Less than 1,000
- 1,000 - 4,999
- 5,000 - 9,999
- 10,000 - 19,999
- 20,000 or more

## Typology of Work Skills

Your work is outside of the parameters of the study about IR and power. However, AIR is developing a typology of work skills most often used by AIR members. Please answer the following prompts about your current or most recent employment:

### 27. How important are advanced statistical skills to your success?

- Very important
- Important
- Somewhat important
- Little or no importance
- Not applicable

### 28. How important are data management skills to your success?

- Very important
- Important
- Somewhat important
- Little or no importance
- Not applicable

### 29. How important are oral presentation skills to your success?

- Very important
- Important
- Somewhat important
- Little or no importance
- Not applicable

### 30. How important are written communications skills to your success?

- Very important
- Important
- Somewhat important
- Little or no importance
- Not applicable

**31. How important are senior-level leadership skills to your success?**

- Very important
- Important
- Somewhat important
- Little or no importance
- Not applicable

**32. How important are scholarly research skills to your success?**

- Very important
- Important
- Somewhat important
- Little or no importance
- Not applicable

**Appendix B: Comparison of Power Source Table**

Table 21.1

*Comparison of Means for Power Source Statements*

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		Overall		Institutional Size				Institutional Type				Job Description				Manager Type				Manager Experience			
				Less than 10,000		More than 10,000		Public		Private		IR Staff		IR Manager		Public Manager		Private Manager		Less Time		More Time	
		M	Kurt	M	Kurt	M	Kurt	M	K	M	K	M	Kurt	M	Kurt	M	Kurt	M	Kurt	M	Kurt	M	Kurt
I collect institutional level data	CR	5.13	1.297	5.10	1.410	5.05	0.737	4.94	0.458	5.00	0.555	4.90	0.007	5.33	3.258	5.15	1.688	5.20	2.309	5.03	1.158	5.62	6.032
I collect institutional level information	CR	5.14	2.037	4.81	0.282	5.44	6.272	5.20	3.084	4.80	0.185	4.77	0.388	5.26	2.563	5.15	2.475	5.04	0.722	4.91	.599	5.61	6.619
I generate institutional level data	CR	5.11	1.326	5.19	1.923	5.05	1.071	5.00	0.621	5.10	1.69	4.77	-0.409	5.37	3.93	5.15	1.608	5.60	9.935	5.33	4.780	5.41	4.022
I generate institutional level information	CR	5.41	5.284	5.43	6.305	5.45	5.258	5.45	5.286	5.28	4.077	5.10	1.748	5.64	10.603	5.70	6.102	5.71	7.766	5.52	2.160	5.76	22.305
I distribute institutional level data	CR	5.40	4.519	5.41	5.248	5.33	3.549	5.08	1.323	5.50	7.834	5.37	4.046	5.45	4.513	5.15	1.719	5.68	5.373	5.30	2.152	5.61	10.429
I distribute institutional level information	CR	5.37	4.353	5.29	3.708	5.47	5.526	5.20	2.701	5.41	6.250	5.17	3.007	5.56	6.86	5.37	4.346	5.71	7.766	5.42	6.091	5.70	6.554
Faculty, admin, and/or staff often ask me for information and/or data	CR	5.49	4.99	5.46	4.997	5.52	-0.132	5.45	6.238	5.50	0.374	5.43	0.134	5.68	4.414	5.70	7.689	5.75	4.143	5.55	2.442	5.81	6.692
I manage data warehouses and repositories	CR	3.81	-1.544	3.87	-1.47	3.62	-1.724	3.73	-1.613	3.66	-1.562	3.37	-1.805	4.13	-1.191	4.22	-0.836	4.04	-1.302	3.88	-1.490	4.38	-0.659
Most institutional data and/or reports come from my office	CR	4.59	-0.508	4.66	0.169	4.50	-0.896	4.26	-0.727	4.78	-0.693	4.83	-0.586	4.62	-1.045	4.46	-1.16	4.68	-0.854	4.27	-1.390	4.97	1.388
When there is an institutional level decision to be made, it is my office that provides the data and reports needed	CR	4.48	-0.092	4.42	-0.031	4.55	0.141	4.25	-0.276	4.44	-0.595	4.73	-0.054	4.42	-0.286	4.22	-0.508	4.36	-0.378	4.33	-0.851	4.52	.840
When there is a departmental decision to be made, it is my office that provides the data and reports	CR	3.75	-0.511	3.62	-0.222	3.84	-0.705	3.57	-0.564	3.59	-0.066	3.97	-0.996	3.56	-0.309	3.41	-0.649	3.32	-0.089	3.27	-0.251	3.85	-0.030

needed																							
Control of Resources combined score	CR	4.87	0.975	4.83	1.831	4.89	-0.329	4.74	1.011	4.81	-0.277	4.76	-0.978	4.99	0.557	4.87	-0.048	4.99	-0.675	4.80	.584	5.18	-.200
Data Management	TS	4.98	-0.444	4.90	0.01	4.98	-0.91	4.92	-0.868	4.95	-0.027	5.00	-1.025	5.03	-0.248	5.07	0.393	5.16	-0.429	4.79	-.799	5.26	.524
Presentations	TS	4.94	0.063	4.75	0.13	5.21	0.214	4.78	-0.584	5.05	0.947	4.63	-0.685	5.06	0.58	4.85	-0.906	5.28	1.412	4.97	-.262	5.15	-.717
Writing reports	TS	5.02	0.216	4.93	-0.088	5.14	1.065	4.92	-0.248	5.12	1.551	4.60	-0.82	5.12	-0.286	5.00	-0.65	5.24	-1.158	5.09	-.278	5.15	-1.101
Statistical methods	TS	4.39	0.082	4.18	-0.453	4.53	1.059	4.37	0.156	4.32	0.237	4.43	1.408	4.28	-0.374	4.33	-0.673	4.20	-0.299	4.30	-.515	4.26	-.536
Conceptualizing and planning research	TS	4.99	1.128	4.88	-0.862	5.09	3.447	4.78	0.38	5.08	0.22	4.67	0.455	5.05	-0.115	4.78	-1.199	5.21	-0.114	5.03	-1.029	5.06	2.110
Quantitative research and analytics	TS	4.77	1.03	4.53	-0.281	4.97	4.025	4.75	1.728	4.71	0.151	4.60	3.193	4.75	0.184	4.85	-0.89	4.6	-0.206	4.73	-.072	4.76	.772
Qualitative research and analytics	TS	4.16	-0.131	4.12	-0.034	4.23	-0.081	3.78	-0.235	4.29	1.889	4.13	-0.01	4.12	-0.303	3.78	-0.223	4.36	1.602	4.30	-.592	3.94	.517
Data mining	TS	3.82	-0.912	3.53	-1.055	3.97	-0.874	3.57	-0.954	3.73	-0.943	4.00	-0.952	3.70	-0.733	3.52	-0.761	3.80	-0.703	3.39	-.808	4.00	-.069
Technical Skills combined score	TS	4.633	-0.207	4.48	-1.022	4.76	1.033	4.89	-0.596	4.65	-0.878	4.50	-0.488	4.63	-0.498	4.52	-0.892	4.72	-0.769	4.57	-.680	4.69	-.729
People respect my opinion because I have a very good understanding of the issues at my institution	UK	4.73	0.273	4.57	-0.216	4.86	0.786	4.65	0.027	4.56	-0.577	4.27	-0.697	4.82	0.768	4.81	-0.183	4.68	0.188	4.67	-.612	4.97	2.710
I am able to understand the impact decisions have on departments and resources across campus	UK	4.85	1.316	4.83	0.782	4.86	2.065	4.53	1.378	5.03	1.293	4.27	-0.207	5.03	1.371	4.81	1.601	5.20	-0.846	4.97	2.524	5.09	-.147
I have responsibilities that involve many departments across campus	UK	4.85	0.837	4.85	0.779	4.88	0.925	4.69	0.864	5.00	0.634	4.60	0.655	4.97	1.364	4.81	1.346	5.04	0.414	5.12	3.312	4.82	.530
I know more about the interrelationships of departments than most people on campus	UK	4.48	-0.333	4.51	0.059	4.4	-0.729	4.20	-0.586	4.53	-0.57	3.83	-1.024	4.68	0.3	4.41	-0.22	4.58	0.181	4.33	.107	5.03	.474
I know more about campus politics than most people on campus	UK	4.08	-0.358	4.07	-0.485	4.11	-0.353	4.14	0.584	3.83	-0.635	3.70	-0.919	4.22	-0.161	4.33	1.853	3.79	-0.547	4.00	-.419	4.44	.520
Unique Knowledge combined score	UK	4.606	0.626	4.58	1.024	4.58	1.024	4.44	1.269	4.60	-0.844	4.13	-0.502	4.75	2.144	4.63	3.068	4.68	-0.309	4.63	3.00	4.88	1.62



Legal reporting requirements give me the authority to demand work from other individuals on campus	LP	3.98	-1.137	4.03	-0.747	4.00	-1.362	3.84	-1.203	4.18	-0.829	3.47	-1.686	4.28	-0.231	4.22	-0.100	4.48	0.561	3.91	-1.048	4.66	1.762
I complete reports that are required by law or government regulations	LP	4.80	0.01	5.17	3.204	4.48	-1.087	4.73	-0.408	5.10	2.45	4.37	-1.293	5.42	4.500	5.41	6.968	5.68	2.462	5.15	2.262	5.70	6.138
I complete reports that are required by grants or other funding sources	LP	4.19	-0.939	4.29	-0.462	4.05	-1.269	3.94	-1.216	4.38	-0.231	4.33	-0.813	4.31	-0.567	4.00	-1.171	4.48	0.591	4.15	-0.802	4.48	-0.017
People on my campus comply with my requests for information because they understand my required reporting needs	LP	4.61	0.176	4.58	0.258	4.57	-0.045	4.32	0.012	4.92	0.369	4.21	-0.659	4.76	1.131	4.52	0.289	5.20	0.651	4.58	.590	4.94	1.236
I have used legal obligations or regulations to get data and information I need from faculty or staff	LP	3.88	-1.151	3.98	-1.053	3.77	-1.25	3.70	-1.042	3.85	-1.556	2.97	-1.326	4.42	-0.402	4.33	-0.981	4.48	-0.926	4.09	-0.616	4.75	-1.431
Legal Prerogatives combined score	LP	4.302	-0.221	4.42	0.51	4.19	-0.558	4.12	-0.106	4.49	0.007	3.87	-1.023	4.63	1.216	4.50	-0.958	4.86	1.993	4.37	.781	4.90	.051
I meet with high level decision makers regularly	ADM	4.37	-0.787	4.13	-1.039	4.67	-0.333	4.22	-0.848	4.24	-0.851	3.83	-1.428	4.58	-0.049	4.44	0.015	4.40	-0.347	4.58	-0.061	4.59	-0.026
If I need to, I can ask a high level decision maker to intervene on my behalf	ADM	4.73	0.141	4.62	-0.067	4.84	0.234	4.47	-0.192	4.85	0.049	4.23	-1.137	4.89	1.514	4.41	0.094	5.24	0.045	4.76	1.143	5.03	2.623
My boss is a high level decision maker	ADM	5.06	0.986	4.98	0.671	5.14	1.349	4.88	0.882	5.24	1.009	4.33	-0.753	5.22	2.631	5.00	2.847	5.40	4.469	5.12	1.358	5.32	4.989
I consider my office of institutional research to be centralized within the organizational structure of my institution	ADM	4.53	-0.54	4.17	-1.015	4.88	-0.386	4.47	-0.369	4.13	-1.027	4.53	-1.138	4.53	-0.537	4.44	-0.305	4.21	-1.095	4.30	-0.966	4.77	.385
Access to Decision Makers combined score	ADM	4.671	0.308	4.48	-0.202	4.86	0.655	4.51	0.682	4.63	-0.019	4.23	-0.667	4.79	1.185	4.57	1.31	4.82	1.072	4.68	-0.196	4.89	4.073
How many levels is your office of institutional research removed from the president on the organizational chart?	ADM	1.48	0.252	1.33	1.173	1.59	-0.657	1.60	2.451	1.46	-0.708	1.57	-0.991	1.40	1.281	1.63	2.866	1.44	-0.561	1.42	-0.938	1.38	3.812

## Appendix C: Regression Models

Table 21.2

### *Models 1-6 Coefficients*

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	Correlations		
	B	SE	B	t		Zero-order	Partial	Part
1 (Constant)	1.151	.387		2.977	.004			
Unique Knowledge	.627	.083	.696	7.565	.000	.696	.696	.696
2 (Constant)	.298	.367		.813	.419			
Unique Knowledge	.455	.078	.504	5.843	.000	.696	.602	.453
Access to Decision-Makers	.354	.070	.437	5.068	.000	.658	.547	.393
3 (Constant)	.050	.365		.136	.892			
Unique Knowledge	.402	.077	.446	5.193	.000	.696	.560	.386
Access to Decision-Makers	.300	.070	.371	4.270	.000	.658	.486	.317
Legal Prerogatives	.168	.066	.216	2.531	.014	.556	.313	.188
4 (Constant)	.057	.349		.164	.870			
Unique Knowledge	.453	.077	.503	5.907	.000	.696	.613	.420
Access to Decision-Makers	.286	.067	.354	4.252	.000	.658	.487	.302
Legal Prerogatives	.170	.064	.218	2.674	.010	.556	.331	.190
Yrs. at Institution	-.020	.008	-.188	-2.544	.014	-.014	-.317	-.181
5 (Constant)	-.476	.396		-1.203	.234			
Unique Knowledge	.474	.074	.525	6.410	.000	.696	.647	.436
Access to Decision-Makers	.264	.065	.326	4.054	.000	.658	.473	.276
Legal Prerogatives	.204	.062	.262	3.270	.002	.556	.397	.223
Yrs. at Institution	-.022	.008	-.206	-2.896	.005	-.014	-.358	-.197
Institutional Size	.128	.051	.178	2.514	.015	.043	.316	.171
6 (Constant)	-.643	.394		-1.630	.109			
Unique Knowledge	.471	.072	.522	6.543	.000	.696	.658	.434
Access to Decision-Makers	.213	.068	.264	3.127	.003	.658	.386	.207
Legal Prerogatives	.210	.061	.270	3.456	.001	.556	.419	.229
Yrs. at Institution	-.024	.008	-.218	-3.136	.003	-.014	-.386	-.208
Institutional Size	.141	.050	.195	2.808	.007	.043	.351	.186
Charisma	.096	.048	.149	2.022	.048	.376	.261	.134