

CORRELATIONAL STUDY OF THE RELATIONSHIP OF MANAGERIAL
RESPONSIVENESS ON RETENTION OF OUTSOURCE RECRUITERS

By

Cornell Horn

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Management in Organizational Leadership

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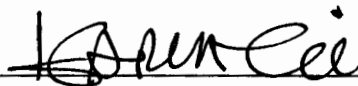
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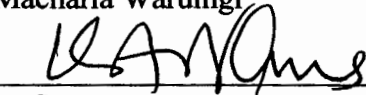
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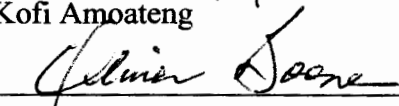
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ABSTRACT

The time it took to complete tasks was, in many cases, a key factor in determining whether an organization made a profit or experienced a loss. Despite extensive knowledge about the relationship between job satisfaction and employee retention, literature about managerial responsiveness and retention of outsource recruiters was scant. The problem addressed in the present study was that literature about the association between responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention was scarce. The specific research question was: What is the association between responsive organization managers to outsource recruiter concerns about technology and outsource recruiter retention? Regression analysis ($\beta = 2.70$; $p < 0.05$) revealed a statistically significant association between responsive organization managers to outsource recruiter concerns about technology and outsource recruiter retention. Correlational analysis ($r = 0.046$; $p > 0.05$) revealed a high standard error (50% of the analyses for hypothesis 2 were significant) indicating other factors that influenced the correlation between managerial responsiveness involving responding to employee concerns about dissatisfaction with the technology used at work and retention. Although non-responsive managers to outsource recruiter concerns about technology threatened the higher-order needs of the outsource recruiters, the current study left open the factors of why employees retained when they were unhappy with the tools they used at work.

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CHAPTER 1: INTRODUCTION

Loss of employees due to low satisfaction had a direct implication on retention (Carroll, 1978; Curry, Wakefield, Price, & Mueller, 1989; Gaither, 1999). From the satisfaction perspective, Gallup polls suggested 80% of U.S. employees were less than 100% engaged at work (Carroll, 2003). Many companies were losing workers; for example during 2007, only 3 percent of U.S. firms predicted employee turnover would decrease (Weinstein, 2007). The relationship between job satisfaction and employee retention was a subject of great interest among researchers (Carroll, 1978; Curry, Wakefield, Price, & Mueller, 1989; Gaither, 1999; Goodell & Van Ess Coeling, 1994; Moore, Cruickshank, & Haas, 2006; Rugg, 1999). The concern about employee turnover gained significance when U.S. organizations continued to suffer a loss of employees because of worker dissatisfaction (Ketter, 2006).

The traditional convention between employer and employee changed. Employer enlisted permanent staff was dissolving (Purcell, 1998). A growing number of organizations relied on outsourced employees to staff their operations (Chang, 2007; Conklin, 2007; Henley, Cotter, & White, 2001). Outsource organizations supplied employers with employees on a temporary, part-time, full-time, or permanent basis (Bureau of Labor Statistics, 2001; Manion & Reid, 1989). The current study maintained leadership literature needed to address the outsource industry on the subject of job satisfaction and retention.

Positive responsiveness of managerial staff to employee needs correlated closely with employee satisfaction (Shore, Sy, & Strauss, 2006). Evidence from literature suggested a positive correlation between general responsiveness of managerial staff and

retention of employees (Shore, Sy, & Strauss, 2006). Despite extensive knowledge about the relationship between job satisfaction and retention, literature about the association between responsiveness of organization managers to employee concerns and retention was scarce. The current study maintained the literature failed to identify specific qualities of responsiveness of organization managers in the outsource industry on the retention of outsource recruiters. For instance, the current study maintained the lack of responsiveness of organization managers to outsource recruiter concerns about technology led to outsource recruiter dissatisfaction. The current study also maintained literature failed to address the association between the responsiveness of organization managers to technological concerns of outsource recruiters and outsource recruiter retention.

Chapter 1 contains the introduction of the background of the problem, and the problem statement. This chapter related background theories about retention and job satisfaction to the temporary staffing industry. In addition, chapter 1 contains a detailed discussion about responsiveness of organization managers to outsource recruiter concerns about technology, the purpose of the current study, significance of the research work, and nature of the current study, the research questions, and the hypotheses underlying the current study. Finally, the chapter 1 contains a discussion on the theoretical framework, definition of terms, assumptions, limitations, and delimitations of the current study.

Background of the Problem

This section contains the following perspectives: (a) the characteristics of responsiveness of managerial staff and (b) factors that affect employee retention. A discussion of these two perspectives provided a background for constructing responsiveness of organization managers as the antecedent variable and retention of

outsource recruiters as the outcome variable. In addition, this section contains a brief discussion of the evidence from literature about correlation of responsiveness of managers and employee retention.

Shore, Sy, and Strauss (2006) reported that an unresponsive manager implied the organization did not care about what was important to the employee. According to Paton (2008), “The frustrated employee phenomenon poses a major business risk and a significant missed opportunity” (para 8). Some of the frustration experienced by employees stemmed from the lack of responsiveness to employee concerns (Shore, Sy, & Strauss, 2006). For instance, Allied Academies International Conference (2004) stated employees reported their frustration, with the hope for intervention from their superiors, that slow computers affected their ability to multitask.

Characteristics of Responsiveness about Managerial Staff

Shore et al. (2006) found leader responsiveness had a significant relationship with job satisfaction, organizational commitment, and organizational citizenship behavior. As Shore et al. stated, there was a gap in literature about “the interactive relationships between the employee/manager exchange relationship, equity sensitivity, and employee attitudes and behaviors” (p 228). Social exchange theory (Blau, 1964) posited a norm of reciprocity developed between individuals in organizations (Shore, Sy, & Strauss, 2006). Determining the time in which the employee/manager exchange reciprocity began and how it occurred was not explained (Nonaka & Konno, 1998; von Krogh, Ichinjo, & Nonaka, 2000; 2001).

Responsiveness of managers to employee concerns determined how employees felt about themselves and their jobs (Shore, Sy, & Strauss, 2006). Responding to the

needs of employees made employees feel the organization in which they worked cared about them. When managers responded to employee requests employees perceived they were valued. Being cared about had a substantive relationship on employee satisfaction because employees wanted to feel they mattered and that they were part of the team (Shore, Sy, & Strauss, 2006).

The reverse occurred when managers were not responsive (Shore, Sy, & Strauss, 2006). Ignoring employee concerns implied the organization did not care about what was important to the employee (Shore, Sy, & Strauss, 2006). Indeed, Caroll (1978), Moore, Cruickshank, and Haas (2006), and Shore et al. (2006) maintained responsiveness of managers to the needs of the employees was a core characteristic of job satisfaction. The inference here was that when managers did not respond to the concerns of employees, employee job dissatisfaction increased.

Factors that Affect Retention of Recruiters

Retention of recruiters was a function of a variety of factors. Some of the factors widely discussed in literature included employee compensation incentives (Michaels & Risher, 1999), leadership (Buhler, 2006; Gordon, 2005; Hathi, 2007; Latham, 1995), and the nature of the work (Lewis & Madon, 2004). There was not a consensus about the association between satisfaction with compensation plans and retention. Nabler (2006) stated dissatisfaction with pay was the number one reason for fleeing. Uncertainty about compensation incentives implied employees were complex. Human complexity meant pay incentives did not necessarily provide reason to motivate performance. Amidst the complexity, bonuses did offer a greater chance for improving performance than did a

raise (Withiam, 2006). Yet *engagement* was something that was more important to retention whether bonuses or raises occurred (Buhler, 2006).

The role of leadership was to move the organization to its desired goal (Wu, 2007). Managers learned to “be responsible for the efficient and effective operations of their organization” (Slocum & Hellriegel, 1979, p. 2). In many instances, managers and workers had to perform multiple tasks simultaneously, a phenomenon known as *multitasking* in the work environment (Laff, 2007). Laff (2007) reported of a survey of 516 American employees by Apex Performance System in which results showed 75% of surveyed participants stated they multitasked frequently. Although many employees in positions that required computers multitasked “most of us (and our companies) relied on technology so much that we do not know what to do” (McCunne, 1999, p. 10) when it breaks down or is inadequate.

Lin and Popovic (2002) found nearly 4 in 10 employees reported the introduction of computers greatly affected the way they worked. Many company leaders claimed computers empowered business units to do the things they needed to do better (Rolich, 2008). Computers that empowered business units were enabling technologies. Yet the reverse happened; dependence on computers in the workplace became painful when those computers broke down frequently or reduced enabling capacities (Baker, 2004; McCunne, 1999).

Wilson and Cox (2007) argued putting a time limit on interruptions was one way to optimize employee experience at work. Time management was crucial to business success because the time individuals allocated to tasks came at the expense of overall task performance. The amount of time it took to complete tasks was, in many cases, a key

factor in determining whether an organization made a profit or experienced a loss. Because computer usage was a means to job performance and job performance related to job satisfaction (Gordon, 2005; Moore, Cruickshank, & Haas, 2006), constant delays and long latencies in feedback led to employee frustration, the genesis of being strongly dissatisfied with computer technologies (McCunne, 1999). The inference here was the inability to use fast computer equipment at work hindered job performance of employees to complete tasks that required multitasking using computer applications (McCunne, 1999). It followed that if a job required multitasking, such as with the case of outsource recruiters, and the equipment needed to complete tasks hindered job performance, then as Carroll (1978) and Curry, Wakefield, Price, and Mueller (1989) maintained, stress on the job increased which led to a decrease in job satisfaction and lowered organizational performance.

Statement of the Problem

The general problem was employees reported to their superiors with the hope for intervention problems at work when computers negatively affected employee productivity (Allied Academies International Conference, 2004; Bobinski, 2009; Winnett, 2008). Outsourcing required recruiters use personal computers to perform tasks. The nature of managerial responsiveness to complaints about problems with technology affected employee satisfaction with their job (Shore, Sy, & Strauss, 2006). Inabilities to multitask led to a delay in staffing assignments and to the dissatisfaction of clients and outsource recruiters. Literature showed that lack of transformational leadership negatively affected employee satisfaction (Shore, Sy, & Strauss, 2006).

The specific problem was the literature did not address whether the responsiveness of organization managers to outsource recruiter concerns about technology affected outsource recruiter retention. A quantitative study with a correlation design demonstrated the association between responsive organization managers to outsource recruiter concerns about technology and outsource recruiter retention. The sample population of the current study consisted of 85 outsource recruiter respondents from 10 LinkedIn.com professional networking groups for outsource recruiters. Although there were approximately 30,000 human resource personnel registered in 10 LinkedIn.com professional networking groups, only 5% (approximated 1,500) were active users. Based on active user population, the current study reevaluated total population and the sample size. The sample population of approximately 300 who visited the survey is justified on the basis of the population of 1,500 active users registered in 10 LinkedIn.com professional networking groups for outsource recruiters.

Purpose of the Study

The purpose of this correlational study was to quantify the association between responsive organization managers to outsource recruiter concerns about technology and retention of recruiters. The foundation of the current study rested on the sequential logic that: (a) job dissatisfaction negatively related to retention rates (Gordon, 2005), (b) outsource recruiters relied on technology and multitasking to complete tasks (McCunne, 1999), and (c) employee satisfaction increased with managerial responsiveness (Shore, Sy, & Strauss, 2006). The current study used a linear regression to determine if dissatisfaction with organization managerial responsiveness to outsource recruiter concerns about technology was associated with outsource recruiter retention. Pearson

product-moment coefficient (r) was then used as the next step in determining whether there was a significant association between the responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention. The correlation design used in the current study also helped explain the relationship between the responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention.

The quantitative method was appropriate to the current study because the study sought to uncover the potential interactions of significant factors that could measure responsiveness of organization managers to outsource recruiter retention. The antecedent variable was the responsiveness of organization leaders to outsource recruiter concerns about technology. The outcome variable was outsource recruiter retention.

The goal of the current study was to determine if there was an association between the antecedent variable on the outcome variable, and to explain that association whether the variables co-varied. The geographic location of the current study was national audiences within the LinkedIn.com professional networking groups for outsource recruiters. This venue was appropriate because LinkedIn.com had a large volume of hospitality, construction, information technology, and medical outsource recruiters whom of which used computer equipment to perform job tasks.

Significance of the Study

The current study helped generate new insight into the characteristics of responsiveness of managerial staff to the needs of employees in an environment of technological dependency. The current study also helped generate insight into factors that led to retention of outsource recruiters when technological dependency was a determinant

of success at work. The results of the current study elucidated the nature of the association of employee/employer reciprocity in the face of technological dependency.

Significance of Insight into Responsiveness of Managerial Staff

Because the outsource industry vastly dominated the way the labor market was staffed, the significance for understanding responsiveness of managerial staff in the outsource industry was a matter requiring attention. Managerial staff would benefit from the insight the current study provided because of the explanation about employee/employer reciprocity, which provided a bridge to managerial staff who wanted to keep employees satisfied at work. The need to research the outsource industry was substantial. The literature did not address the temporary staffing industry although many U.S. business depended on outsource agencies to provide the staff they needed (Conklin, 2007).

Significance of Insight into Employee Satisfaction with Technology

Dissatisfaction and the feeling of being overwhelmed and overworked resulted from using inadequate technology. Johnson and Indvik (2004) stated “digital depression is the term given to the feeling of being overwhelmed and overworked by technology” (p. 19). Changes in technology are supposed to increase job performance and make productivity more efficient, and failure to provide efficient employees to companies in a timely manner led to a loss of hundreds of thousands of dollars for outsourcing agencies (*Temporary Employment Agencies, 2004*). The point here is that when managerial staff of outsource agencies acknowledged employee satisfaction with technology related to job performance they understood how to increase organizational performance.

Significance of Insight into the Association between Responsiveness and Retention

Management theories and organizational perspectives have evolved (Scott & Davis, 2007; Wren, 2004). Employees expected to have a voice. The way employees were treated and the concern about the values employees brought to work were not a matter of much concern of literature prior to the 20st century (Wren, 2004). The way employees were treated became important for understanding the nature of organizations (O'Toole, 2003; Drucker, 2003; Russon & Reinelt, 2004). There was further a gap of research lacking regarding the association between managerial responsiveness and employee retention (Shore, Sy, & Strauss, 2006).

Although the current study rested on the work of past research and sought to determine if responsiveness of organization managers was associated and co-varied with retention of outsource recruiters, Caroll (1978), Curry, Wakefield, Price, and Mueller (1989), Gordon (2005), and Moore, Cruickshank, and Haas (2006) stated job satisfaction significantly related to retention. An explanatory correlational study of such a specialized population added to the organizational literature about the internal and external dimensions of the population in question. The current study addressed both the Curry et al. (1989) and the Moore et al. (2006) studies against the Shore et al. (2006) study of motivation theories to provide statistical insight for why retention had an association to managerial responsiveness to employee concerns.

Nature of the Study

Using a regression line and the Pearson product-moment correlation coefficient (r), the nature of the current quantitative study was to determine whether retention of outsource recruiters varied with the responsiveness of their managerial staff. The design

was correlational, applied in two stages, first to establish whether retention of the outsource recruiters varied with responsiveness of their managerial staff using a regression line, and second to test the strength of association between recruiter retention and managerial responsiveness using a correlation coefficient.

A step before testing the null-hypothesis that recruiter retention did not vary with managerial responsiveness determined whether any noticeable direct trend in the data was due to chance or was due to a true direct trend within the population. The procedure for eliminating error due to chance involved estimating the variability of the mean scores of recruiter retention along the regression line and the variability of managerial responsiveness along the line of means. Linear regression analysis of the sample provided an estimate of how on average retention might have changed when responsiveness changed. Furthermore, the analysis yielded an estimate of the variability in retention about the line of means. These estimates together with their standard errors allowed computing confidence intervals (confidence intervals are the margins of error) and showed the certainty with which to associate the values of recruiter retention for a given value of managerial responsiveness. A confidence interval was an interval estimate of a population parameter (Hinton, 2004). The interval estimation involved the use of sample data to calculate an interval of possible values of an unknown population parameter (Hinton, 2004). Confidence intervals helped to extrapolate the results from a sample to the entire population (M. Waruingi, personal communication, June 6, 2010).

An electronic survey instrument with a Likert type scale facilitated data collection of the main study. Using a Likert type survey instrument about managerial responsiveness, descriptive information was gathered from 85 outsource recruiters. The

descriptive information collected included job performance and job satisfaction measures and managerial responsiveness to outsource recruiter concerns about technology. The descriptive information collected facilitated existing phenomena relative to current conditions and practices in some outsource agencies.

The outsource recruiter was the unit of the current study. The quantitative method was best for the current study because the conditions were factual, job satisfaction was measured, while generalizations and a justification of current conditions and practices with the outsource recruiter industry was investigated. Furthermore, the correlation design was suitable for the current study because the variables were complex and they did not lend to the experimental method and controlled manipulation.

Research Question

The research question guided the research study. The research question addressed the concern of whether there was an association between the antecedent variable and the outcome variable. An association between the antecedent variable and the outcome variable indicated a correlational relationship (Cooper & Schindler, 2008). A correlational relationship between the antecedent variable and the outcome variable would help explain to managerial staff of outsource agencies the association of managerial responsiveness to outsource recruiter concerns about improving technology and outsource recruiter retention.

The process by which the research question was developed rested on outsource recruiter reliance of using computer equipment to multitask, and theories related to job dissatisfaction and retention. The goal of the current study was to find out if lacks of responsiveness by organization managers to outsource recruiter concerns about

technology led to a decrease in outsource recruiter retention. The specific research question arising from this process was: What is the association between responsive organization managers to outsource recruiter concerns about technology and outsource recruiter retention?

Variables

A variable is a characteristic, a subject, or a single event that represented a profile (Cooper & Schindler, 2008). Correlational design studies yielded an antecedent variable and an outcome variable (Cooper & Schindler, 2008). In the current study, the antecedent variable was the responsiveness of organization managers to outsource recruiter concerns about technology, specifically when the technology in question was needed for performance. The outcome variable was outsource recruiter retention. The current study explained the association of the antecedent variable- responsiveness of organization managers to outsource recruiter concerns about technology, on the outcome variable- outsource recruiter retention.

Hypotheses

According to Shuttleworth (2008), “a research hypothesis is the statement created by a researcher when they speculate upon the outcome of a research . . . whereby the research hypothesis is a paring down of the problem into something testable and falsifiable” (para. 1). Cooper and Schindler (2003) made a distinction that correlational studies “state merely that the variables occur together in some specified manner without implying that one causes the other” (p. 51). The research hypotheses of the current study were correlational hypotheses.

The speculations the outcome of the current research study progressed in were of two stages: using a regression line, the first stage determined if the retention of outsource recruiters was significantly associated with managerial responsiveness to outsource recruiter concerns about technology. Using a correlation coefficient, the second stage determined the strength of the association. Two hypotheses pairs tested in this study were as follows:

1. The null-hypothesis (H_{01}) is retention of outsource recruiters is not significantly associated with responsiveness of managerial staff to outsource recruiter concerns about technology.
2. The alternative hypothesis (H_1) is retention of outsource recruiters is significantly associated with responsiveness of managerial staff to outsource recruiter concerns about technology.
3. The second null-hypothesis (H_{02}) is there is no significant correlation between responsiveness of managerial staff to outsource recruiter concerns about technology and retention of outsource recruiters.
4. The second alternative hypothesis (H_2) is there is a significant correlation between responsiveness of managerial staff to outsource recruiter concerns about technology and retention of outsource recruiters.

Conceptual Framework

Whether leaders manifested previously hidden traits and characteristics that emerged at the right place in the right time for the right reasons (Hoover, 2005), leaders faced different challenges to bring about success in organizations (Maxwell, 1998). Although some leaders desired information on reducing job dissatisfaction and low

employee retention, every situation is unique in that there is no “one size fits all” style of leadership for every situation (Hoover, 2005, p. 159). At the same time, organizational crises either brought out the best or the worst behavior in leaders (Maxwell, 1989) while leaders had to make decisions on principles that maintained organizational integrity (Drucker, 2003; Gandossy & Sonnenfeld, 2004).

Leadership theories has evolved (Harvey, 2002; Wren, 2004). Leadership models included autocratic favoritism (Machiavelli, 1989), Taylorian scientific management theory (Wren, 2004), the great man theory (McCall & Lombardo, 1983), transactional theories (Rizzo & Schmidt, 1988), transformational theories (Bass, 1990), servant leadership and stewardship theories (Harvey, 2002), and the theory of personalism (Whetstone, 2002). Other models included a synthesis of servant and transformational theories (Stone, Russell, & Patterson, 2004), to program development theories (Blackler & Kennedy, 2004; Campbell & Dardis, 2004; O’Regan, & Ghobadian, 2004; Nissen, Merrigan, & Kraft, 2005; Russon & Reinelt, 2004), and the prescription of how organizational leaders should overcome crises (Boin & Hart, 2003; Mitroff, 2004; Seijts, 2004).

According to Gittell and Weiss (2004), there were shortcomings existing in leadership literature with respect to intra- and inter-organizational cooperation. Traditional literature maintained cooperation between organizations was due to a common level of micro and macro distinctions (Gittell & Weiss, 2004). There were traditionally three schools of thought used to categorize organizational design (Gittell & Weiss, 2004). The first was a multilevel approach about the formal practices and linked relationships organizations had to other organizations. The second design involved

coordination of network analyses, which assumed the relations that linked actors were due to fundamentally transferred resources that achieved specific outcomes. Lastly, was the view that organizational designs purposefully shape networks (Gittell & Weiss, 2004).

Building a spirit of collaboration, cooperation, and enthusiasm for meeting a goal was an essential part of leading organizations effectively (Cragen, Wright, & Kasch, 2004; Engleberg & Wynn, 2000; Hoover, 2005). Cragen et al. (2004) explained that members of a team with high morale moved together as one, each person helping and assisting others in unison, dedication, and unselfishness. A requirement of effective leaders was to provide tools for the members to succeed and to congratulate them on the little successes throughout the quest to the vision at hand (Maxwell, 2001; Velsor & Guthrie, 2003).

Several theories held the organization must consist of certain inputs, throughputs, and outputs; the organization consisted of more than just a collectivity of people to some end (Scott & Davis, 2007). For instance, Brooks and Anderson (2005) and Scott and Davis (2007) reported the importance of the open-systems perspective of which could account for multiple inputs that contribute to organization design and design changes. The open-systems perspective gave insight to some of the decision-making elements of upper management, whereby upper management found that complaints of clients or customers or of employees, and changes in technology (to include the way work was done), warranted reason to modify an organizational design as well as the culture of the organization.

Colarelli (1998) argued that applied psychology should seek to solve organizational problems by providing preemptive strategies to provide less prediction error. Often what was good at one level was not good at another, and goals of different subsystems were often in conflict (Colarelli, 1998). Colarelli deconstructed the change process or evolutionary perspective of organizations. According to Colarelli, the evolutionary perspective was a psychological perspective that was the better approach to solve organizational problems.

The evolutionary perspective “suggests that complex adaptive systems develop, grow, and change through sociocultural evolution” (Colarelli, 1998, p. 1046). As organizations have rules that influence employees and the organization as a whole, Colarelli suggested organizations (a) consider what employees believe is fair and just, (b) have a readiness for conflict that can occur between personnel, and (c) be clear about whether the moral percepts or culture of the organization meshes with those of whom the organization hires (p. 1047). It followed that manager-leaders must consider the design compromises that occur in organizations; for no one design was compatible across organizational subsystems. Thus, central to Colarelli was that each subsystem be viewed differently, although each subsystem was a construct of the organization.

Each subsystem had different knowledge, different roles, and different implications (Colarelli, 1998). To expect leaders to provide accurate forecasts and predict intended effects was problematic because organizational leaders should have understood some approaches to the predictor are best used at different periods than were others (Colarelli, 1998). The lesson from Colarelli (1998) was that although organizational

subsystems were coupled to each independent system, people who were part of the organizational subsystems were subject to change unpredictably.

Motivation was something that should be a principal variable to employee job satisfaction (Srivastava, Bartol, & Locke, 2006). Randolph and Dress (1981) argued that structure, the environment, and technology each influenced employee motivation whereby organizations were created based upon the consequences of interactive strategic choices. The study by Srivastava, Bartol, and Locke (2006) rested on the integration of leader actions—specifically, the sharing of power or giving more responsibility and autonomy to employees and on employees' response to empowerment, in particular looking at their motivation.

According to Brooks and Anderson (2005), organizational productivity increased through a design process that was based on the interdependencies among technology, people, and the environment. Some viewed people, technology, and structures as the elements that sustained an organization. According to Scott and Davis (2007), technology, people, and structure (both formal and informal) were inputs that influenced the performance of an organization. These inputs made up an organization's environment. When technology, people, and formal and informal structures were harmonious, performance was high (Scott & Davis, 2007). The point here was that leaders should have considered their environments (technology, people, and formal and informal structures) in the strategies of their organizational designs.

Definition of Terms

There were several terms that needed clarification. Sometimes stating a careful definition of key terms illuminated what was at issue. Below is a list of the definition of terms.

Antecedent variables were input variables in correlational explanatory research designs (Creswell, 2005).

Correlation matrixes presented a visual display of the correlation coefficients for all variables in a study (Creswell, 2005).

Co-vary consisted of predicting a score on one variable with knowledge about the individual's score on another variable (Creswell, 2005).

Happy employees were people who were satisfied with their job (Gordon, 2005).

Job stress was the sum of all factors in a workplace, which elicited a dynamic condition consisting of a unique set of emotional, intellectual, and physiological responses to a constraint, a demand, or even an opportunity, which was perceived by an individual to have a potentially important, though uncertain, outcome (Caroll, 1978; Curry, Wakefield, Price, & Mueller, 1989).

Inadequate computers were those computers that reduced enabling capacity and increased stress on the job (Levine, 2009).

Inadequate technology were ways of completing tasks, or tools used to complete tasks, that reduced enabling capacity and increased stress on the job (Tidd, Bessant, & Pavitt, 2005).

Outsourcing was subcontracting a process to a third-party company (Allegis Group Services, 2006; Venture Outsource, n.d.).

Outsource recruiters screened, interviewed, and placed candidates on a contractual basis at companies seeking staff. Outsource recruiters selected candidates for various level of position openings and promoted a work environment that embraced individuals with diverse backgrounds and experiences (Allegis Group Services, 2006; Outsource Recruiters, n.d.).

Outcome variable was either a presumed response, a predication towards an end, or a measured outcome (Cooper & Schindler, 2008).

Predictor variable was an input, intervening, or antecedent variable (Cooper & Schindler, 2008).

Responsive leaders were managerial staff that attended to employee concerns (Shore, Sy, & Strauss, 2006).

Scatterplots (or scatter diagrams) were pictorial images displayed on a graph of two sets of scores for participants (Creswell, 2005).

Spurious variables were variables that might have influenced the outcome, but would not be measured (Creswell, 2005).

Unresponsive leaders were managerial staff that did not attend to employee concerns (Shore, Sy, & Strauss, 2006).

Assumptions

The primary assumption in the current study was that inadequate computer equipment caused outsource recruiter stress, dissatisfaction, and frustration. Another assumption was that having to use inadequate computer equipment increased low morale. Although the concern of whether the use of inadequate computer equipment might have caused loss of productivity and profitability for the outsource agency, the current study

assumed dissatisfaction with technological systems was not the sole determinant of outsource recruiters retention; the study also assumed that dissatisfaction with managerial responsiveness to outsource recruiter concerns played a significant role on retention.

Assuming the impossibility to determine with certainty the source of an outsource recruiter's frustrations on the issues of health, family issues, and standard of living, the assumption was that by asking direct questions of job satisfaction would make it less likely the survey questions were seen as a threat and ignored by a cautious or gun-shy outsource recruiter. Although the assumption was outsource recruiters need fast computers to complete the job of recruiting in a timely manner, whereby frustration with their job may have followed from the use of inadequate computer equipment, the instance of low satisfaction might not influence their retention. Lastly, this study assumed that lifestyle demographics did not negate the frustration received from using inadequate computer equipment for outsource recruiters registered in the LinkedIn.com professional networking groups for outsource recruiters.

Scope

The scope of the main study covered one region- LinkedIn.com professional networking groups for outsource recruiters. The scope of the data collection was a survey because organizational surveys provided "individual opinions and assessments of workers' behaviors [that can be] used to identify and drive those organizational changes that will have the greatest impact on future behavior and success" (Church & Waclawski, 2001, p. 10). The scope of the analysis was to examine the association between responsiveness of organization managers to human resource outsource recruiter concerns about technology and outsource recruiter retention. The scope of the research reported

was to provide manager-leaders of outsource agencies who intend to compete and to retain outsource recruiters a new set of values or behaviors that were important to the future success of outsource organizations.

Limitations

This section explains the limitations of the study. The current study was limited by the amount of active users that responded to the survey instrument. The sample population for the study concentrated on active users. The sample size represented active individuals participating in 10 LinkedIn professional networking groups for outsource recruiters relative to a total population of 30,000 registered members.

Although the current study was also limited by the honesty of the subjects' responses and the reliability of the survey instrument, the study did not develop a measure of outsource recruiter comfort and lifestyle satisfaction. Another limitation rested in the design. The correlational design identified what goes with what; it did not necessarily identify cause-and-effect relationships. Although, the correlational design identified secondary relational patterns or elements, secondary relational patterns can have little or no reliability and no validity, and furthermore the relational patterns can lead to being arbitrary and ambiguous.

In addition, the current study used linear regression. The use of linear regression may not make it solely possible to predict the retention of an outsource recruiter if the researcher knew the responsiveness of an organizational leader. This was because there may have been other variables, or spurious variables, that influenced outsource recruiter retention; for not every organizational leader who was responsive to an outsource recruiter concerns about technology secured the retention rate of an outsource recruiter.

Furthermore, because “the survey process is only a part of a larger change initiative involving other (complementary) methods” (Church & Waclawski, 2001, p. 18), another limitation in the current study was that it did not provide specific guidance to organization managers regarding how to cost effectively implement and manage the findings of the survey into their organizations.

Delimitations

This section briefly explains the variables the current study was bound from. Motivational factors of outsource recruiters were bound from the analysis. The current study did not test for an influence of job security concerns on retention. Moreover, the current study did not address the association between the fear of finding new and sustainable employment on retention despite the dissatisfaction of an outsource recruiter who experienced low responsiveness from their manager. Concentrating on the motivation of outsource recruiters as a unit of study may have revealed why retention is high in cases when use of inadequate equipment at work led to job dissatisfaction, but this study was bound by the analysis of an association between two variables.

Summary

The need for temporary staffing services was not new in most fields. Many workers no longer enjoyed the permanency of a job (Chang, 2007; Conklin, 2007; Henley, Cotter, & White, 2001). Although the staffing solution had recently been to rely on outsourcing (Bureau of Labor Statistics, 2001), most outsourcing agencies, as with the rest of the world, used computers to complete tasks (Baker, 2004; McCunne, 1999; Rolich, 2008). Denying requests of employees reduced the sense they matter to the organization (Shore, Sy, & Strauss, 2006). A connection may exist between productivity

and technology (Lin & Popovic, 2002) but the current literature did not clarify that connection relative to the responsiveness of organization managers to employee concerns about technology and employee retention.

The quantitative method was best for this study to analyze the association among an antecedent and outcome variable. The use of a quantitative method of research with a correlational design helped to determine how the responsiveness of organization managers and outsource recruiter concerns about technology related to outsource recruiter retention. Chapter 2 progressed with a discussion of the historical perspectives of responsiveness of managerial staff that included pre-classical to post-modern leadership perspectives historical and current perspectives about leadership (Abrahamson, 2004; Argyris, 1996; Banutu-Gomez, 2004; Bass, 1990; Beng-Chong & Ployhart, 2004; Bergmann, 1999; Bowman, 1996; Buckingham & Clifton, 2001; Dentchev, & Heene, 2004; Douglas & Fredendall, 2004; Drucker, 2003; Gardner, 2000; Greenleaf, 2003; Maxwell, 1998; Harrison, 1999; Hendricks, 2007; Hoopes, 2003; Kouzes & Posner, 2003; Krishnan, 2001; Liu, Shah, & Schroeder, 2006; Lukes, 1986; Maxwell, 2001; O'Toole, 2003; Rothwell, 2006; Scott & Davis, 2007; Smythe, 2005; Weiskittel, 1999; Wootton, 1996; Wren, 2004).

Chapter 2 also discussed job satisfaction theories (Buhler, 2006; Carroll, 1978; Curry, Wakefield, Price, & Mueller, 1989; Dennis, 2006; Gordon, 2005; Gunn & Gullickson, 2007; Helm, Holladay, & Tortorella, 2007; Herzberg, 1968; Jacobs, 2007; Lyons & O'Brien, 2006; Moore, Cruickshank, & Haas, 2006; Yost, 2006), theories on incentives (Enright, 2006; Michaels & Risher, 1999; Vocino 2006), responsiveness of managerial staff (Shore, Sy, & Strauss, 2006), historical and current perspectives about

retention (Curry, Wakefield, Price, & Mueller, 1989; Dennis, 2006; Feenstra & Hanson, 1996; Helm, Holladay, & Tortorella, 2007; Moore, Cruickshank, & Haas, 2006; Vocino, 2006; Wiley, 1995; Yost, 2006), and the effects of technology on retention (Hathi, 2007; Latham, 1995).

CHAPTER 2: LITERATURE REVIEW

The purpose of this correlational study was to quantify the association between responsive organization managers to outsource recruiter concerns about technology and retention of recruiters. The foundation of the current study rested on the sequential logic that: (a) job dissatisfaction negatively related to retention rates (Gordon, 2005), (b) outsource recruiters relied on technology and multitasking to complete tasks (McCunne, 1999), and (c) employee satisfaction increased with managerial responsiveness (Shore, Sy, & Strauss, 2006). Because of the desire to rely on original sources versus commentary sources on the original theorists, the current study contains a large body of research on literature prior to five years.

Titles, Searches, and Documentation

Particular difficulty arose when searching for sources on the topic of the retention of outsource recruiters and managerial responsiveness. The major databases and indexes searched were article databases that included Business Source Complete, EBSCOhost, and ProQuest. The list of keyword search terms and strings used in the literature search included: *outsource recruiters, computers and retention, technology and retention, organization and leadership, leadership and outsource recruiter, outsourcing and job satisfaction, outsource recruiters and retention, empowerment and outsource recruiters and managerial responsiveness*. The responses from these keyword strings led to subject searchers of literature on the variables of *incentives, employee motivation, retention, power, organizational structures, normative leadership practices, outsource agency practices, and job satisfaction*.

Literature revealed various explanations for low retention. Some of the factors explaining low retention found in the literature included dissatisfaction with pay (Enright, 2006; Michaels & Risher, 1999; Vocino, 2006), stress on the job (Bordieri, 1988; Carroll, 1978; Jenkins, 1991; Pringle, 1996; and de Wesley & Clemson, 1992), disengagement (Gordon, 2005), organizational design (Scott & Davis, 2007), culture deficiencies and lack of employee's sense of efficacy (Buhler, 2006; Dennis, 2006; Gordon, 2005; Gunn & Gullickson, 2007; Jacobs, 2007; Helm, Holladay, & Tortorella, 2007; Lyons & O'Brien, 2006; Michaels & Risher, 1999; Yost, 2006). Other factors reported that affected retention were related to the sense of empowerment (Hathi, 2007; Latham, 1995), concern for job security (Carroll, 1978), intellectually challenging job (Gordon, 2005), or that the job provided personal fulfillment (Yost, 2006). Yet there was a shortage of literature to explain employee reactions when managers ignored or denied employee requests for resources (Shore, Sy, & Strauss, 2006).

Organizational Structure

Hackman and Oldham (1981) maintained "the structural properties of organizations influence employee reactions by shaping the characteristics of their jobs" (p. 1). Orton (2000) reported understanding organization design required researchers to understand at least three things: (a) enactment- the processes in which organization members paid attention to a stream of events they created, (b) sense-making- the gradual development of a loose agreement among organization members about how to link a stream of events with a set of reorganizing initiatives, and (c) decision-making (in the context of a reorganization)- the presentation of a package of deliberate initiatives that

would change formal relationships among organizational components; (a)-(c) implied structural approaches were not useful in redesign cases to understand process changes.

Organizations--of which are collectives--had strategic goals (Loup & Koller, 2005; Mitchell & Coles, 2004; Voelpel, Leibold, & Mahmoud, 2004; Voelpel, Leibold, & Tekie, 2004). Whether enactment, sense-making, and decision-making were crucial to organization design, organizations were made up of principals and agents (Henley, Cotter, & White, 2001). Although agency theory held self-interests were key motivators to organizational behavior, employees on strategy and satisfied with their roles was not important from describing the nature of an organization (Henley, Cotter, & White, 2001).

Scott and Davis (2007) mentioned three perspectives (or paradigms) organizations applied: (a) rational systems, (b) natural systems, and (c) open-systems. Rational systems theories were design theories that described formal aspects within organizations. The formal design was a list of job descriptions, manager selection and assignment system, the planning and control/information system, and reward system (Bart, 1987; Lewis & Madon, 2004). These aspects informed managers of what the company expected of them and of how managers should allocate their attention, time, and energy. Rational systems theories overlooked elements that influenced the intra-functions of organizations; for although organizations had goal specific formal structures, employees brought informal structures to organizations (Scott & Davis, 2007).

Natural systems design theories were plausible insofar as they took into consideration values employees brought to the organization (Scott & Davis, 2007). For instance, stress on the job sometimes reflected stress from home. Thus, the behavior of organizations did not solely reflect the specific goals rational systems theories

considered. Whereas, the open-systems perspective took into account the natural systems perspective and customers, clients, legal influences, and technology as parts of an organizational environment.

Open-systems perspectives maintained strategy and goals, the formal structure (leadership design, human resource design, job designs), the informal structure (the culture and values employees bring to the organization, and social networks), people, and technology (duties, performance strategies, and ways in which work was done) were each part of an organizational environment (Scott & Davis, 2007). Environments were “those elements and flows that surround and penetrate [the organization]. The environment is perceived to be the ultimate source of materials, energy, and information, all of which are vital to the continuation of the system” (Scott & Davis, 2007, p. 106), and thus all of which should be considered in designing organizations. That is, “organizations are not closed systems, sealed off from their environments, but are open to and dependent on flows of personnel, resources, and information from outside” (Scott & Davis, 2007, p. 31). Furthermore, “organizations are congeries of interdependent flows and activities linking shifting coalitions of participants embedded in wider material-resource and institutional environments” (Scott & Davis, 2007, p. 32).

Restructuring and Outsourcing

Organization restructuring were “changes in an organization’s formal bureaucratic structures, which may include cutting hierarchical levels and divisions, consolidating and merging units, and reorganizing work tasks” (Budros, 1999, p. 70). Although, downsizing was one attempt to organization restructuring, Budros (1999) defined downsizing as “an organization’s conscious use of permanent personnel reductions in an attempt to improve

its efficiency and/or effectiveness” (p. 70). Yet when organizations downsized, cost effective decisions led to recruiting contingent employees “to avoid the higher salaries and benefits of permanent employees” (Henley, Cotter, & White, 2001, p. 123).

Human resource managers in industries such as manufacturing, information technology, hospitality, teaching, and nursing heavily relied on staff provided by outsource agencies (Bureau of Labor Statistics, 2001; Chang 2007; Henley, Cotter, & White, 2001, Wiley, 1995). Chang (2007) found “a vendor’s superior ability to benefit from economies of scale and from learning spillovers leads to productivity enhancements for firms that outsource” (p. 78). According to Feenstra and Hanson (1996), outsourcing accounted for 31-51% of the increase in the relative demand for skilled labor in the U.S. manufacturing industries during the 1980s. “The results of [the HR Leaders and Educators Summit] indicated that it is now time for universities to step up to the challenge of meeting the developmental needs of the 21st century HR system leaders” (Risher & Stopper, 1999. p. 8). Human resource professionals like outsource recruiters were talented because their problem-solving skills were not necessarily taught in a formal academic setting, of which increased their demand.

Outsource recruiters were in demand and they needed to be good at what they did. The temporary/outsource agency was an institution that deployed roughly more than 2.5 million workers each day (Bureau of Labor Statistics, 2001). Although the decision to use temporary staffing services occurred during severe staffing crises (Manion & Reid, 1989; Workforce Solutions, 2008), outsource recruiters knew their temporary applicants settled for positions that provided low incentives and did not provide full labor rights. As Freeman and Gonos (2005) mentioned, “no one has yet to craft an effective legal

framework that can advance the unionization and fair treatment of temp workers deployed in the workplace by exploitive profit-driven labor market intermediaries” (p. 293). Moreover, according to Freeman and Gonos, “little attention has been paid to the legal status of the for-profit temp agency, the primary institution driving the expanded use of contingent workers” (p. 293).

Responsiveness of Managerial Staff as Antecedent Variable

Shore, Sy, and Strauss (2006) tested the hypothesis that “leader responsiveness to employee requests will relate positively to job satisfaction, organizational commitment, organizational citizenship behavior, and job performance, and negatively to turnover intention” (p. 230). Using a Likert type scale and correlative design Shore et al. (2006) “found that leader-responsiveness is positively correlated with job satisfaction, organizational commitment, and organizational citizenship behavior, and negatively correlated with turnover intentions” (p. 231). Shore et al. also found no relationship existed between leader responsiveness and job performance.

Historical Perspectives about Responsiveness of Managerial Staff

One reasonable starting place to investigate the phenomenon of managerial responsiveness as it related to employee job satisfaction was relative to motivation. A famous theory of human motivation was found in the studies of Abraham Maslow. Maslow proposed in 1943 that humans had a hierarchy of needs. Maslow’s (1943) hierarchy of needs was often depicted as a pyramid consisting of five levels: the four lower levels were grouped together as deficiency needs associated with physiological needs, while the top level was termed growth needs associated with psychological/cognitive needs.

According to Maslow (1943), deficiency needs must be met first. Deficiency needs consisted of physiological needs (sleeping, eating, excretion, shelter, drinking, and warmth), safety needs (personal security, health and well-being), love/belonging/social needs (friendship, sexual intimacy, communicative family), and esteem needs (self-respect, self-esteem). Once these four categorical needs were met, seeking to satisfy growth needs (cognitive needs) drove personal growth (i.e., self-actualization to reach fullest potential). Growth needs were the need for self-actualization (i.e., the desire to be the best that one could be, of which motivated or drove behavior). Growth needs were higher needs in Maslow's hierarchy of which these higher needs only came into view when the lower needs in the pyramid were satisfied.

Maslow (1943) held that once an individual had moved upwards to the next level, needs in the lower levels were no longer priority. Job satisfaction consisted of several needs being met (Carroll, 1978; Curry, Wakefield, Price, & Mueller, 1989; Herzberg, 1968; Shore, Sy, & Strauss, 2006). If lower needs were not met the individual would temporarily re-prioritize those needs by putting attention on the unfulfilled needs (Herzberg, 1968). An example of this fact may be a sales person at the esteemed level who was diagnosed with high blood pressure. He would spend a great deal of time focused on his health (physiological needs) but would still value his work performance (esteem needs) and was likely to return to work during periods of feeling better.

Herzberg, a psychologist who became one of the most influential names in business management, proposed the Motivation-Hygiene Theory- also known as the Two-Factor Theory of job satisfaction. According to Herzberg (1968), people were partial to two factors: satisfaction and dissatisfaction. Satisfaction was mainly the result

of motivator factors. Motivator factors consisted of achievement, work itself, responsibility, recognition, growth, and promotion. Managers that were responsive to employee concerns addressed the motivator factor employees had for recognition, which in turn gave Herzberg's theory credibility.

According to Herzberg (1968), motivator factors helped increase satisfaction but had no influence on dissatisfaction. Dissatisfaction was mainly the outcome of hygiene factors such as status, company policy and administration, pay and benefits, supervision, relationships with co-workers, physical environment, and job security. Hygiene factors were job factors that caused dissatisfaction if they were missing but if increased they did not motivate employees (Herzberg, 1968). That is, hygiene factors were important or notable only when they were lacking. If those factors were not present or were inadequately met caused dissatisfaction, but their presence had little influence on long-term satisfaction (Herzberg, 1968). Arguably, hygiene factors had mostly to do with the job environment yet hygiene factors clearly were dependant to the perception employees had about their organization.

Carroll (1978) examined responses to various variables such as need for achievement, alienation, subjective stress, need for self-actualization, need for power, need for security, and need for financial reward, each relative to job satisfaction. Carroll found that the need for security, alienation, and subjective stress were associated with significantly lower level scores on job satisfaction. Unmet need for financial reward had a significantly negative influence on job satisfaction.

Carroll (1978) also maintained the *job enriched* group had high scores on higher-order needs (achievement and self-actualization) of which was associated with

significantly higher job satisfaction and significantly lower alienation and perceived stress scores. Furthermore, “high scores on need for self-actualization also had a tendency to be associated with higher scores on the job satisfaction and job involvement index scales” (Carroll, 1978, p. 56). Yet Carroll also found the opposite results for respondents concerned with getting their need for security met.

According to Carroll (1978), high scores on the need for security were each associated with significantly lower scores on job satisfaction. That is, when the need for job security was high job satisfaction was low and too was the concern for self-actualization. Therefore, the individuals who had higher-order needs met were satisfied with their jobs. The inference from the Carroll study was that when lower needs were not met job alienation, stress on the job, and low job satisfaction scores increased.

Carroll (1978) gave no mention as to the relationship of job performance to job satisfaction, nor did the Carroll study indicate whether satisfied employees stayed on their jobs. One interesting point here was whether the Curry, Wakefield, Price, and Mueller (1989) study actually disagreed with the Carroll study; for Curry et al. (1989) maintained job security was a less important need as a motivator to job satisfaction than was achievement and self-actualization (a point Maslow may have disagreed with and was one concern addressed by the current research study).

Pre-classical (Leadership during 1500 C.E.– 1900s C.E.)

Gardner (2000) stated “in our culture, popular understanding of the leadership process distinguishes it from coercion--and places those forms involving the least coercion higher on the scale of leadership” (p. 3). Although the primary aspect of leadership was to influence others (Abrahamson, 2004; Lukes, 1986; Maxwell, 1998;

Smythe, 2005), there were many different leadership models leaders could apply. According to Weiskittel (1999), autocratic leadership was not favorable to current leadership literature because “autocratic leadership involves the use of commands and expected compliance. The leader is dogmatic and uses power to give or withhold rewards and punishment” (para. 2). Machiavelli’s account of leadership, whereby he argued in *The Prince* that virtue came from a different set of principles than those Cicero maintained, was not to express love and passivity (Modern Library, 1950). Nor was legitimacy required for cooperation/domination on Machiavelli’s view; to remain in power a prince needed a strong army. Machiavelli did not appeal to idealistic tendencies as a guide for leadership; for the survival of a prince did not require moral precepts (Modern Library, 1950).

Another interesting leadership model during the pre-classical period was found in the writings of the political theorist John Locke. In Wootton (1996), Locke was noted as saying natural law provided people with essential ingredients that physically preserved them both at micro- and macro-levels. At each level, natural law afforded people the opportunity to discover behavior that would preserve all persons. In the state of nature, according to Locke, people were free to act justly. In this way, people expressed the capacity (the power) to do what they were designed to do, i.e., to live justly and to treat others the same.

Although Taylor supported the view management should get paid more than workers, Taylor in his quest to argue management needed more power envisioned that, “it was management’s job to design the jobs properly and to offer the proper incentives to overcome worker soldiering”--the culture manufactured from a “lump of labor” theory

and thus grant more power to management (Wren, 2004, p. 123). This Taylorian envision was twofold: One rested on the view that a manager-leader was accountable and should be trained in ways that exemplified inspiration to the worker for maximum organizational efficiency (Wren, 2004). That is, Taylor stated “management needed to know each job as well or better than the men who did it” (Hoopes, 2003, p. 38). Second, Taylor used a monetary incentive to maximize worker output to performance. Concerns of managerial responsiveness were not at issue in Taylor’s leadership design. According to Hoopes (2003), “Taylor used money as his principal incentive” (p. 34). But it was not just in the giving of more money to workers that increased their performance, it was a “system so that more work really did earn more pay” (Hoopes, 2003, p. 38).

Leadership during 1900-1930

Rost (1991) stated “from 1900 to 1930 leadership definitions focused on control and centralization of power” (Harrison, 1999, para. 2). At least until the 1930s the prominent method used to get factory workers on the productive path of factory life were of punishment by either withholding of wages or some other form of sanction. Yet the industrial revolution brought with it the need for leadership to develop and to train people as a workforce (Wren, 2004). The industrial revolution provided for blended leadership. According to Weiskittel’s (1999) *blended* leadership occurred when the leader was “flexible, adapting to the circumstances surrounding the project and the needs of the group. Behaviors used by this leader include coaching, training, telling, demonstrating, and supporting to encourage optimum individual autonomy and success in achieving projected outcomes” (para. 5).

Leadership during 1940-1960s

Economic resources marked classes of elites: upper, middle, and lower (Bowman, 1996). This hierarchical albeit structural system of the organization Drucker argued birthed inequality in the modern era (Bowman, 1996). Clearly the West has undergone a transitional economy, a change in its political and economic system. This economic transition required new institutions and new ways of thinking about organizing work performance and a radical dismantling of the system of state or bourgeoisie ownership. In the West, almost all social structures consisted of winners and losers with respect to its economic liberal structure. And because an increased of capital flow among the members of the organization in the West typically contained a strong element of personal rule over others, Drucker argued, as does Bowman (1996), that this form of domination, i.e., this structured relationship of control did not follow as a result of ownership (Bowman, 1996; Hoopes, 2003).

In America, a growing middle-class of entrepreneurs made tremendous strides in augmenting and spreading national wealth while diminishing the true extent of poverty in the country. From a liberal perspective, the middle-class established a *lassie-faire* strategy in its exercise of economic liberalization. Besides the entrepreneurial beginnings in America, i.e., a feature of economic liberalization, the internal hierarchical dimensions of the modern corporation had contributed to the growing middle-class. During that period, in the hierarchical internal dimensions of American corporations, there was a ladder of leadership positions where there was a ladder of roles. At the top was the CEO who received a greater salary, more benefits, etc. (and usually CEOs owned shares/stocks

in the corporation) whereas the managers below received lesser monies respectively on this chain.

According to Bowman (1996) the nature of corporate power, in its most basic form, was the power wielded by individuals, often working in concert, who, by virtue of their dominant positions within the marketplace, made the critical decisions largely to determine the production, distribution, and consumption of goods, the development of technology, and the conditions and location of employment. Thus a new type of ruler—corporate managers—became the new govern of economic society. Corporations had firms across regions in which employees ranged in thousands. Corporations affected the lives of many and thus was marked an entity of power.

Peter Drucker's anti-structuralism attributed the West's "moral and spiritual crises partly to the rise of managers" (Hoopes, 2003, p. 235). Rather than inequality being an element of capitalism, or to show favoritism to Marxism, Drucker accredited inequality and the downfall of the Western economy to managers (Hoopes, 2003). According to Hoopes (2003), "Drucker could not say why the managerial economy that led to fascism in Europe would not have the same effect in America" (p. 238). It was industrialism that "had failed to create a 'free and equal society'" (Hoopes, 2003, p. 236). Expounding this Druckerian perspective, Bowman (1996) argued that modernity led to a new group of rulers (although not a ruling class) of which "governed the economic sphere of society" (p. 192). Further, Bowman pointed out, "corporate power in the marketplace and in government are aspects of the same . . . which is hierarchical in structure" (p. 32).

According to Bowman (1996), managers rather than figure the best way to treat subordinates with respect focused on determining who got hired, what wages should be

bestowed on subordinates, which incentives should be given, and other facets of showing the corporate power structure. In other words, political power practices of managers regarded the distribution of unequal income of which, at the discretion of corporate leadership, grounded whether one got paid more or less than another in that organization. This corporate practice of payment only added to members of class distinctions in the West (Bowman, 1996).

Post-Modernism (Leadership during 1960s-present)

Bergmann (1999) maintained leadership models in the post-modern era appealed to a set of new values than in times before. What Bergmann mentioned was significantly similar to the transformational leadership description given by Burns (1978) in Krishnan (2001) and Weiskittel (1999). According to Bergmann,

[t]he many changes that have taken place in the work environment in the last decade have brought the challenges and opportunities of leadership down from the pedestal of formal management to the individual employee - contributors with no positional authority, who are not designated as leaders but who have leadership challenges presented to them on a daily basis. (para. 3)

Post-modernism first occurred when transformational leadership became common practice. According to Weiskittel (1999), transformational leadership was the “involvement in coordinating and integrating activities versus controlling and directing the work of groups” (para. 6). Whereas, according to Krishnan (2001), Burns (1978) maintained, “transformational leadership ‘occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of

motivation and morality” (p. 1). Yet innovations would only be possible if leadership showed integrity, gained the trust of the group, demonstrated self-sacrifice, communicated effectively, and gave praise regularly to the members of the group in accordance to pursuing organizational goals (Bass, 1990; Buckingham & Clifton, 2001; Cragen, Wright, & Kasch, 2004; Gardner, 2000; Greenleaf, 2003; Kouzes & Posner, 2003; Maxwell, 2001; Rothwell, 2006).

According to Hoopes (2003), Drucker maintained managers had a social responsibility over subordinates rather than a professional responsibility over them. Rather than change the values of subordinates, of which Drucker stated was an illegitimate right of management (Hoopes, 2003), Drucker argued subordinates should not be demoralized by management yet rather subordinates should have some control over the power relations within the organization (Hoopes, 2003). And, although in the West the perspective of the internal dimension of the organization was to sustain the organization, Drucker argued organizational sustenance should be done not by top-down power management but by managers enabling “subordinates to work with autonomy and ‘self-control’” over the positions they held (Hoopes, 2003, p. 250). Furthermore, according to Hoopes, Drucker held subordinates should be treated with respect, consideration, even humility by managers if ever management wanted to maximize organization output.

Rost (1991) maintained “leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes” (Harrison, 1999, p. 27). Although that definition captured most power theory perspectives as found in Lukes (1986), the Rost (1991) definition did not mark the difference between leaders

of one type to other leadership types. Gardner (2000) provided a distinction between leaders and leader/managers from the general run of managers who monitored rather than led. According to Gardner, there were at least six aspects that leaders practiced: (a) they think longer term--beyond the day's crises, beyond the quarterly report, beyond the horizon; (b) in thinking about the unit they were heading, they grasped a relationship to larger realities--the environment of which they were part of, conditions external to the organization, global trends; (c) they reached and influenced constituents beyond their jurisdictions, beyond boundaries. Leaders' capacity to rise above jurisdictions enabled them to bind together the fragmented constituencies that worked together to solve a problem; (d) they put heavy emphasis on the intangibles of vision, values, and motivation and they understood intuitively the non-rational and unconscious elements in leader-constituent interaction; (e) they had the political skill to cope with the conflicting requirements of multiple constituencies; (f) they think in terms of renewal. The leader sought the revisions of process and structure required by ever-changing reality (Gardner, 2000). Whereas, the routine manager tended to accept organizational structure and processes as they existed (Gardner, 2000).

Argyris (1996) stated theories of leadership were "theories of effectiveness because they purport to define the activities through which intended consequences can be achieved in such a way that these consequences persist" (p. 2). Leaders faced different challenges to bring about the success of organizations (Finkelstein, 2005; Maxwell, 1998). Yet leaders had to decide on principles that maintained the integrity of the organization (Drucker, 2003). The duty of organizational leaders was to the business of assuring the organization met and exceeded the expectations of investors, customers,

labor markets, suppliers, government agencies, and the people who work for the organization (Dentchev, & Heene, 2004; Douglas, & Fredendall, 2004), all which were aspects of an organization's environment (Scott & Davis, 2007). According to Harshman and Harshman (2008), "understanding leadership's nature and functioning is one key to understanding the ethical behavior of an organization as a system and of the people who lead the organization" (p. 175).

Arguably, leadership was never analytically defined (Nagel, 2003; Solomon, 2003). This was because many elements and particulars were prescribed to what germinal leadership theorists called "leadership" (Ashley & Patel, 2003; Fairholm, 2004; Higgs, 2003; Martin & Ernst, 2005; Stephenson, 2004). In turn, the term "leadership" was seemingly irreducible. But transformational leadership did specify (a) the type of behavior leadership applies to and (b) the differences between the behaviors the term "leadership" applies to. For instance, although Bass (1999) maintained "transformational leader inspires, intellectually stimulates, and is individually considerate of followers" (para. 1), transformational leadership "not only influence relationships among leaders and followers who intend real changes that reflect their mutual purposes but," also "exhibit[s] confidence and direction that instills motivation and commitment to organizational objectives" (Beng-Chong & Ployhart, 2004, p. 610). To this end, transformational leaders raised their constituents to higher levels of ideals and performance that showed when "followers seek to identify with the leader and emulate him or her" (Beng-Chong & Ployhart, 2004, p. 611). This type of leadership rested on instilling trust (Banutu-Gomez, 2004; O'Toole, 2003); for "people will not follow the lead of those they mistrust,

contingency leaders will often encounter insurmountable obstacles on the road to leading change” (O’Toole, 2003, p. 281).

Leadership and Teams

With the growth of the workforce came the practice of teamwork. Teamwork required management set the culture and help the team work together for team goal achievement (Jones & Shilling, 2000). Both LaRue, Childs, and Larson (2004) and Jones and Shilling (2000) provided prescriptive approaches about designing organizational teamwork. According to LaRue et al. (2004) process change was important to deployment which “involves the continuing assessment in action of what is going well and what is not” (p. 57). Implementing the deployment process was not necessarily an easy thing to do. According to LaRue et al., “when employees are faced with novelty, change, or perceived threat – work teams, organizational departments, even entire companies often react with defensiveness and unhealthy forms of controlling behavior” (p. 58). Yet in order to assist in breaking some of these barriers, LaRue et al. suggested Action-Learning Teams (ALTs): (a) pay attention to the current state of the organization. People may learn what they needed to do, but the inherent systems and culture may resist; (b) pay attention to the norms of the groups and the surrounding culture in which they worked; (c) drive the change from the right place in the organization. Whenever possible, start at the top; and (d) develop a language for the change initiative. Thus, an organization should consist of teams, decision-making in kind (LaRue, Childs, & Larson, 2004).

With respect to taking action, LaRue et al. (2004) suggested among other things, leadership needed to: (a) create a sense of urgency; (b) reduce traditional thinking. Work

“outside the box.” Become innovative in getting people to accept new ideas; (c) focus on the process, not the results; and (d) expect and tolerate ambiguity, setbacks and messiness of the process. To the success of integrating a new belief set, leaders cannot let up on implementing change into the mindset of organizational members before the job is done (LaRue, Childs, & Larson, 2004). Furthermore, “without strong and capable leadership from many people in the organization, major changes don’t happen well or at all” (LaRue, Childs, & Larson, 2004, p. 74).

To make performance improvement happen Jones and Shilling (2000) suggested team members implement three major interventions: “goal setting, feedback, and problem solving or process management” (p. 162). Each intervention was an aspect of the second phase of the plan-do-assess-improve framework- the PDAI model. Although those interventions were to be conducted consecutively, each intervention was not necessary to attain measurable performance (Jones & Shilling, 2000). Goal setting was one intervention that required a positive mind-set. Jones and Shilling pointed out several mind-setting elements that promoted goal setting: (a) Team members must accept the principle of continuous improvement, and (b) the atmosphere must be high energy. Note that in (b) emotions might flare among team members.

Jones and Shilling (2000) argued that flared emotions was a good sign to leadership there was energy within the team, whereby leadership’s task was to harness that energy and channel it to the team’s notion of goal achievement by pointing out the group and individual rewards for team goal achievement, and (c) team members must agree to focus on goal achievement rather than goal failure. In this mind-set to goal-

setting, leadership would not negatively charge the team atmosphere by focusing on what would go wrong if the goal is not met (Jones & Shilling, 2000).

Team members needed to know with certainty whether organizational goals were being met. According to Jones and Shilling (2000), when team performance was low competitive team members tended to blame other team members. To blame other members for low team performance did not positively influence performance output. Jones and Shilling mentioned performance feedback from leadership provided a positive influence when team members were competitive within the team. Performance feedback was the second intervention in the “Do” phase of the PDAI model. Performance feedback “directs team members to identify and apply new behaviors—to solve problems or improve the process” (Jones & Shilling, 2000, p. 169). Yet performance feedback needed to be provided in a timely manner.

The third intervention of the PDAI model “provides greater discipline and focus in choosing worthy performance improvement projects” (Jones & Shilling, 2000, p. 176). Although continual improvement was an element of the mind-set aspect of the goal-setting intervention, “continuous improvement requires continues learning” (Jones & Shilling, 2000, p. 193), a type of learning that occurred from being part of the community of practitioners (a community that LaRue et al. (2004) calls ALTs).

The Sociotechnical System

Through the process of work teams, sociotechnical systems allowed organizations to integrate knowledge-based technology with transformational leadership within the work environment. Sociotechnical systems worked with cross-functional teams to gain knowledge sharing and innovation (HR Focus, 2008). Organizations used the capabilities

of knowledge to build internal work teams (HR Focus, 2008). Sociotechnical system approaches enabled knowledge-based work teams to accomplish organizational goals. Three major sociotechnical system components included: (a) the technological system components, (b) the personnel subsystem, and (c) the relevant external environments (Hendricks, 2007). The technological subsystem was a task variability or the number of exceptions encountered in one's work. Technological subsystems ranged from the teams routine tasks with few exceptions to highly variable tasks with many exceptions (Hendricks, 2007). The personnel subsystem was the degree of professionalism of the workforce in which the relevant external environments were critical to the success of an organization's ability to adapt to its external environment (Hendricks, 2007).

Knowledge-based organizations used the information and knowledge they had gained and applied it to functional work teams (Hendricks, 2007). Yet for the sociotechnical applications to be effective, all members of the environment needed to be supportive (Hendricks, 2007). Liu, Shah, and Schroeder (2006) maintained the technical and social aspects of an organization should be aligned to match the technical complexity and flexibility of tasks and the social-system should also encourage employees to have multiple skills. One of the biggest problems with sociotechnical methods was the environmental uncertainty (Hendricks, 2007). With a high degree of uncertainty, a premium was placed on the organization's ability to be flexible and rapidly responsive to change (Hendricks, 2007).

Comparing the abilities of sociotechnical with innovative teams was a challenge to the technical proficiency and problem-solving capabilities of employees. Employees had to meet the demanding requirements with task-related training, trouble-shooting

capabilities, and appropriate knowledge about the equipment and processes (Liu, Shah, & Schroeder, 2006). The advantages of a sociotechnical environment were to allow organizations to merge their workforces and to afford the opportunity to address new workforce demographics, where workers demanded increasing technological sophistication and personal flexibility (Townsend, DeMarie, & Hendrickson, 1998).

Managerial Responsiveness and Employee Power

When managers responded to employee concerns the employee felt a sense of empowerment (Shore, Sy, & Strauss, 2006). If employees were empowered and were working together, then good results would follow (Latham, 1995). This was because the need to feel useful and valued showed in the ability to influence situations. Latham argued “empowerment is a combination of motivation to act, authority to do the job, and the enablement to get it done. Enablement requires a vivid picture of the destination” (p. 66).

Harrison and Kouzes (1980) provided a model that identified four *energy modes* of interpersonal relations where influence occurred. The modes were: (a) pushing- directing one’s energy to change another’s beliefs and values; (b) attracting- behaving enthusiastically such that managers created a common purpose that evoked the notion the best for all was to share visions and ideals; (c) joining- encouraging, understanding, and expressing willingness to accept criticism that built trust and personal acceptance; (d) disengaging- avoiding negative involvement that conserved energy and depersonalized conflicts (Harrison & Kouzes, 1980). Harrison and Kouzes mentioned that practicing these modes provided team synergy and a broad spectrum of personal-power potential aimed to build open, trusting, and cooperative employee/manager relations.

Broom (2003) adopted the view “power has two primary components: a vision . . . and energy” (p. 11). Power occurred in partnership and in learning from others (Broom, 2003). To Broom, power was “abundant, unlimited, and infinite” (p. 11). Yet Broom stated infinite power was *harnessable*. To allow for infinite power was to lead by six principles: (a) focus on one’s own energy, one’s own thoughts, emotions, and behaviors; (b) think holistically knowing every action would bring a reaction within the system; (c) learn differences so as to overcome the woes of conformity and contention; (d) seek sound and current data of which was to rely on up-to-date information versus opinion and speculation; (e) empower others because doing this was to discover the excellence others have; and (f) acquire a diverse group of people who contributed to the goals designated to achieve. Broom (2003) continued, there are four arenas managers could exercise infinite power in their desire to lead: (a) personal power in which managers tap into their own capacity to integrate intellectual, emotional, and physical energies; (b) interpersonal influence whereby managers understood their influential role on teamwork; (c) team synergy which was essential to achieve goals; and (d) the infinite organization whereby managers who exercised the aforementioned arenas brought their organization into a positive and self-sustaining workforce.

Others viewed power as “the potential ability to influence behavior, to change the course of events, to overcome resistance, and to get people to do things they would not otherwise do” (Pfeffer, 1992 as mentioned by Bolman & Deal, 2003, p. 188). Friedrich Nietzsche argued power brought about happiness, which was after all the will of life (Kaufman, 1989). Harrison and Kouzes (1980) defined power as the ability to get things done whereby authoritative figures expressed a personal power that was persuasive via

skills of negotiation while having a personal charisma that allowed trust building. Groshev (2002) argued the form of power was influence. Groshev's view was clearly Weberian. According to Max Weber, cited in Lukes (1986), those who possessed goods or marketable skills could control the behavior of anyone interested in attaining those goods or skills. This type of power was seen in the economic monopolies of the past (where a lord enjoyed a variety of rights over land and tenants which included the right to hold court) or the power of authority, i.e., power expressed via autocratic methods (Lukes, 1986). Weber maintained that common to all instances of power was the occurrences when *A* successfully imposed her or his will on *B* thus caused *B* to behave in conformity with *A*'s will.

On the other end of the power debate was Hannah Arendt (cited in Lukes, 1986). Arendt stated Weber bundled phenomena coined in political terminology; for, according to Arendt, nothing was more common than the combination of violence and power, and to think of power in terms of command and obedience and hence to equate power with violence, as Weber did, was particularly in error (Lukes, 1986). In accordance to Arendt was Gardner (2000) who maintained leadership and power were different entities and did not go hand-in-hand.

Managerial Responsiveness and Technology

Technology defined generally was of "how an organization accomplishes its tasks" (Randolph & Dress, 1981, pp. 121). Aristotle, the empiricist, argued technology was a human arrangement of techniques to make possible and to serve human use; technology was instrumental (Hood, 1972). On this view, without human action technology was extrinsic to human nature having no meaning or determinate form.

Whereas, Heidegger in Hood (1972) argued technology was part of the existential structure of humans whereby practicing technology was part of being human; humans do not stand in some external relation to technology (Hood, 1972). Hence, from Heidegger's viewpoint, to understand technology was to come to terms with humankind's being. In whichever sense of the term, technology seemingly had a direct influence on the direct processes of human action (and thus on organizations). Because technology and standards could be applied in the implementation of business processes, "once the business models and the technology standards are defined, the next step is to select solutions that best support and enable the defined business processes" (Faurer, Chaharbaghi, Weber, & Wargin, 2000, p. 27).

Current Perspectives about Responsiveness of Managerial Staff

According to Scott and Davis (2007) "there is frequently a disparity between the stated and the real goals pursued by the formal structure" (p. 60). Second, "all organizations must pursue support or 'maintenance' goals in addition to their output goals" (Scott & Davis, 2007, p. 60). In the postmodern era, innovation was a key attribute desired of leaders (Bate & Johnston Jr., 2005; Denning, 2005; Mayfield & Mayfield, 2004; van Gelder, 2005). Although Scott and Davis supported the open-systems paradigm as key to organization design consideration, the earlier work of Ostroff (1992) maintained employee attitudes were critical to organizational effectiveness.

Taking from the view of Folger and Greenberg (1985) that leadership responding to employee requests would positively affect employees' sense of fairness and subsequent attitudes and behaviors, Shore et al. (2006) maintained that "when managers respond favorably to employee requests, this will result in subordinate attitudes and

behaviors which enhance the employee/manager relationship” (p. 229). Shore et al. studied the relationships between managerial responsiveness to employee requests and employee attitudes (job satisfaction, organizational commitment, and turnover intention) as well as work behaviors (organizational citizenship behavior, and job performance). Shore et al. argued that when managers responded favorably to employee requests (a discretionary act) employees had favorable work attitudes/behaviors. Furthermore, according to Shore et al., when employees initiated requests for things that mattered to them they perceived managerial responsiveness as indicative of their value to the leader and to the organization as a whole. Whereas, Gunn and Gullickson (2007) maintained the quandary of getting what one asked for was not enough to make employees happy in their workplace.

Incentives and Job Satisfaction

Although organizational culture and leader behaviors played a role on employee happiness with their jobs (Amabile, Hadley, & Kramer, 2002; Langerrak, Nijssen, Frambach, & Gupta, 1999), Stershic (1990) claimed when measuring satisfaction, “researchers must evaluate the organization’s needs from the inside out as well as from the outside in” (p. 45). Some researchers started from the assumption that satisfaction stemmed from self-interests being met, and to satisfy an employee was to satisfy their self-interests (Stershic, 1990). Men and women also cherished the “psycho-social” satisfaction of feeling useful at work (Barcelona, Lelievre, & Lelievre, 1975), yet the reason given for why HR professionals were satisfied with their jobs came down to pay (Michaels & Risher, 1999). Organizations provided incentives in their quest to retain and to motivate their employees. Rational choice theory taught us that people made cost-

benefit analyses in all their decisions (Friedman, 1996). Therefore, it made sense the goal of any compensation plan should encourage employees at all levels.

In 2001, the Securities and Exchange Commission (SEC) was informed by SEC attorneys that SEC staff often made 50% less than private sector employees in comparable positions and 18% to 39% less than comparable staff at other federal financial institutions. In 2001 a survey was provided to SEC staff to determine factors that influenced turnover, satisfaction, and morale among SEC staff. SEC researchers reported SEC staff claimed the lack of opportunities for advancement, the amount of uncompensated overtime, and the quality of administrative support services were important reasons to leave or consider leaving SEC. Yet the SEC (2001) report also maintained “a high percentage of staff indicated that they were satisfied with their overall job [81%], the extent to which they were treated with respect and their ability to balance their work and personal lives” (p. 66).

Gap in Literature about Responsiveness of Managerial Staff

The literature on responsiveness of managerial staff was weak and provided for a gap regarding association of job satisfaction relative to managerial responsiveness. The gap involved explaining the association of responsiveness of managerial staff to employee concerns and how employees felt about themselves and how that feeling was associated to satisfaction. Literature existed regarding the relationship of transformational leadership and managerial responsiveness, yet the literature about leadership failed to address guidelines to reasonable managerial responsiveness. Furthermore, the literature did not explain the association of managerial responsiveness to employee concerns about technology and job satisfaction.

Retention as Outcome Variable

Top-quintile companies paid top performers far more than average ones and therefore made it clear pay programs did reward for performance (Michaels & Risher, 1999). Over 200 managers among seventy-seven companies across seven industry sectors participated in McKinsey's study (Michaels & Risher, 1999). The McKinsey study generated immediate interest throughout the nation because so many companies struggled with retention problems. Although leadership credibility engendered employee retention (Kouzes & Posner, 2007), Michaels and Risher (1999) found from McKinsey's study it necessary that companies embrace four imperatives if they expected to acquire and keep top performers. The four imperatives were: (a) Winning Value Proposition- Michaels and Risher (1999) noted McKinsey (1978) found 58% of the 200 managers rated "values and culture" as "the most critical factor in attracting and retaining top talent, followed by freedom and autonomy (56%), exciting job challenges (51%) and a well-managed company (50%). Among the factors studied compensation was rated in the 20% range" (pp. 8-9); (b) Talent Mindset- leaders passionately believed talent won and building a talent pool was a crucial part of their job; (c) Robust Sourcing Strategy- Companies needed to be clear on the characteristics of their businesses and consequently on the profile of the talent that would best match those characteristics; (d) Tactics to Build the Talent Pool- McKinsey found top executives believed jobs and feedback drove development. That is, "top- performing companies are instructional . . . and they put high potential people in jobs before they are ready" (Michaels & Risher, 1999, p. 9).

According to the McKinsey study, the most important imperatives distinguished by top performers were: (a) values and culture- 58%, (b) freedom and autonomy- 56%,

(c) exciting job challenges- 51%, (d) well-managed company- 50%, and (e) compensation- 20% (Michaels & Risher, 1999). While compensation was not necessarily crucial to retention of the professional, organizational “values and culture” were the most critical factors in attracting and retaining top talent (Michaels & Risher, 1999).

Historical Perspectives about Retention

Cooperative relationship theory argued leaders had to structure organizations that allowed for increased employee retention. To the concern of retention, Hasselbein (1997) argued effective leaders knew good manners were critical for success in workplace relationships, in team performance, in customer relations, and in managing a richly diverse organization. Hasselbein also argued good manners and civility were essential to the success of relationships across the organization. Curry, Wakefield, Price, and Mueller (1989) conducted studies about the relationship of job performance and retention. Curry et al. (1989) found “no support for the hypothesized causal linkages between job satisfaction and organizational commitment” (p. 854). Curry et al. did not find a direct relationship between job satisfaction or job stress and retention, and neither did they find commitment/retention a determinant of satisfaction and the lack of stress on the job.

Current Perspectives about Retention

Although job loyalty involved a sense of attachment and was a duty-based undertaking (Hart & Thompson, 2007), managers, as leaders, engendered loyalty (Nicholson, 2009). Yet when employees were not able to perform in their settings, retention was less likely (Jones & Shilling, 2000). To enable employees to perform job tasks leadership had to allow employees to be engaged in the organization (Buhler, 2006; Hathi, 2007), provide employee’s a sense of efficacy (Buhler, 2006; Dennis, 2006;

Gordon, 2005; Gunn & Gullickson, 2007; Helm, Holladay, & Tortorella, 2007; Jacobs, 2007; Lyons & O'Brien, 2006; Yost, 2006), empower employees (Hathi, 2007; Latham, 1995) and adhere to employee requests for resources (Shore, Sy, & Strauss, 2006). These leadership characteristics were elements that seemingly increased employee retention.

Hathi (2007) reported on a study by PeopleMetrics Research Company that engaged employees outperformed other employees that were not engaged. Hathi revealed employees who experienced a sense of purpose, empowerment, trust in leadership and the ability to find security and growth in a company were the factors of highest engagement (Hathi, 2007). Jacobs (2007) discussed the implications of retaining the best employees regarding company performance in the U.S. Jacobs indicated that “investing in keeping staff members is far less expensive than replacing them, which is estimated to cost from one-third to 1.5 years of a departing staffer’s annual salary” (p. 18). In an earlier study, Lyons and O'Brien (2006) found that African-American employees’ reported of fit perceptions which explained variance in job satisfaction (43.20%) and turnover intentions (20.20%); racial climate did not emerge as a moderator. As racial climate was not an issue to retention, Helm, Holladay, and Tortorella (2007) maintained what was most important to employee retention was whether leaders considered performance management as a complete system that encompassed goal alignment, education, communication, and continuous feedback; for this was apparently a strategy to the recognition of top performers who retained their jobs.

Moore, Cruickshank, and Haas (2006) conducted a hermeneutical phenomenological study of retention of a specialized industry. Moore et al. (2006) found job satisfaction had affected levels of work productivity and staff retention. Buhler

(2006) argued employees who were engaged were likely to stay at their organizations. According to Buhler, engagement was the opposite of boredom, i.e., “those employees who are actively disengaged from their jobs often suffer from boredom and frustration,” (p. 19). The bottom line for Buhler was that engagement was the key to employee retention.

According to Dennis (2006), there were several practices found to be best for recruiting and retention: (a) line up your incentive pay programs with your firm’s strategic goals, (b) understand what matters to your staff, (c) provide a clear career path, (d) make the best use of your talent, (e) share some financial information with staff, (f) reinforce the need to strike a healthy balance, (g) find out whether they were satisfied, (h) include staff in the hiring process, (i) treat staff as well as the people you were trying to hire, (j) be generous, (k) make work fun.

Yost (2006) indicated several practices that Dennis (2006) suggested were not necessary for retention. Yost found dissatisfaction from leadership contributed to job stress. Yost also held relationships, career competence, and skills, personal ownership of career, sense of accomplishment, and sense of humor were factors contributing to employee decisions to stay on the job.

Gunn and Gullickson (2007) claimed people were motivated in the work environment by three fundamentals: (a) money, (b) recognition, and (c) cause. Each of these fundamentals were subjective and were of little help to management in determining motivation because a cause might have deep meaning for one person yet might not have interested another at all. The same was with recognition and money; for what made a person happy was personal and therefore what mattered to each individual’s own sense of

satisfaction was not something a manager-leader could always be clear about (Lorca & García-Diez, 2004; Lépineux, 2005). Management seemingly needed general fundamentals they could rely on to satisfy and motivate any employee.

Organizations “that have good or very good morale have fewer unscheduled absences by their employees compared with other companies whose morale was poor or fair” (*Happy Employees Come To Work*, 2006, p. 17). Gordon (2005) identified 10 types of happy workers (where happiness was the key to whether informal goals of workers were met and that of which increased retention): (a) Lovers- lovers were passionate about something. The activities of lovers were less important than the mission their work supported; (b) Determinators- for they were the achievers, excelling and exerting influence was very fulfilling to them. They thrived on challenges and were driven to perform their best. They enjoyed jobs with unlimited potential for promotions and opportunities, where they worked with bright people; (c) Healers- caretakers, via one-on-one interaction, felt fulfilled when they improved others’ lives. The satisfaction found helping others live better, be it mentally or physically, could transcend the boredom of redundant activities; (d) Heroes- heroes were activists who on a grand scale sought to enact change. Heroes maintained that one person could move and improve the masses; (e) Sisters- they were women who helped other women overcome gender-related obstacles; (f) Faithful- for the faithful, happiness was rooted in a strong connection between their work and religion, spirituality, or faith. The faithful found joy when they worked with people whose objectives and values mirrored their own; (g) Builders- these people were visionaries who created communities and maintained relationships. They were most satisfied with work that allowed them to apply vision, influence, and skills to motivate

others and to instill camaraderie; (h) Artists- these talented people—writers, artists, performers—made a living at artistic endeavors. They struggled to exercise their talent; with creativity, their art could be become a practical, lucrative livelihood; (i) Thinkers- they were the problem solvers analyzing and synthesizing ideas. Thinkers were mentally engaged and intellectually challenging; (j) Counselors- counselors were adept listeners and advisors who enjoyed solving problems.

What was clear in Gordon (2005) was that a happy employee was one who would stay on the job. Happiness was relatively determined by values being met, but what Gordon suggested was to understand happiness delivered a sense of engagement and pride, and these two attributes were aspects of employee satisfaction. So, if an employee was not engaged in their work and was not prideful from their work they were experiencing job dissatisfaction, which might negatively affect retention (Moore, Cruickshank, & Haas, 2006).

Hackman (2004) argued job satisfaction came from human conditions, structural conditions, and contextual conditions within an organization. Moore et al. (2006) supported similar arguments made by “Bordieri (1988); Jenkins (1991); Pringle (1996); and de Wesley and Clemson (1992)” (p. 20) each of which maintained there was a relationship between job dissatisfaction and poor working conditions. The list of dissatisfactions Moore et al. referenced were: (a) a lack of resources, (b) heavy caseloads which negatively impacts the ability to carry out duties effectively, (c) poor professional identity, (d) poor relationships with co-workers, (e) stress in the workplace, and (f) poor working conditions. Whereas, job satisfaction came from the sense of achievement felt when providing effective service (Moore, Cruickshank, & Haas, 2006).

Incentives and Retention

Incentives came in various forms. According to Enright (2006), employers understood that non-cash compensation benefits could add 30% to the value of a person's cash salary. Some non-cash compensation was: (a) healthcare contributions, (b) annual disability and life insurance contributions, (c) annual performance bonuses, and (d) job training. Due to the increased concern of companies to find ways to increase employee retention, many companies practiced the belief that the more employees were rewarded and compensated the more employees would want to stay on their jobs (Vocino, 2006). Vocino (2006) pointed out "global expansion, cost management, process improvement and governance are driving the need for global compensation strategies" (p. 74). The point was although compensation had a positive effect on retention, because employee performance was a necessity to competitive companies, whether they have global footprints or not, those who increased employee performance were assets to competitive company success (Pearson, 2004; Simmons, 2004).

According to Vocino (2006), "HR professionals who specialize in compensation and benefits are taking on more-strategic roles in developing rewards strategies that integrate overall business goals while maintaining regulatory compliance, often across diverse geographic areas" (p. 73). For instance, "the emerging trends in consumer-driven health care are creating strategic opportunities and complexities that require employers to have the best and the brightest HR professionals—and to pay them commensurately" (Vocino, 2006, p. 74). Because of the rise in competitive companies, both domestically and internationally, human resource professionals specializing in compensation and benefits were in demand (Vocino, 2006). Human resource professionals specializing in

compensation and benefits design “develop reward strategies that align with overall business strategies” (Vocino, 2006, p. 70). Some of the rewards and compensation benefit packages not only included healthcare benefits, pay increases, bonuses and other incentives to reward strong performance. Other compensation incentives include “nonqualified stock options, followed by incentive stock options and restricted stock” (Vocino, 2006, p. 75).

Nabler (2006) argued dissatisfaction with pay was the number one reason for fleeing. Although base pay had increased the salary of the human resource professional, base pay had not been the sole method of compensation. That is, “more of HR professionals’ total compensation is being delivered through incentives and less through base pay” (Vocino, 2006, p. 74). Yes, their base had increased but also “about four in 10 are eligible for long term incentives and approximately eight in 10 are eligible for short-term incentives” (Vocino, 2006, p. 74).

Technology and Retention

Acknowledging the influence of technology as an enabler on the organization required “the implementation based on a need to emphasize certain features; or to take early advantage of features recognized by users” (Griffith, 1999, p. 474). Technology needed to make sense to the user, otherwise performance was hindered (Griffith, 1999). According to Day, Gunther, and Schoemaker (2000), emerging technologies “are science-based innovations that have the potential to create a new industry or transform an existing one” (p. 2). (Fast computers did not fall necessarily under the definition of an emerging technology. Yet if computer memory was low and the CPU slow the system might crash causing for a restart moreover all of which was frustrating and time

consuming to any user, to include to an outsource recruiter.) An emerging technology could occur if, “enough changes of degree can add up to a change in kind” (Day, Gunther, & Schoemaker, 2000, p. 8). Therefore, except for an emerging or disruptive technology in an organization, all other organizational technologies were considered routine in kind (Scott & Davis, 2007).

According to Wiley (1995), “as the industrial revolution changed the very fabric of our society, the technological explosion is transforming the U.S. workplace” (p. 69). McCunne (1999) reported that the use of computer technology improved productivity at work. According to Griffith (1999), technology referred to “specific tools, machines, and/or techniques for instrumental action” (p. 2). Griffin observed that modern technology had “two components: (a) a hardware component, consisting of material or physical objects and (b) a software component, made up of information” (p. 474). Day et al. (2000) posited, “technology can focus on a component, an entire product, or an industry” (p. 2). Of the five traits of technology Mitroff (2004) listed, one was that it “allows humans to perform exceedingly complex tasks in short time periods, for instance, to carry out millions, and even billions, of calculations per second via computers” (p. 3).

Technology was a knowledge base or instrument to complete tasks (Day, Gunther, & Schoemaker, 2000). Technology showed itself in the know-how or otherwise “set of discipline-based skills that are applied to a particular product or market” (Day, Gunther, & Schoemaker, 2000, p. 2). Whether the organization was a banking firm or an outsource agency, employees of particular industries required specific knowledge that had to be applied constructively whereby employees required the tools needed for the organization to perform well.

Scott and Davis (2007) found technology was crucial to organizational performance. According to Scott and Davis, “most organization theorists embrace the broader view that technology includes not only the hardware used in performing work, but also the skills and knowledge of workers, and even the characteristics of the objects on which work is performed” (p. 125). One thing was clear about the use of the term “technology,” it “informs and constrains but does not dictate the precise configuration of machines and methods that make up a specific technical system” (Scott & Davis, 2007, p. 125).

Fast computers fell under the criterion of an enabling technology; for, according to Katz (2004) whatever allowed for business growth or opened up new space for developing ways to complete tasks was suspect of being an enabling technology. An enabling technology allowed organizations to carry out their cores beyond the realm and regions initially permitted (Katz, 2004). An enabling technology acted as a bridge between two core technologies (Katz, 2004). Tidd, Bessant, and Pavitt (2005) claimed an enabling technology was “capable of application in a number of fields” (p. 527). Computer systems were but one enabling technology that could “help give a firm a distinctive competence, enabling [companies] to provide goods and services better than competitors” (Tidd, Bessant, & Pavitt, 2005, p. 121). Enabling technologies built alliances across knowledge boundaries and provided new space for developing ways to complete tasks (Tidd, Bessant, & Pavitt, 2005).

Gap in Literature about Retention

The gap in literature about retention relative to job satisfaction was evident. Literature showed there was as a relationship to job satisfaction and retention yet

literature was scarce on explaining the factors of the association of managerial staff responsiveness to employee concerns about technology and job satisfaction.

Compensation and the use of an enabling technology associated with job satisfaction but that relationship did not explain if incentives superseded the need to feel empowered.

Furthermore, literature existed regarding the relationship of job satisfaction to job performance yet literature did not specify the factors that led to retention when job performance was hindered by technology.

Conclusion

Chapter 2 mentioned job satisfaction and retention were associated (Curry, Wakefield, Price, & Mueller, 1989; Dennis, 2006; Helm, Holladay, & Tortorella, 2007; Moore, Cruickshank, & Haas, 2006; Yost, 2006). Yet literature was not clear about the motivating factor(s) of the association between the responsiveness of organization managers to employee concerns about technology and employee retention. Human capital directly influenced organizational performance and thus providing power to employees was not only about the sharing of knowledge and feedback sharing, but also increased employee morale, organizational outlook, attitude and teamwork (Latham, 1995). Although the studies by Curry et al. (1989) and Moore et al. (2006) were contradictory regarding the antecedent variable on retention, when there was a breakdown in the way employees were to get their work done organization performance was hindered (Scott & Davis, 2007) and when employees felt they were mistreated by managerial staff employees became dissatisfied with their jobs (Buhler, 2006; Carroll, 1978; Curry, Wakefield, Price, & Mueller, 1989; Dennis, 2006; Gordon, 2005; Gunn & Gullickson, 2007; Helm, Holladay, & Tortorella, 2007; Herzberg, 1968; Jacobs, 2007;

Lyons & O'Brien, 2006; Moore, Cruickshank, & Haas, 2006; Shore, Sy, & Strauss, 2006, Yost, 2006).

Summary

Chapter 2 covered several view points about key factors leadership should consider in getting the best performance from employees (Drucker, 2003; Jacobs, 2007; Jones & Shilling, 2000; Scott & Davis, 2007), variables that were related to retention and job satisfaction (Curry, Wakefield, Price, & Mueller, 1989; Dennis, 2006; Helm, Holladay, & Tortorella, 2007; Moore, Cruickshank, & Haas, 2006; Vocino, 2006; Yost, 2006), and motivates and drives, i.e., the psyche of employees (Caroll, 1978; Curry, Wakefield, Price, & Mueller, 1989; Herzberg, 1968; Shore, Sy, & Strauss, 2006) was stated. And, although an organization consisted of its environment (Scott & Davis, 2007), technologies organizations applied should always enable employees to be efficient (Tidd, Bessant, & Pavitt, 2005).

Volatile labor markets depended on the use of temporary help and outsource staffing firms to respond to the cyclical economy's fluctuating labor needs (Bureau of Labor Statistics, 2001; Chang 2007; Wiley, 1995). It should be obvious of the need for outsource recruiters and the trust employers put in them to perform their job well. Reasonably suspected, outsource recruiters had a subjective need base to perform well their job duties. Because temporary staffing services were used mostly in severe staffing crises (Bureau of Labor Statistics, 2001; Chang 2007; Henley, Cotter, & White, 2001, Wiley, 1995), outsource recruiters felt a sense of usefulness, achievement, and power when a client called the outsource recruiter in appreciation for fulfilling a dire needed assignment. We can also assume the same is felt by outsource recruiters when their

leadership responded to requests for things recruiters believed they needed to do their job well.

Chapter 3 elaborates on the rationale presented in Chapter 1 of the quantitative method appropriateness to the current study, including a discussion of why the selected method was chosen. As noted in Chapter 1, the quantitative method and the Pearson product-moment correlational design were appropriate for the current study because generalizations and a justification of current conditions and practices were determined relative to measuring the association between the antecedent variable and the outcome variable (Filipovitch, 1996; Macnee & McCabe, 2006; Neuman, 2003; Thomas, Nelson, & Silverman, 2005).

Chapter 3 also contains a discussion on the relevance and fit of the research strategy to the research question. This research sought to determine factors that presented an association between the responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention. Chapter 3 also describes the population, the sampling, and data collection procedures, and rationale that was used to address the research question.

CHAPTER 3: METHOD

Inabilities to multitask can lead to a delay in staffing assignments and to the dissatisfaction of clients and outsource recruiters. The purpose of this correlational study was to quantify the association between responsive organization managers to outsource recruiter concerns about technology and retention of recruiters. The foundation of the current study rested on the sequential logic that: (a) job dissatisfaction negatively related to retention rates (Gordon, 2005), (b) outsource recruiters relied on technology and multitasking to complete tasks (McCunne, 1999), and (c) employee satisfaction increased with managerial responsiveness (Shore, Sy, & Strauss, 2006).

The goal of this study was to determine the statistical relationship between the responsiveness of organization managers to employee concerns about technology and retention of employees who participated in LinkedIn.com professional networking groups for outsource recruiters. The current quantitative study rests on a correlation design to determine if outsource recruiter retention—the outcome variable—was significantly associated with managerial responsiveness to outsource recruiter concerns about technology- the antecedent variable. The antecedent variable was the input or a predictor of a given outcome (Cooper & Schindler, 2008; Creswell, 2005). The outcome variable was a presumed response, a predication towards an end, or a measured outcome (Cooper & Schindler, 2008). The sections which follow contain descriptions of the research method, the nature of the design, and population, sampling, and data collection procedures, validity, and the data analysis. The chapter concludes with a summary.

Quantitative Research Method

According to Creswell (2005), “Quantitative research is a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner” (p. 39). By contrast, qualitative research asked broad questions and conducted inquiries in a subjective manner. Quantitative research was a “formal, objective, systematic process in which numerical data [is] utilized to obtain information” (Burns & Grove, 2002, p. 18). Quantitative research methods focused on numbers and frequencies rather than on meaning and experience. According to Neuman (2003), “Quantitative research is expressed in numbers (e.g., percentages or statistical coefficients), and a researcher gives meaning to the numbers and tells how they relate to hypotheses” (p. 148). Although, quantitative methods were criticized for not providing an in depth description, they were associated with scientific approaches and provided results that were statistically analyzable (Creswell, 2005).

Quantitative research emerged from relating and correlating two or more measurable variables (Creswell, 2005). Quantitative researchers looked for measurable patterns in data (Creswell, 2005). Relating two or more ideas led to measuring patterns of groups of variables (Creswell, 2005; Neuman, 2003). Relating and correlating groups of variables has led to the development of complex models that were interrelated with numerous variables (Creswell, 2005). In each case of relating variables the goal was to predict or to explain relationship probability and thus to identify or to explain patterns that can be examined and were measurable (Creswell, 2005).

Creswell (2005) described three trends characteristic of quantitative research methods: (a) collecting and analyzing information in the form of numbers, (b) collecting scores that measure distinct attributes of individuals and organizations, and (c) comparing groups or relating factors about individuals or groups in experiments, correlational studies, and surveys (p. 41). By contrast, in qualitative research methods: (a) researchers listened to the views of the participants studied; (b) researchers asked general, open questions and collected data in places where people lived and worked; and (c) had a role in advocating for change and bettering the lives of individuals (Creswell, 2005).

Quantitative research methods did not emphasize the importance of the participant's view but rather the procedure by which the study was conducted and the scores that were attained from the study (Creswell, 2005). Quantitative research methods relied on the analogies made by the researcher from the scores of responses to closed questions gathered rather than the views of the research participants gathered from open-ended questions (Creswell, 2005). In this way, "the research participant [was] "taken out" of context and placed within an experimental situation far removed from his or her personal experiences" (Creswell, 2005, p. 42). Quantitative research methods were objective because the data analyzed was statistically measurable, regardless of whether the choices of the participant were value-laden (Creswell, 2005).

Mixed method studies used both quantitative and qualitative research designs (Creswell, 2005). The current study did not use a mixed method design because the current study was not concerned with the characteristics of experience relative to a dependent variable (Sng & Gribovskaya, 2008). Furthermore, the current study did not: (a) evaluate the views of the participants studied; (b) ask general, open questions; (c)

advocate for change. Thus, the current study did not synthesize the qualitative and quantitative research methods.

Quantitative Designs

Quantitative studies were classifiable into two broad categories: experimental and non-experimental (Neuman, 2003). Experimental studies followed the experimental design, and were suitable for finding cause-effect relationships between variables (Neuman, 2003). The experimental design involved the introduction of an intervention to, and monitoring the effect of that intervention on, the study participants (Neuman, 2003). Experimental studies were thus essentially prospective, following a cohort of study participants (Neuman, 2003). The outcome measured in the experimental design was the dependent variable, while the intervention was the independent variable (Neuman, 2003). Furthermore, experimental research designs were expensive, time consuming and difficult to set up (Cooper & Schindler, 2008; Creswell, 2005).

Because of the complexity of experimental research design method, the method used in this study was non-experimental. Non-experimental designs emerged to overcome the need for introducing interventions to find associations between and among variables (Creswell, 2005). Non-experimental designs, such as correlational techniques, multiple regression analyses, linear regressions, logistic regressions, multivariate analyses, and the like, applied statistical modeling to find an association between variables (Cooper & Schindler, 2008). Non-experimental designs were synthetic designs because their results stemmed from statistical manipulation of data rather than from direct observation and measurements of specific interventions (Creswell, 2005). In the current quantitative study, a non-experimental design (a regression analysis) was used to find an

occurrence of an association between the study variables and to test the strength of that association using the correlation coefficient.

Appropriateness of the Quantitative Method

Because the behavior under study was attained via closed-ended questions and the data gathered was measured and measurements analyzed, the quantitative method was appropriate to address the research question of whether the responsiveness of organization managers to outsource recruiter concerns about technology correlated with retention rates of outsource recruiters. This type of research method illustrated the explanation of relationships among variables (Cooper & Schindler, 2008; Creswell, 2005). Although qualitative research methods were also systematic, quantitative research generalizes based on scores, uses numbers, and developed instruments and methods for measuring participant responses (Macnee & McCabe, 2006). Quantitative research was objective in nature by asking specific and narrowing questions as a way to collect data using numbers and statistics (Creswell, 2005).

Correlational Design

The correlational design was a statistical approach to measure and determine a relationship between two or more variables (Neuman, 2003). Correlation research designs included specific characteristics: (a) displayed scores (scatterplots and matrixes), (b) associated scores (direction, form, and strength), and (c) multiple variable analysis (partial correlations and multiple regression) (Creswell, 2005). The correlational design was a statistical approach to measure and determine a relationship between two or more variables (Creswell, 2005; Neuman, 2003). Thomas, Nelson, and Silverman (2005) maintained, “correlational research is descriptive in that it explores relationships that

exist among variables. Sometimes predictions are made on the basis of the relationships, but correlation cannot determine cause and effect” (p. 298). Correlational designs were used in non-experimental quantitative research to find relationships among variables (Thomas, Nelson, & Silverman, 2005) and to predict or explain variable relationships rather than to manipulate variables as in experimental research (Creswell, 2005).

According to Filipovitch (1996), “Because a correlational study does not manipulate which variable precedes the other, it cannot attribute causal direction to the relationship” (para. 1). As such, correlational studies did not warrant the language of causation as did experimental research (Creswell, 2005).

Origins of Correlational Design

Karl Pearson presented the correlation statistical test to the Royal Society in England in November 1895 (Creswell, 2005). According to Creswell (2005), the correlational statistical test and the procedures for using and interpreting the statistical test developed from statisticians. The correlational statistical test sought to determine if two variables co-varied (Creswell, 2005). The statistic could express a linear relationship called the *product moment correlation coefficient* (Creswell, 2005). Linear relationships associate one variable to another variable, whether the association had a positive or negative association.

Regression Line

Correlational designs used statistical procedures such as in regressions (Creswell, 2005; Neuman, 2003). During the 20th century “with the advent of computers, improved knowledge about measurement scales, and the need to study complex associations among many variables, quantitative researchers initiated correlational studies” (Creswell, 2005,

p. 326). Yule, also a statistician, advanced the theory of regression and the ability to predict scores using information from correlations (called a regression line) (Creswell, 2005). Regression depicted the relationship between two or more variables; regression was concerned with estimating the value of one variable on the basis of another variable or other variables (Creswell, 2005). According to Creswell (2005), “a regression line is a line of “best fit” for all of the points of scores on the graph” (p. 335). Regressions were appropriate with correlational designs because the regression line represented the line “closest to all of the points on the plot and it is calculated by drawing a line that minimizes the squared distance of the points from the line” (Creswell, 2005, p. 335).

The calculation of the regression line for simple regression held the value for associating scores on the outcome variable (i.e., retention of outsource recruiters) with knowledge about the antecedent variable (i.e., managerial responsiveness to outsource recruiter concerns about technology). Based on a mathematical formula, in the current study the following equation expressed the regression line: $Y \text{ (predicted)} = b(X) + a$, where,

Y = score of outsource recruiter retention

X = actual score of managerial responsiveness to outsource recruiter concerns about technology

b = slope of the regression line

a = the intercept or a constant on Y (retention of outsource recruiters) score when $X = 0$.

The regression line enabled to test the null-hypothesis H_{01} that there was no association between retention of outsource recruiters and responsiveness of managerial

staff to outsource recruiter concerns about technology. The regression line determined if a prediction could be made from one variable score with knowledge about the score of another variable (Creswell, 2005). If the slope of the regression runs were zero in that instance there was no association between the antecedent variable and the outcome variable (Hinton, 2004). Thus, when the scores about managerial responsiveness to outsource recruiter concerns about technology were not associated with retention rates of outsource recruiters H_{01} was accepted and the inference made the variables studied did not correlate.

Appropriateness of the Correlational Design

Correlation was appropriate for non-experimental research involving relationships among variables in which the data is quantifiable (Thomas, Nelson, & Silverman, 2005). The goal of the current research study was to determine whether there was a significant increase or decrease in the retention rate of outsource recruiters when there was a lack of managerial responsiveness to outsource recruiter concerns about technology. Therefore, the current study tested for an association by measuring a relationship of two variables.

Thomas, Nelson, and Silverman (2005) maintained that one main purpose for doing a correlational study was “to analyze the relationships among variables” (p. 298). According to Creswell (2005), correlational designs were useful for “associating or relating variables in a predictable pattern for one group of individuals” (p. 52). Furthermore, “the degree of association (or relationship) between two or more variables . . . indicates whether the two variables are related” (Creswell, 2005, p. 52).

There are two types of correlational study designs: *explanatory* and *prediction* (Creswell, 2005). Although predictor variables were antecedent variables (Creswell,

2005), prediction design studies typically: (a) include the word *prediction* in the title, (b) measure the predictor variable(s) at one point in time and the criterion variable at a later point in time, and (c) forecast future performance. On the other hand, because the current study relied on data collected at one point in time and not across time the correlational design applied in this study was explanatory in nature rather than predictive (Creswell, 2005).

Explanatory Correlational Design

Creswell (2005) maintained “explanatory designs consist of a simple association between two variables” (p. 327). In an explanatory correlational design the research: (a) correlated two or more variables, (b) collected data at one point in time, (c) analyzed all participants as a single group, (d) obtained at least two scores for each individual in the group—one for each variable, (e) reported the use of the correlation statistical test (or an extension of it) in the data analysis, and (f) made interpretations or drew conclusions from the statistical test results (Creswell, 2005).

Appropriateness of the Explanatory Correlational Design

The explanatory correlational design was an appropriate design for the current study because the current study did not measure predictor variables at one point in time and an outcome variable at a later point in time. Furthermore, the current study did not forecast future performance. Rather, the explanatory correlational design was appropriate because the current study associated two variables (the antecedent variable to the outcome variable) and the data found was not compared in time intervals, although the current study did compare scores. Furthermore, the participants in the current study were analyzed as a single group and the data analysis applied the Pearson product-moment

correlation coefficient (r), whereby interpretations were drawn from the statistical test results, and thus warranted the application of the explanatory correlational design (Creswell, 2005).

Variables

Variables in quantitative research characterized “description of trends, comparison of groups, or relationships among variables” (Creswell, 2005, p. 44). Quantitative methods that were experimental required independent and dependent variables (Creswell, 2005). The *independent* variable (the cause variable) and the *dependent* variable (the effect variable) were the measured variables in experimental studies (McKelvie, 2007; Simon, 2007; Wuensch, 2007) because only in experimental research was there a firm causal relationship (Wuensch, 2007).

The current study was non-experimental and it was not designed to find a causal relationship, and thus the use of the terms *independent* and *dependent* in this correlational design study were inappropriate, non-applicable, and would have provided erroneous research (Creswell, 2005; McKelvie, 2007; Meltzoff, 2002). In correlational research the variable being measured was the outcome variable (Cooper & Schindler, 2008) and therefore replaced the term *dependent* variable (Wuensch, 2007). The antecedent variable was defined as the variable that had an influence on the outcome variable (Cooper & Schindler, 2008; Creswell, 2005). The variables tested for association were (a) outsource recruiter retention—the outcome variable, and (b) managerial responsiveness to outsource recruiter concerns about technology—the antecedent variable. Job security, monetary incentives, empowerment, and/or the sense of achievement felt when providing effective service each were spurious antecedent variables.

Research Question

The research question guided the research study. The research question addressed the concern of whether there was an association between the antecedent variable and the outcome variable. A strong association between the antecedent variable and the outcome variable indicated a correlational relationship (Cooper & Schindler, 2008; Creswell, 2005). A correlational relationship between the antecedent variable and the outcome variable helped clarify to managerial staff of outsource agencies the association of managerial responsiveness to outsource recruiter concerns about improving technology and outsource recruiter retention.

The process by which the research question was developed rests on outsource recruiter reliance of using computer equipment to multitask and theories related to job dissatisfaction and retention. The goal of the current study was to find out if lacks of responsiveness of organization managers to outsource recruiter concerns about technology led to a decrease in outsource recruiter retention. The specific research question was: What is the association between responsive organization managers to outsource recruiter concerns about technology and outsource recruiter retention?

Hypotheses

The speculations the outcome of this research study progressed in were of two stages: using a regression line the first stage determined if the retention of outsource recruiters was significantly associated with managerial responsiveness to outsource recruiter concerns about technology. Using a correlation coefficient, the second stage determined the strength of the association. Two hypotheses pairs tested in this study were as follows:

1. The null-hypothesis (H_{01}) is retention of outsource recruiters is not significantly associated with responsiveness of managerial staff to outsource recruiter concerns about technology.
2. The alternative hypothesis (H_1) is retention of outsource recruiters is significantly associated with responsiveness of managerial staff to outsource recruiter concerns about technology.
3. The second null-hypothesis (H_{02}) is there is no significant correlation between responsiveness of managerial staff to outsource recruiter concerns about technology and retention of outsource recruiters.
4. The second alternative hypothesis (H_2) is there is a significant correlation between responsiveness of managerial staff to outsource recruiter concerns about technology and retention of outsource recruiters.

Population

A study population was the group or target class studied (Cooper & Schindler, 2008; Creswell, 2005). The term *population* (or target class or target population) referred to an item or group of items (Moore & Parker, 2009). In the current study the target class being studied were recruiters and organization managers who worked in the outsource industry and who were active users registered in LinkedIn.com professional networking groups for outsource recruiters. Outsource agencies specialized in staffing temporary job categories for various types of organizations. The characteristics of the LinkedIn.com population studied are outsource agency leaders and recruiters who staff the hospitality industry, administrative positions, day laborer positions, and healthcare and information technology industries.

Population Sample

The term *sample* referred to an item or items that are believed to represent a population (Cooper & Schindler, 2008; Moore & Parker, 2009). A population sample was an instance or representative amount of the target class that significantly represents the population being analyzed (Cooper & Schindler, 2008; Creswell, 2005). Population samples were used because they (a) saved money, (b) provided accuracy of results, (c) provided faster means of data collection, and (d) represented a population (Cooper & Schindler, 2008). A good sample was accurate (without systematic variance) and was precise (the descriptors of the sample did not differ from those of the population) (Cooper & Schindler, 2008).

Accuracy of the sample size was provided by a manual appraisal. Of 25 LinkedIn.com human resource recruiter networks, 10 were representative of outsource recruiters and outsource recruiter leaders already employed in the outsource industry. Many networks in the LinkedIn.com human resource database provided for human resource professionals seeking marketing techniques, job search techniques, or information about becoming a recruiter in the outsource industry. Networks confounded with members seeking marketing techniques, job search techniques, and information about becoming a recruiter in the outsource industry were excluded manually from the total population sample. The 10 LinkedIn.com professional networking groups for outsource recruiters used as representative of the sample clearly marked outsource recruiters and outsource recruiter leaders networking in LinkedIn.com. Yet not all of the members in those networking groups remained active users. Of 30,000 registered

members in LinkedIn.com human resource professional networking groups, approximately 95% of the registered member total population was inactive members.

The optimal sample size of the sample population should be at least 5 percent of the total population to provide for precision (Cooper & Schindler, 2008). From an approximate 30,000 total population of registered members in 10 LinkedIn.com professional networking groups for outsource recruiter database yielded an approximate sample size $n = 1,500$. In other words, approximately 1,500 estimated respondents based on the approximate 30,000 total member population represented a precise sample size. Yet the sample population calculation occurred under the assumption the population size represents the total active user outsource recruiter member population. Analysis of usage statistics of LinkedIn.com active users yielded 5% active status. This finding led to a revision of the calculation of the representative population sample, and therefore the betas and effective size of the current study. This representative sample size was derived from the fact that only 5% of registered members participate actively in the professional discussion groups for outsource recruiters. The rest, 95%, of the registered members were inactive users. Thus, the precise sample size of the active user population yielded $n = 75$. The yielded value emerging from the reevaluation of active users formed the foundation of the sample size calculation of active members, and respective adjustments of all other parameters of the current study fit this model.

Units of Analyses

Survey responses from 85 outsource recruiters active in LinkedIn.com professional networking groups were analyzed rather than the expected 75 precise sample size of active registered outsource recruiter members in 10 LinkedIn.com professional

networking groups. The outsource recruiters ranged from corporate staffing professionals, (agency) recruiters, HR managers/directors and employer branding experts. Networks confounded with members seeking marketing techniques, job search techniques, and information about becoming a recruiter in the outsource industry were excluded manually from the units of analysis.

Data Collection Procedures

Data collection was a process of “identifying and selecting individuals for a study, obtaining their permission to study them, and gathering information by asking people questions or observing their behaviors” (Creswell, 2005, p. 10). Data collection described the sampling procedures, the recruitment process, instrumentation used, confidentiality procedures, data coding and data analysis procedures. Two things essential to this process were: (a) applying ethical practices and (b) standard procedures across all forms of data collection (Creswell, 2005).

In terms of ethical practices, data collection procedures required researchers obtain permission before collecting any data (Creswell, 2005). In broad terms ethics concerned itself with the question of morality-- What is right and what is wrong in human relations? Cooper & Schindler (2003) stated “ethics are norms or standards of behavior that guide moral choices about our behavior and our relationships with others” (p. 120). Ethical practices occurred when: (a) anonymity of all stakeholders are respected, (b) the identity of individuals studied were kept confidential, (c) individuals that choose not to participate were not forced or coerced to participate, (d) the site studied was not disrupted and, (e) permission to use the site was obtained (Creswell, 2005).

Standardization prevented the data from being incomparable for analysis (Creswell, 2005). In all data collection, following consistent written procedures for all participants reduced bias that can otherwise occur in the study (Creswell, 2005). In the collection of public documents such as permission to access information, all notes and recordings of the information must be categorized and organized (Creswell, 2005). Listing these procedures allowed duplication of the research (Creswell, 2005). Below follows the data collection procedures.

Sampling

Cooper and Schindler (2003) stated “the basic idea of *sampling* is that by selecting some of the elements in a population, we may draw conclusions about the entire population” (p. 179). The current study used a convenient systematic nonrandom sample. The sample was of an estimate of outsource recruiters active in LinkedIn.com professional networking groups for outsource recruiters.

Each LinkedIn.com professional networking group analyzed in the current study represented the sample drawn from it because the members of the sample population networks were proportionate to the network’s share of the active total population. This proportionate representation marked the proportionate stratified sampling technique. The proportionate stratified sampling technique rested on an estimated population mean by calculating the mean of all sample cases (Cooper & Schindler, 2008).

Recruitment Procedures

The Pilot. The first step of the current study involved conducting a pilot study to establish the internal validity of the study instruments and procedures. The pilot took place at three outsource recruiter companies in Las Vegas, Nevada: Manpower, Adecco,

and Advanced Personnel Services. Each agency provided permission to conduct the pilot study. Appendix A is the request for permission to use the premises. Appendix B is the approval confirmation documents, duly signed by the respective agencies. Upon receipt of approval by the Academic and Institutional Review Boards of the University of Phoenix School of Advanced Studies to conduct research, the researcher visited Manpower, Adecco, and Advanced Personnel Services in Las Vegas, Nevada to recruit pilot participants to conduct research.

The Study. For the main study, the researcher used the self-organizing LinkedIn.com professional networking groups for outsource recruiters to recruit participants. The researcher was a member of 10 LinkedIn.com professional networking groups for outsource recruiters. Members of the self-organizing LinkedIn.com groups were self-managing, and were not formally directed by LinkedIn.com Corporation or the creators of the LinkedIn.com groups. Consequently, members of the self-organizing groups were independently present in the group, and consented to participating in the main study as individuals rather than participating as a group. The individual, rather than the organization, was at the center of the social networking phenomenon. As such, the individuals received electronic information about the current study, and an electronic request for consent to participate. Upon consent, the participants gained access to a Uniform Resources Locator (URL) link leading to the electronic survey. The electronic survey was launched at Zoomerang.com. Zoomerang.com was the survey host used whom of which created a URL link in which the researcher posted the aforementioned request to 10 LinkedIn.com professional networking groups for outsource recruiters.

Confidentiality Procedures and Informed Consent

The Pilot. For the pilot test, each participant received from the researcher a request for an interview. Upon pilot participant approval of the interview, each pilot participant received an informed consent form that explained the confidentiality and voluntary nature of the survey. The informed consent for the pilot participants is located in Appendix C.

All pilot survey participants were asked to read and sign the consent form about the voluntary basis of their participation in the current study. The informed consent advised each participant that they were under no obligation to the researcher or the survey process. If a pilot participant decided not to participate, the non-participant was immediately removed from the pilot population, and another participant (matching the requirements of the pilot study) was selected as soon as possible. The survey used to gather participant responses from the pilot group is located in Appendix D.

The survey responses remained confidential. Supervisors were not able to review the answers provided by their recruiters. All information was stored in a locked file cabinet accessible only to the researcher. This information was password protected and stored for three years. Upon completion of the time requirement, all documentation will be shredded. This process was explained to all research participants. Upon participant completion of the survey instrument, a thank you letter of participation, which is referenced in Appendix E, was generated to each participant at the completion of the survey.

The Study. For the purpose of the current study, the request to participate in the main study involved posting the request to participate letter (see appendix A) as a

discussion to all 10 eligible LinkedIn.com professional networking groups for outsource recruiters. The total registered member population in the 10 groups is approximately 30,000. The active member population is approximately 5% which yields $n = 1,500$ of the LinkedIn.com professional networking groups for outsource recruiters total registered member population. A sample size estimate of approximately 5% of the active member population clicked on a link leading to the URL containing the informed consent located at Zoomerang.com, which yielded 85 respondents.

For the main study, each of the 10 LinkedIn.com professional networking groups for outsource recruiters received an informed consent form that explained the confidentiality and voluntary nature of the survey. The informed consent used on LinkedIn.com professional networking groups is located in Appendix F. All participants in the main study were asked to read and to approve the consent form about the voluntary basis of their participation in the current study. Members who clicked the ACCEPT button at the bottom of the informed consent gained access to the electronic survey located at the survey host- Zoomrang.com. If a participant of the main study decided not to participate, the non-participant simply closed the survey window and was immediately removed from the sample population, and another participant (matching the requirements of the main study) was acknowledged. Members who clicked the DECLINE button at the bottom of the informed consent accessed the exit page which contained a message thanking them for taking time to review the purpose of the current study.

Appendix G is the electronic survey used to gather participant responses for the main study. All information was stored in a locked file cabinet accessible only to the researcher. This information was password protected and will be stored for three years.

Upon completion of the time requirement, all documentation will be shredded. This process was explained to all research participants. Upon completion of the survey the participant was directed to the exit page containing a thank you comment of participation (see Appendix G).

Instrumentation

The instrument used to collect data was a survey. Surveys were popular research tools because they could provide results and a process to a “diversity of applications to which the results and even the process of a survey effort can be directed” (Church & Waclawski, 2001, p. 17). The primary purpose of the survey used in the current study was to gather data that may uncover a new set of values or behaviors that were important to the future success of outsource organizations. According to Church and Waclawski (2001), surveys: (a) helped organizational leaders understand and explore employee opinions and attitudes; (b) provided organizational leaders a general or specific assessment of the behaviors and attributes inherent in employees’ day-to-day work experience; (c) provided organizational leaders baseline measures and use these for benchmarking various behaviors, processes, and other aspects of organizations against other either internal or external measures; and, (d) provided data for driving organizational change and development.

The survey instrument used was of a Likert type scale model. According to Neuman (2003), “Likert scales usually ask people to indicate whether they agree or disagree with a statement. Other modifications are possible; people might be asked whether they approve or disapprove, or whether they believe something is ‘almost always true’” (p. 197). Likert type scale models converted nonparametric data into continuous

data. The five point Likert type scale of Strongly disagree, Disagree, Neither agree nor disagree, Agree, or Strongly agree helped to detect perceptions of responses by category (Lyons & McArthur, 2007).

The instrument used in the current study was specifically designed by the researcher. Three (3) doctors in the field of quantitative research determined the soundness of the choices in the instrument was paired and that the survey provided for a neutral choice. Each reviewer gave suggestions independently for each question. The questions were modified according to all three reviewer comments. After incorporating all comments, each reviewer received the modified set of questions for a second review of fit and relevance. This iterative process continued until approval was granted and until no more discordance arose. The reviewers who approved for soundness and pairing were: (a) Dr. Ricardo H. Archbold, University of Phoenix, Professor of Research Studies; (b) Lionel Green, Ph.D., Stanford University, Professor of Statistics; and (c) Chris Roberts, Ph.D., Quantitative Researcher, Professor of Research Design methods, University of Utah.

The instrument in the current study was applied to gather responses about responsiveness of organization managers to employee concerns about technology relative to employee retention. The questions contained in the survey instrument related: (a) manager responsiveness, (b) use of computer equipment, (c) satisfaction with computer equipment, and (d) employee feeling of managerial respect. The survey questions categorized for each variable were as shown in Table 1.

Table 1

Questions Addressing Outcome Variable and Antecedent Variable

| Recruiter Retention (outcome variable) | | Managerial Responsiveness (antecedent variable) | |
|---|---|--|---|
| Q1 | The daily number of hours I spend at work working on a computer is? | Q6 | When I request improvements or upgrades in computer equipment the management team generally fulfills my requests. |
| Q2 | The computer I use at work increases my job stress. | Q7 | When I report a problem with my computer at work the technical team usually solves the problem. |
| Q3 | I am satisfied with the computer system I use at work. | Q9 | My manager always treats me with respect. |
| Q4 | My computer system allows me to do my job well. | Q10 | My manager listens to what I'm saying. |
| Q5 | I think about changing jobs specifically when the management team does not fulfill my requests. | Q11 | I have some influence over the operations of my workplace. |
| Q8 | I think about changing jobs specifically because of the computer system I use at work. | Q12 | In general this organization respects their outsource recruiters. |

Data Scaling

The current study applied a Likert type scale. Appendix G is the template used for the Likert type scaling. Likert scales were intervals or rating scales used in quantitative studies (Creswell, 2005). Likert scaling occurred when (“strongly agree” to “strongly disagree”) illustrated “a scale with theoretically equal intervals among responses”

(Creswell, 2005, p. 168). The choices for each question in the current study were: 1- Completely Agree; 2- Somewhat Agree; 3- Neither Agree nor Agree; 4- Somewhat Agree; 5- Completely Disagree. Note that except for survey question #1- referring to daily computer utilization, agreeing to choice 3 indicated undecided or no opinion.

Data Coding Procedures

Likert scale responses were coded in discrete categories. Each question was assigned a unique identification that represented the variable being analyzed, where *rt* = retention, and *mr* = managerial responsiveness. A Microsoft Excel 2007 spreadsheet was used to store the data responses. Variable names from the survey questions were used such that Q1, Q2, Q3 . . . Q12 represented questions 1, 2, 3 . . . 12, respectively. The number of participant responses to any given choice per question was counted and descriptive statistics were used, including the mean and standard deviation of frequency distribution of each variable.

Data Analysis Procedures

The design was correlational, applied in two stages, first to establish if retention of the recruiters varied with responsiveness of managerial staff using a regression line, and second to test the strength of the association between recruiter retention and managerial responsiveness with the correlation coefficient (Glantz, 2005). Each response on the Likert type scale yielded a frequency distribution that indicated the variability of managerial responsiveness relative to the incidence of retention. Managerial responsiveness was plotted on the X axis, and retention rate on the Y axis. This plot developed a regression line from which to test the hypothesis. The simple regression technique helped to determine if there was a statistical relationship between the

responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention rates. The use of the regression line helped to estimate whether the antecedent variable increased or decreased as the outcome variable changed (Creswell, 2005).

A step before testing the null-hypothesis H_{01} that recruiter retention did not vary with managerial responsiveness was to determine if any noticeable direct trend in the data was due to chance or was due to a true direct trend within the population. The same concern was given to (H_{02}). The least square regression method helped to determine variability along the regression line (Glantz, 2005).

The procedure for eliminating error due to chance involved estimating the variability of the mean scores of recruiter retention along the regression line and the variability of managerial responsiveness along the line of means. Linear regression analysis of the sample was then provided by an estimate of how on average retention might change when managerial responsiveness changed. Furthermore, the analysis yielded an estimate of the variability in retention about the line of means. These estimates together with their standard errors allowed computing confidence intervals and showed the certainty with which retention associated or varied with managerial responsiveness.

Second, the calculation of a correlation coefficient quantified the strength of variable association (Creswell, 2005). To show how much two variables go together was the purpose of a correlation coefficient (Creswell, 2005; Neuman, 2003). A correlation coefficient was a statistical measure that indicated any association between two variables to determine whether they co-vary (Creswell, 2005; Neuman, 2003).

Testing Hypothesis H_{01}

Creswell (2005) stated that a “quantitative data analysis consists of [either] describing trends, comparing groups, or relating variables” (p. 388). When comparing groups, the *t*-test permitted determining the certainty with which estimated standard deviation of the sample corresponded with the standard deviation of the population (M. Waruingi, personal communication, April 19, 2009). In the regression analysis, the *t*-test showed if the slope of a line of means differed significantly from zero so as to reject the first null-hypothesis (H_{01}). The *t*-test procedure involved the estimation of the mean of a normally distributed population and comparing that mean with the mean of the study population (Blouin & Riopelle, 2004). The *t*-test assured that H_{01} was rejected when the regression line resulting probability value was greater than 95% likelihood (i.e., $p\text{-value} < 0.05$) the mean of the sample being different from the mean of the estimate (Blouin & Riopelle, 2004; Creswell, 2005). The *p*-value was the probability value of obtaining a test statistic at least as extreme as those observed, assuming the null-hypothesis was true.

Testing Hypothesis H_{02}

The *p*-value was the lowest value of alpha for which the second null-hypothesis was rejected. The *t*-test assured that H_{02} was rejected when the regression line resulting probability value was greater than 95% likelihood (i.e., $p\text{-value} < 0.05$) the mean of the sample being different from the mean of the estimate (Blouin & Riopelle, 2004; Creswell, 2005). The lower the *p*-value the less likely the result was the null-hypothesis was true, and consequently the more “significant” the result was the more likely the result was the null-hypothesis was false (and thus less likely a type-one error was committed).

Mean/Standard Deviation Calculation of Sample Population Responses

Assuming a normal population, the managerial responsiveness scores were normally distributed with a calculable mean and standard deviation. In addition to measuring managerial responsiveness, the researcher measured the retention scores. The sample size in the current study allowed the researcher to predict the retention scores were normally distributed with a calculable mean retention rate score and a standard deviation.

The population parameters needed in the current study was the antecedent variable X (the managerial responsiveness score, mean, and standard deviation) and the outcome variable Y (outsource recruiter retention score, mean, and standard deviation). For every given value of managerial responsiveness X, it was possible to compute the value of the mean of all values of outsource recruiter retention Y corresponding to the value of X (Creswell, 2005; McKelvie, 2007; Simon, 2007; Wuensch, 2007). Although there was variability on the line of means, the variability was the same for every given value of the antecedent variable.

Estimating the Variability of Responsiveness about the Regression Line

Estimating the variability of managerial responsiveness along the line of means helped to test the hypotheses to determine whether a direct association in the data was due to chance or was a true association in the total population. This estimation required estimating the variability of managerial responsiveness about the line of means (Chatterjee & Hadi, 2006). To estimate the direct association of the samples called for estimating the y-intercept and the slope of the regression line (Chatterjee & Hadi, 2006). The sum of square differences between observed values of recruiter retention at the same

values of managerial responsiveness were recorded. The measures included whether any given value of managerial responsiveness associated with values of outsource recruiter retention. The variances were squared so that the positive and negative variances contributed equally. The resulting line was a regression of managerial responsiveness on outsource recruiter retention.

Estimating the Variability of Retention of the Line of Means

To estimate the variability of the outcome variable about the line of means, the square root of the average square deviations of the data about the regression line was computed (Glantz, 2005). This computation yielded the standard error of the means (SEM) of managerial responsiveness and recruiter retention of the sample population. The resulting SEM reflected the standard deviation (SD) of managerial responsiveness and recruiter retention of the entire population (Glantz, 2005).

Linear regression analysis of the sample provided an estimate of how on average retention will change when managerial responsiveness changed and an estimate of the variability in recruiter retention about the line of means. These estimates together with their standard errors helped compute confidence intervals that showed the certainty with which the researcher could associate the values of the outcome variable for a given value of the antecedent variable (Creswell, 2005).

Standard Errors in Regression Coefficients

Just as the sample mean was an estimate of the population mean, the slope and intercept on the sample regression line were estimates of the slope and intercept of the line of means in the population (Glantz, 2005). Furthermore, just as different samples yielded different estimates for the population mean, different samples yielded different

estimates of regression lines (Creswell, 2005; Glantz, 2005). There were 36 possible values of managerial responsiveness and recruiter retention corresponding to all possible samples of a given size drawn from the study population. These distributions of all possible values of managerial responsiveness and recruiter retention had a mean alpha and betas, respectively, with a standard deviation of the standard error of the intercept and the standard error of the slope. These standard errors were used to test H_{02} just as the standard errors of the population were used to test H_{01} , and to compute confidence intervals for the regression coefficients.

Calculating Correlation Coefficient

Using Microsoft Excel 2007 package data analysis tools, the correlation coefficient was automatically calculated and determined in an output table. Neuman (2003) stated “a correlation coefficient is the product of z -scores added together, then divided by the number of cases” (p. 349). Below are steps that Neuman (2003) suggested to calculate the correlation coefficient:

Step 1: Calculate the mean and standard deviation for each variable. (For the standard deviation, first subtract each score from its mean; next square the difference, now sum squared differences, [and] divide the sum by the number of cases for the variance. Then take the square root of the variance.)

Step 2: Convert each score for the variables into their z -scores. (Subtract each score from its mean and divide by its standard deviation.)

Step 3: Multiply the z -scores together for each case.

Step 4: Sum the products of z -scores, then divide by the number of cases. (p. 349)

A correlation coefficient (r) was a number between -1.00 and +1.00 (Neuman, 2003) that quantified the association between retention and responsiveness in the current study. According to Creswell (2005), the “degree of association means that the association between two variables or sets of scores is a correlation coefficient of -1.00 to a +1.00, with 0.00 indicating no linear association at all” (p. 333). The higher the relationship the closer the magnitude of r to +1.00; the weaker the relationship between the two variables the closer r is equal to -1.00 (Creswell, 2005). All frequency counts of each variable were converted into its z -score. To determine whether the variables for a case vary together, all z -scores for each case were multiplied together. The sum of the multiplied z -scores was then divided by the number of cases to obtain a standardized average covariation (Neuman, 2003).

Coefficient of Determination

The square of r (r^2) was the coefficient of determination (Glantz, 2005). The r^2 was the fraction of total variance among two variables explained by the regression equation (Platts, Oldfield, Reifa, Palmuccib, Gabanoc, & Osellac, 2006, p. 1203). The coefficient of determination was a good description of how clear a straight line describes a relationship between two variables (Glantz, 2005). The coefficient of determination provided a mechanistic understanding of the relationship between outsource recruiter retention and managerial responsiveness.

Validity – Internal and External

According to Cooper and Schindler (2008), internal validity asked the question – does the conclusion drawn about a variable relationship truly imply correlation. Internal validity was concerned with whether the choices were paired whereby the neutral choice

was in the middle (Cooper & Schindler, 2003). Whereas, external validity asked the question – does an observed correlation generalize across persons, settings, and times (Cooper & Schindler, 2008).

Internal Validity

Internal validity was a function of study procedures and instrumentation (Neuman, 2003). The extent to which the instrument had internal validity depended on whether the outcome was a reflection of outsource recruiters that had experienced expressing technology concerns to their organization manager. Internal validity referred to the truthfulness of the study, or accuracy with which the study results reflected the truth about the population studied (Neuman, 2003; Creswell, 2005). The current study did not commit a type-one alpha error. The alpha error was a type-one error which prevents rejecting a null-hypothesis when it was actually true (Creswell, 2005).

To avoid committing type-one error alpha (i.e., rejecting a null-hypothesis when it was actually true), a pilot test was conducted prior to the main study to help with evaluating the internal validity of the questionnaire. The pilot group of 10 respondents received a paper version of the survey (see Appendix D). The pilot group consisted of a total of 10 outsource recruiters from three outsource companies in Las Vegas, Nevada. Cooper and Schindler (2003) stated “a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample” (p. 86). The pilot group respondents did not participate in the main study conducted on the sample, although each pilot participant was given the same informed consent form (see Appendix C), Appendix F contains the informed consent form provided to the sample participants of the main study.

External Validity

To the extent the current study had external validity called for the findings from the current study to be generalized beyond the sample used in the study (Burns & Grove, 2004). Cooper and Schindler (2003) specified that criterion-related validity was achieved when “freedom from bias” (p. 233) was achieved in the data. The sample size of 85 outsource recruiters was used to assure a type-two error was prevented. Simon (2006) noted that external validity was the ability of the study’s outcomes to apply in general to other organizations. The instrument was not limited to outsource agencies, but can be used as a tool to address cases across persons, settings, and time intervals in which the concern was the association between managerial responsiveness to employee concerns about technology and employee retention.

Reliability

Reliability was a function of the truthfulness of the design, and it responded to the question: How well does a design respond to addressing the problem? Creswell (2005) explained the need for evidence as the means to answer research questions and hypotheses. The design of the current study was reliable because the design was compatible with the research question and the hypotheses. Compatibility with the Likert scaling was verified by: (a) Dr. Ricardo H Archbold, University of Phoenix, Professor of Research Studies; (b) Lionel Green, Ph.D., Stanford University, Professor of Statistics; (c) Chris Roberts, Ph.D., Quantitative Researcher, Professor of Research Design methods, University of Utah; and (d) Macharia Waruingi, M.D., D.H.A. Each hypothesis was covered by the survey instrument. The design afforded statistical measures to express

the amount of covariation via the correlation coefficient. The design of the current study was thus reliable because it addressed the construct it was designed to assess.

Reporting of Results

The researcher used the Microsoft Excel 2007 package to quantify and to report responses. Excel was used to count the number of data points, n . To do this, the researcher used the Excel COUNT() function for series x . Excel also had three built-in functions the researcher used to determine the y -intercept, slope, correlation coefficient, and r^2 values of each set of data. The researcher used the Microsoft Excel 2007 package data analysis tools to determine the y -intercept, slope, correlation coefficient, and r^2 values. The Excel functions the researcher used for the latter calculations were SLOPE(), INTERCEPT(), CORREL(), and RSQ().

All survey responses were coded as stated in data coding procedures' section. Rounded-up or rounded-down percentages of 2 significant digits conveyed the strength of the findings. Responsiveness was plotted on the Y-axis and retention was plotted on the X-axis to show whether responsiveness varies with retention. On the plot diagram developed showed whether the mean of managerial responsiveness increased linearly with the mean of retention.

The regression sum of squares expressed in percentages of 2 or 3 significant digits represented total sum of squares. The correlational coefficient (r) was reported between -1.0 and +1.0, and as Neuman (2003) suggested summarized scattergram information about a relationship into a single number. The results of the linear regression were reported using r^2 (the coefficient of determination). The coefficient of determination was reported by taking the square of r .

Summary

This study used a quantitative method with an explanatory correlational design to determine whether there was a significant association between the responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention. Correlation was a statistical technique useful to show whether strong pairs of variables are related (Filipovitch, 1996; Hinton, 2004; McKelvie, 2007; Simon, 2007; Thomas, Nelson, & Silverman, 2005; Wuensch, 2007). Correlational studies required collecting data on two or more variables and determining the relationships among the variables (Cooper & Schindler, 2008; Creswell, 2005; Neuman, 2003, Thomas, Nelson, & Silverman, 2005).

Instrumentation to survey outsource recruiters on the topic of organization manager responsiveness relative to computer equipment concerns of outsource recruiters called for a customized survey. Likert scaling was applied to gather data from approximately 85 outsource recruiters registered and active in LinkedIn.com professional networking groups. A simple regression coefficient was used to analyze the data. The report of the current study constituted a statistical analysis of exact probability, including whether the conclusion was significant (Chatterjee & Hadi, 2006; Plattsa, Oldfielda, Reifa, Palmuccib, Gabanoc, & Osellac, 2006).

The standard deviation of the population of all possible values of a regression line intercept and the error of the intercept could be estimated from the sample (Chatterjee & Hadi, 2006). The standard error of the slope of the regression was the standard deviation of all possible slopes (Glantz, 2005). As with the sample mean, both organization manager responsiveness and outsource recruiter retention means were computed from

sums of the survey responses. The specific values of managerial responsiveness and outsource recruiter retention means associated with a regression line were randomly selected from normally distributed populations. That is, like the distribution of all possible values of the sample mean, the distribution of all possible values of managerial responsiveness and outsource recruiter retention means tended to be normally distributed. Because standard errors were used to compute confidence intervals and test hypotheses (Burns & Grove, 2004; Glantz, 2005), the current study provided a general theory (Burns & Grove, 2004).

Chapter 4 reports the results of the current study. The current research sought to determine the statistical association between managerial responsiveness to outsource recruiter concerns about technology and outsource recruiter retention. Chapter 4 starts with the validity and reliability analysis of the instruments and descriptive statistics of the sample. Chapter 4 also reports the data gathered for each research question.

CHAPTER 4: RESULTS

Chapter 3 provided a description of the research design, instrumentation, data collection protocol, and data analysis methodology. The purpose of the current correlational study was to quantify the association between responsive organization managers to outsource recruiter concerns about technology and retention of recruiters. A Likert scale survey was administered to members of 10 LinkedIn.com professional networking groups for outsource recruiters. Eighty-five respondents completed the survey.

Chapter 4 presents the detailed analysis of the 85 respondents who completed the survey. A pilot study that consisted of three temporary staffing agencies with a total of 10 respondents was used to test the questions that provided the basis for the survey instrument of the main study. Upon the completion of the pilot study, the main study was conducted. Chapter 4 concludes with a summary of the analysis.

The data from the 85 respondents who completed the survey instrument was analyzed to determine if there was an association between (a) outsource recruiter retention—the outcome variable, and (b) managerial responsiveness to outsource recruiter concerns about technology—the antecedent variable. The presentation and analysis in chapter 4 includes an explanation of the method of the data analysis used to determine the correlation of the antecedent variable on the outcome variable, and the results of the analysis as related directly to the research question.

The research question provided the structure for the current study. The research question also provided the catalyst for the research and the results. The specific research

question was: What is the association between managerial responsiveness to outsource recruiter concerns about technology and outsource recruiter retention?

Participation

In total, 372 respondents attempted the survey which represented approximately 25% of the approximate 1,500 total population of active users. Of those who attempted the survey, 85 respondents completed the survey. The 85 respondents were outsource recruiters and outsource recruiter leaders. The 85 respondents were active users in the LinkedIn.com human resource database representing 5.7% of the active user total population, approximately 1% greater than the predicted sample size.

Data Analysis

The analysis progressed in two stages. The first stage was to use a regression line formula $y = b_1x + b_0$ to find out if there was any significant association between elements of the antecedent variable mean and the elements of the outcome variable mean. The second stage of the analysis involved the use of the Pearson product-moment correlation coefficient (r) to determine a correlation between the antecedent and the outcome variables. When r was closer to +1.00 there was a strong linear relationship between the antecedent and outcome variables. The coefficient of determination (r^2) was used to determine the percent size of the effect of the correlation. Zoomerang.com provided a frequency table of the total responses for each individual question for each option on the Likert scale survey instrument (see Appendix H).

Access to the individual survey responses was limited by the survey host. Due to the lack of access to the 85 individual survey responses, the least square method helped to obtain 36 regression models (see Appendix I- ANOVA tables calculated during each

regression analysis) of all possible combinations of the mean total responses that referenced the antecedent variable questions Q1, Q2, Q3, Q4, Q5, Q8 and of the mean total outcome variable questions Q6, Q7, Q9, Q10, Q11, Q12. Appendix J is a matrix of each linear regression run for all possible combinations of antecedent and outcome variables.

To determine which regressions yielded association results, each antecedent and outcome variable question was combined for a total of 36 regression models (see Appendix J). The far left column of Appendix J represents each regression run, and the horizontal row to the right of each regression shows the question combinations for the antecedent and outcome variable pairs. For example, in regression 1: Q6, Q2; Q7, Q3; Q9, Q4; Q10, Q5; Q11, Q8; Q12, Q1 comprise the question combination for that regression analysis.

The mean score for each antecedent variable question, which was six observations, and the mean score for each outcome variable question, which was six observations, were combined coordinates for the 36 regressions. The antecedent variable mean score was plotted along the x-axis, while the outcome variable mean score was plotted along the y-axis. The *t*-test was used to signify the degree and significance of the association between the composite mean score of the antecedent variable and the composite mean score of the outcome variable. The *t*-test generated confidence intervals which helped to test the hypothesis that the slope of the regression line plotted with the means of the antecedent variable on the x-axis and the means of the outcome variable on the y-axis was zero. Because the *t*-test used was a two-tailed test having 5 degrees of

freedom per variable set and a $0.05/2$ alpha level of significance, the critical values of 2.571 and -2.571 were used as derived from a t -chart. The confidence level was 95%.

The t -test also generated the t -statistic. The t -statistic (calculated statistic) of the slope was compared to the critical values to find out if the calculated statistic of the slope exceeded the critical values; when the calculated statistic of the slope exceeded the critical values the null-hypothesis was rejected. To increase the confidence in the decision made on the null-hypothesis the p -value was compared to alpha. The p -value was the lowest value of alpha for which the null-hypothesis was rejected. The lower the probability value signified the rejection of the null-hypothesis in favor of the alternate.

Analysis of the Outcome Variable Construct

Table 2 contains the results of the analysis of the outcome variable. Table 2 is comprised of the means of individual outcome variables and their standard deviations. In addition, Table 2 contains the mean of means and the standard error of means of the outcome variable responses. To obtain the mean scores for each outcome variable question: (a) the number of responses in each category were multiplied by their Likert scale values per category, (b) those values were then added together to obtain the sum total, (c) the sum total was divided by 85, which was the number of respondents to the survey.

Next, the mean of means of the outcome variable responses were computed. They were computed by adding the individual mean scores and dividing those scores by six, the total number of outcome variable questions. The mean of means score provided a point estimate average of 3.010 (standard error of mean 0.387) for all of the outcome variable responses.

Table 2

Outcome Variable Means, Mean of Means, and SEM

| | Measuring Retention | means | Standard Deviation |
|----|---|----------------------------|--|
| Q1 | The daily number of hours I spend at work working on a computer is? | 4.047 | 0.427 |
| Q2 | The computer I use at work increases my job stress. | 2.824 | 0.346 |
| Q3 | I am satisfied with the computer system I use at work. | 2.447 | 0.368 |
| Q4 | My computer system allows me to do my job well. | 2.153 | 0.400 |
| Q5 | I think about changing jobs specifically when the management team does not fulfill my requests. | 2.665 | 0.354 |
| Q8 | I think about changing jobs specifically because of the computer system I use at work. | 3.953 | 0.414 |
| | | Retention–mean of means | SEM Retention– standard error of means |
| | Total (composite) | 3.010 | 0.387 |

Note. The mean of Q1-Q5, and Q8 were plotted on the Y-axis.

To calculate the standard deviation of the outcome variable responses: (a) the mean for each outcome variable question was subtracted from its Likert scale values ($x_1 - \bar{x}$, $x_2 - \bar{x}$, $x_3 - \bar{x}$, . . . $x_n - \bar{x}$), where the subscripts denote the question on the Likert scale, (b) each deviation was squared, (c) the squared deviations were sum

totalled, (d) the sum total of the deviations were divided by $n - 1$ to find the variance, where n was the total number of respondents, (e) the positive square root of the variance yielded the standard deviation- the variation around the mean. The closeness of the means and standard deviations signified the dataset was fairly stable (normally distributed).

Analysis of the Antecedent Variable Construct

Table 3 contains the results of the analysis of the antecedent variable. Table 3 is comprised of the means of individual antecedent variables and their standard deviations. In addition, Table 3 contains the mean of means and the standard error of means of the antecedent variable responses. To obtain the mean scores for each antecedent variable question: (a) the number of responses in each category were multiplied by their Likert scale values per category, (b) those values were then added together to obtain the sum total, (c) the sum total was divided by 85, which was the number of respondents to the survey.

Next, the mean of means of the antecedent variable responses were computed. They were computed by adding the individual mean scores and dividing those scores by six, the total number of antecedent variable questions. The mean of means score provided a point estimate average of 2.265 (standard error of mean 0.461) for all of the antecedent variable responses.

To calculate the standard deviation of the antecedent variable responses: (a) the mean for each antecedent variable question was subtracted from their Likert scale values ($x_1 - \bar{x}$, $x_2 - \bar{x}$, $x_3 - \bar{x}$, . . . $x_n - \bar{x}$) where the subscripts denote the question on the Likert scale, (b) each deviation was squared, (c) the squared deviations were sum totaled, (d) the sum total of the deviations were divided by $n - 1$ to find the

variance, where n was the total number of respondents, (e) the positive square root of the variance yielded the standard deviation or the variation around the mean. The closeness of the means and standard deviations signified the dataset was fairly stable (normally distributed).

Table 3

Antecedent Variable Means, Mean of Means, and SEM

| | Measuring Managerial Responsiveness | means | Standard Deviation |
|-----|---|---|---|
| Q6 | When I request improvements or upgrades in computer equipment the management team generally fulfills my requests. | 2.624 | 0.355 |
| Q7 | When I report a problem with my computer at work the technical team usually solves the problem. | 2.071 | 0.506 |
| Q9 | My manager always treats me with respect. | 2.165 | 0.487 |
| Q10 | My manager listens to what I'm saying. | 1.929 | 0.535 |
| Q11 | I have some influence over the operations of my workplace. | 2.353 | 0.451 |
| Q12 | In general this organization respects their outsource recruiters. | 2.447 | 0.433 |
| | | Managerial Responsiveness– mean of means | SEM Managerial Responsiveness– standard error of means |
| | Total (composite) | 2.265 | 0.461 |

Note. The mean of Q6, Q7, and Q9-Q12 were plotted on X-axis.

Regression Line

To obtain the regression line the outcome variable means and the antecedent variable means were computed. The mean values of the outcome and antecedent variables were then applied to the least square method to find β_1 . The y-intercept was computed by the formula $b_0 = \bar{y} - b_1\bar{x}$. To obtain the regression line, every mean value of the antecedent variable was applied to $y = b_1x + b_0$ and the results of the line were plotted. Appendix K is the summary of the statistical results of the 36 regressions. Appendix K includes the values of r^2 , r , the p-values, and the results of the betas of the 36 regressions.

Appendix L represents the question combination matrixes which led to associated regression results. Twelve of the 36 regressions showed a significant association between the antecedent variable mean and outcome variable mean. Regressions that showed a significant association among the antecedent variable mean and outcome variable mean are depicted in Appendix M.

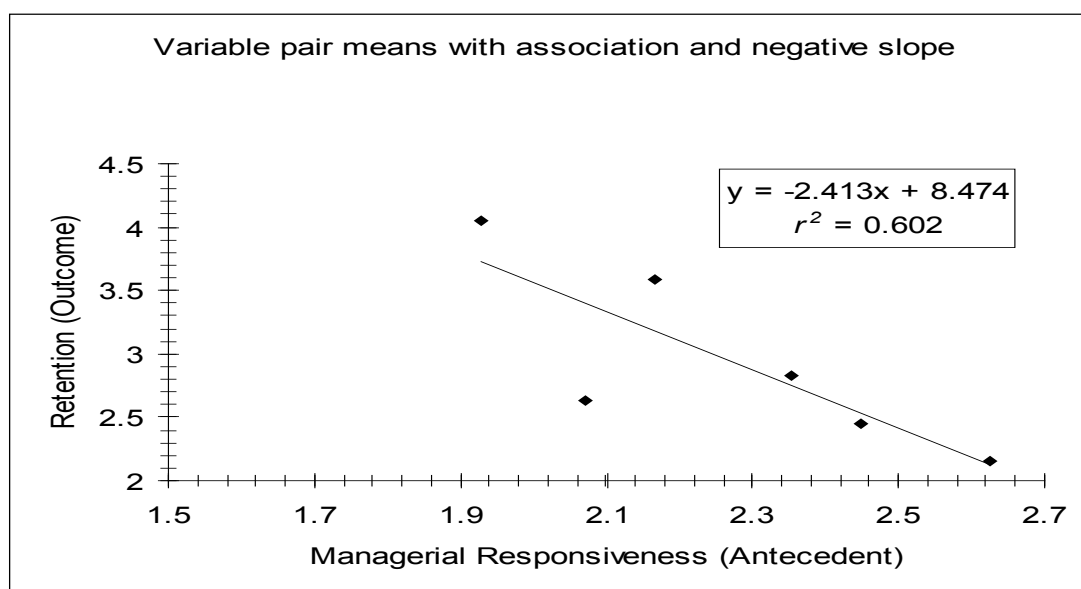


Figure 1. Associations that have a negative slope

Figure 1 shows the scatter plot of the six variable means combinations that have significant associations with a negative slope. Figure 1 is of the associated variable mean pairs of regressions 3, 10, 17, 24, 25, 32. The slope of -2.413 was derived from the least square method results of associated variable combination regressions runs 3, 10, 17, 24, 25, 32. The slope was negative and not zero which indicated an association between the outcome and antecedent variable mean combinations of regression runs 3, 10, 17, 24, 25, 32. Those associated mean question combination regressions are noted in Appendix M.

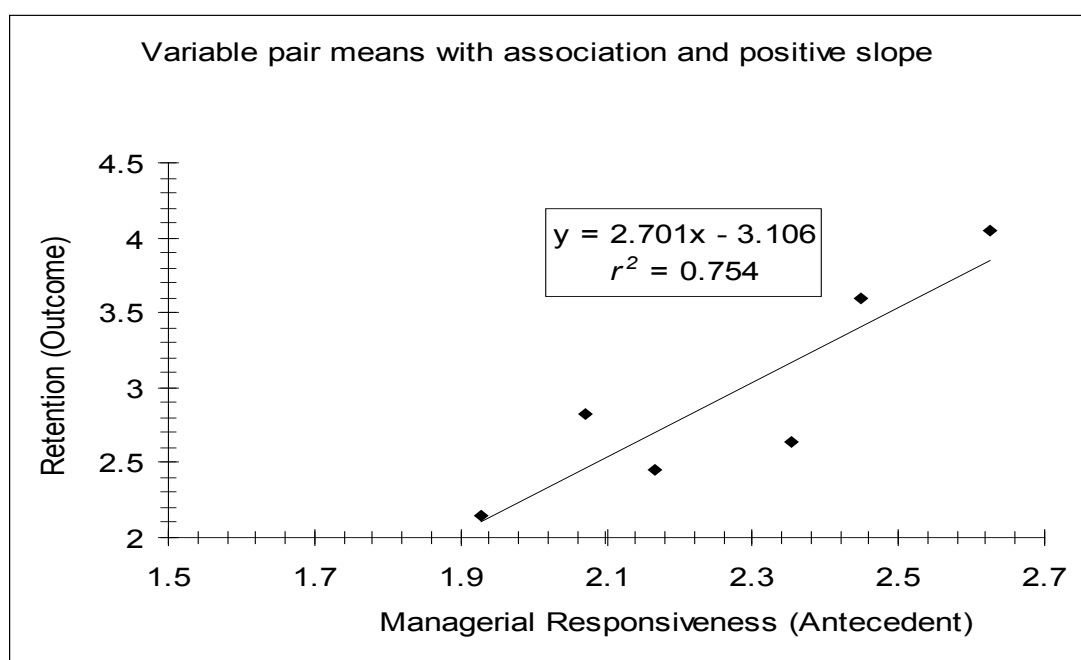


Figure 2. Associations that have a positive slope

Figure 2 shows the scatter plot of the six variable means combinations that have a significant association with a positive slope. Figure 2 is of the associated variable mean pairs of regressions 6, 7, 14, 21, 28, 35. The slope of 2.701 was derived from the least square method results of associated variable mean combination regressions runs 6, 7, 14, 21, 28, 35. The slope was positive and not zero which indicated an association between the outcome and antecedent variable mean combinations of regression runs 6, 7, 14, 21,

28, 35. Those associated mean question combination regressions are noted in Appendix M.

Probability value of Hypothesis 1

In regressions 3, 10, 17, 24, 25, 32, X and Y means are varying together in a negative direction and the p-value was 0.070. In regressions 6, 7, 14, 21, 28, 35, X and Y mean were varying together in a positive direction and the p-value was 0.025. The p-value of the regression pairs for the hypothesis 1 = 0.045, i.e., $p < 0.05$.

Confidence Intervals of β_0 and β_1

During the regression analyses, the *t*-test generated confidence intervals of β_0 and β_1 which were automatically computed using the Microsoft Excel 2007 package.

The confidence level was 95% and each of the 6 highly correlated variable pair regressions were run using 5 degrees of freedom. Standard errors were important to note because they reflected how much sampling fluctuation a statistic would show. Table 5 depicts the skewed distribution range of the confidence intervals of β_0 and β_1 for the regressions that had high variable pair associations.

Significance tests and confidence intervals helped to make inferences about the sample data relative to the population. When the confidence interval range of β_1 was between a negative and positive number there was some instance of the variable pair mean association that would allow for a zero slope. If the slope were ever zero that signified in that instance there was no association between the mean of the antecedent variable and outcome variable mean (Hinton, 2004).

Table 4

Confidence Interval of β_0 and β_1

| Regressions | β_0 | Confidence Interval for β_0 | β_1 | Confidence Interval for β_1 |
|-------------|-----------|--------------------------------------|-----------|--------------------------------------|
| 3 | 8.47 | [2.27, 14.68] | -2.41 | [-5.14, 0.31] |
| 6 | -3.11 | [-7.98, 1.77] | 2.70 | [0.56, 4.84] |
| 7 | -3.11 | [-7.98, 1.77] | 2.70 | [0.56, 4.84] |
| 10 | 8.47 | [2.27, 14.68] | -2.41 | [-5.14, 0.31] |
| 14 | -3.11 | [-7.98, 1.77] | 2.70 | [0.56, 4.84] |
| 17 | 8.47 | [2.27, 14.68] | -2.41 | [-5.14, 0.31] |
| 21 | -3.11 | [-7.98, 1.77] | 2.70 | [0.56, 4.84] |
| 24 | 8.47 | [2.27, 14.68] | -2.41 | [-5.14, 0.31] |
| 25 | 8.47 | [2.27, 14.68] | -2.41 | [-5.14, 0.31] |
| 28 | -3.11 | [-7.98, 1.77] | 2.70 | [0.56, 4.84] |
| 32 | 8.47 | [2.27, 14.68] | -2.41 | [-5.14, 0.31] |
| 35 | -3.11 | [-7.98, 1.77] | 2.70 | [0.56, 4.84] |

Note. Skewed distribution range of the confidence intervals of β_0 and β_1 for the regressions that had high variable pair associations.

The confidence intervals for regression runs 6, 7, 14, 21, 28, 35 were greater than zero and normally distributed on both sides, with 95% confidence signified 56% certainty with which the population of outsource recruiters would agree with the sample respondents. The confidence intervals were between 0.56 and 4.84 with an approximate standard error of 44%. In other words, regression runs 6, 7, 14, 21, 28, 35 had 95%CI = (0.56, 4.84).

The confidence intervals for regression runs 3, 10, 17, 24, 25, 32 allowed for instances in which the slope could possibly contain a zero slope. In regressions 3, 10, 17,

24, 25, 32 the standard error was approximately 56%. The confidence interval range was between -5.14 and 0.31, of which was not normally distributed around zero, with 95% confidence signified 44% certainty with which the population of outsource recruiters would agree with the sample respondents. In other words, regression runs 3, 10, 17, 24, 25, 32 had 95%CI = (-5.14, 0.31).

Correlation Coefficient

The closer the degree of association was to +1.00 the higher the relationship between variables X and Y (Neuman, 2003). Respectively, the closer the degree of association was to -1.00 the higher the indirect relationship between variables X and Y. The degree of association was calculated using the Microsoft Excel 2007 package. When r was closer to +1.00 there was a stronger degree of association between the antecedent and outcome variables. When r was closer to -1.00 there was a stronger degree of an indirect association between the antecedent and out variables. Calculation of the correlation coefficient yielded an r of -0.776 (standard error = 0.546; $p < 0.05$) for regressions 3, 10, 17, 24, 25, 32. Whereas, calculation of the correlation coefficient yielded an r of 0.868 (standard error = 0.443; $p > 0.05$) for regression runs 6, 7, 14, 21, 28, 35.

Probability value of Hypothesis 2

The mean of r values -0.776 and 0.868 yielded a total r value 0.046 and a standard deviation of 0.859 of the 12 highly correlated pairs. The two-tailed p -value of the composite r values -0.776 and 0.868 equaled a p -value of 0.856, i.e., $p > 0.05$ for hypothesis 2. The rationale for averaging varying r values from opposing highly correlated pairs so as to make a decision on H_{02} is to compute the total r (averaged r

value) of the composite r means and their standard deviations to derive via a t -test the p -value of that relationship. By conventional criteria, $p > 0.05$ with 95% confidence interval is a relationship of the antecedent and outcome variables that is not statistically significant.

Coefficient of Determination

Once the correlation coefficient was determined the explanatory power of the model r^2 was determined. The coefficient of determination, which was the ratio of the explained variation over the total variation, showed whether the associations between the two variable means had a strong or weak percentage relationship. R^2 was a measure of relative fit of a correlation and a percent of explained variation. R^2 fell within the range of $0 \leq r^2 \leq 1$; for the correlation coefficient falls between -1.00 and +1.00 (Neuman, 2003).

To determine r^2 the correlation coefficient (r) was squared. Regressions 3, 10, 17, 24, 25, 32 had an r^2 value of 60.4%. Unexplained variation reflected factors that were not included by the relationship of the antecedent variable means and the outcome variable means. Therefore, 39.6% variation was not explained by the variable pair means relationship of regression runs 3, 10, 17, 24, 25, 32. Whereas, regressions 6, 7, 14, 21, 28, 35 had an r^2 value of 75.4%. Therefore, 24.6% variation was not explained by the variable pair means relationship of regression runs 6, 7, 14, 21, 28, 35.

Summary

Table 5

Summary of H₁ and H₂ Results

| | Alternative hypothesis | Results |
|----|---|--|
| 1. | Retention of outsource recruiters is significantly associated with responsiveness of managerial staff to outsource recruiter concerns about technology. | 12 out of 36 associations were significant |
| 2. | There is a significant correlation between responsiveness of managerial staff to outsource recruiter concerns about technology and retention of outsource recruiters. | 6 out of 12 correlations were significant |

Note. 12 regression pairs $p < 0.05$; correlated pairs total $r = 0.046$, $p > 0.05$.

Chapter 4 presented the data and results based on the design described in chapter 3. The presentation included an explanation of the method of the data analysis. The presentation also included the linear regressions and the correlation coefficients of the highly correlated variable mean pairs, and the results of the analysis as related directly to the research question. Table 5 provides a summary of the findings for each of the two alternative hypotheses.

Chapter 5 includes a discussion of the research in more detail. Chapter 5 includes a discussion of the results in the context of other research and provides research implications. The chapter also addresses study limitations. Chapter 5 concludes by offering recommendations and suggestions for future research.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

The purpose of this correlational study was to quantify the association between responsive organization managers to outsource recruiter concerns about technology and retention of outsource recruiters. The foundation of the current study rested on the sequential logic that: (a) job dissatisfaction negatively related to retention rates (Gordon, 2005), (b) outsource recruiters relied on technology and multitasking to complete tasks (McCunne, 1999), and (c) employee satisfaction increased with managerial responsiveness (Shore, Sy, & Strauss, 2006).

The current research study involved 85 respondents from 10 LinkedIn.com professional networking groups for outsource recruiters. The current study subsequently involved relating managerial responsiveness to outsource recruiter concerns about technology on outsource recruiter retention. The participants answered 12 survey items via an online survey hosted by a data collection outsource provider. Chapter 4 contains the results, which revealed the support for alternative Hypotheses 1 and 2. Chapter 5 provides an interpretation of the results. The chapter includes an exploration into the implications of the findings and study limitations. Chapter 5 also describes the fit with related research and provides specific recommendations.

Summary of Study

The current study derived from a research problem and a purpose statement. Employees reported to their superiors with the hope for intervention for problems at work when computers negatively affected their productivity (Allied Academies International Conference, 2004; Bobinski, 2009; Winnett, 2008). Managerial responsiveness to complaints about problems at work affected employee satisfaction with their job (Shore,

Sy, & Strauss, 2006). Given job satisfaction related to employee turnover (Ketter, 2006), dissatisfaction with leadership and work technology can manifest as a major outsource industry issue.

Study Participation, Data Collection, and Research Questions

The current study targeted the perceptions of outsource agency leaders and recruiters who staff the hospitality industry, administrative positions, day laborer positions, and healthcare and information technology industries. Survey responses from 85 outsource recruiters active in LinkedIn.com professional networking groups were analyzed. Ten LinkedIn.com professional networking groups for outsource recruiters were used as representative of the population of active members in which $\geq 5\%$ of active members participated in the survey.

The research question was as follows:

What is the association between responsive organization managers to outsource recruiter concerns about technology and outsource recruiter retention?

Analysis of the Outcome Variable Construct

On average an outsource recruiter worked on a computer 6.1 – 8 hours per workday to complete tasks. The response variance regarding retention was 38.7%. At this variance, the mean of means of the outcome variable was 3.010. These values indicated that 61.3% of retention was not explainable by satisfaction.

Although employees stated physical or mental stress on the job caused attenuation in their job performance (Caroll, 1978; Curry, Wakefield, Price, & Mueller, 1989), on average respondents indicated they experienced varying levels of stress inconsequential to the computer they used at work. This indicated outsource recruiters would not leave

their jobs even if they were preoccupied with notions of increased productivity with a better computer system.

Analysis of the Antecedent Variable Construct

Respondents indicated on average they believed some matters would not gain the attention of management. Respondents indicated on average they felt they were treated respectfully by their managerial staff most of the time. Respondents also indicated on average they believed they had some influence on the operations of their workplace. The response variance regarding managerial responsiveness to employee concerns about technology was 46.1%. At this variance, the mean of means of the antecedent variable was 2.265. These values indicated that 53.9% of outsource recruiters were somewhat satisfied with the responsiveness of their managerial staff.

Interpretation of Hypotheses Findings

The current study incorporated two hypotheses. Hypothesis 1 was tested using regression analysis and hypothesis 2 was tested using correlational analysis. This section explains the findings.

Hypothesis 1

The composite p-value of 0.045 provided the basis for acceptance of H_1 . The composite standard error was approximately 50% which signified 50% certainty with which the population of outsource recruiters would agree with the sample respondents. Because 33% associations were significant involving testing hypothesis 1, a composite of p-values and composite variation were considered to make a decision to accept or reject H_{01} . Based on the mixed p-values from the significant regressions it was statistically reasonable for a composite p-value from the individual significant regressions be

computed to make a decision about hypothesis 1 (M. Waruingi, personal communication, October 24, 2010). The composite p-value of significant regressions was 0.045, which is less than the lowest value in which the null can be rejected, indicating a strong linear association amongst the antecedent and outcome variables of the current study.

Acceptance of H_1 supported the Gunn and Gullickson (2007) view that getting what one asked for was not enough to make employees happy in their workplace. H_{01} was rejected as the composite p-value indicated retention of outsource recruiters was significantly associated with responsiveness of managerial staff to outsource recruiter concerns about technology. Literature maintained responsiveness of managers to employee concerns determined how employees felt about themselves and how they felt about their jobs (Shore, Sy, & Strauss, 2006). Literature also maintained employees reported to their superiors with the hope for intervention problems at work when computers negatively affected employee productivity (Allied Academies International Conference, 2004; Bobinski, 2009; Winnett, 2008).

Many employees in positions requiring computers multitasked (Lin & Popovic, 2002). Lin and Popovic (2002) found employees reported the introduction of computers greatly affected the way they worked. As respondents indicated they relied heavily on computers to complete work tasks, rejection of H_{01} did not directly support Jones and Shilling (2000) or the Moore, Cruickshank, and Haas (2006) view that inability to carry out duties effectively influenced retention. Rather, rejection of H_{01} supported the Shore, Sy, and Strauss (2006) study that non-responsive organization managers negatively influenced employee commitment.

Hypothesis 2

The second null-hypothesis (H_{02}) was accepted when the p-value > 0.05 . Because 50% of the correlations were significant for hypothesis 2, to ensure a decision of acceptance or rejection about hypothesis 2, the mean of the r values (0.046) were computed and the p-value of the r values (0.856) computed. The acceptance of H_{02} was not based solely on observance of a strong negative relationship between outsource recruiters stating they had influence over the operations of the workplace and managers responding timely (at least two days) to requests for improvements or upgrades in computer equipment. Rather, acceptance of H_{02} rested on the calculation of the total p-value of the hypothesis 2 construct.

The current study's findings supported the relational aspect that managerial responsiveness influenced how employees felt about their jobs (Shore, Sy, & Strauss, 2006). The correlation between the antecedent and outcome variable means was not significant when combined with whether employees would retain when managerial responsiveness involved responding to employee concerns about dissatisfaction with the technology used at work.

Retention required a sense of loyalty (Nicholson, 2009). Because listening to employees and respecting employee concerns made the employee feel they mattered to their organization (Shore, Sy, & Strauss, 2006), leadership credibility engendered employee retention (Kouzes & Posner, 2007). Managerial responsiveness required listening to employees yet the current study did not confirm a significant and positive correlation between outsource recruiter retention and the need for managers to listen and respect the technological concerns of outsource recruiters.

Relationship to Other Research

The current study added to the leadership-organizational commitment body of knowledge. The results of the current study elucidated the nature of the association of employee/employer reciprocity in the face of a technological dependency. Prior research had established correlations between leadership practice perception and organizational commitment and between organizational commitment and turnover intentions (Nicholson, 2009; Shore, Sy, & Strauss, 2006). Notwithstanding, the current study was the first known study that correlated managerial responsiveness to employee concerns about technology and employee retention. The current study was also the first known study to correlate outsource industry leadership variables with outsource recruiter organizational commitment and to correlate recruiter organizational commitment with satisfaction with technology used at work.

The current research study added to the body of research that correlated the leadership responsiveness with employee job satisfaction, and employee performance and employee retention. The current study helped generate insight into factors that led to retention of outsource recruiters when technological dependency was a determinant of success at work. The current study supported the Shore, Sy, and Strauss (2006) correlational study which “found that leader-responsiveness is positively correlated with job satisfaction [and] organizational commitment . . .” (p. 231).

Responsiveness of managers to the needs of the employees was a core characteristic of job satisfaction (Caroll, 1978; Moore, Cruickshank, & Haas, 2006; Shore, Sy, & Strauss, 2006). The inference here was that when managers did not respond to the concerns of employees, employee job dissatisfaction increased. Although,

dissatisfaction with one's job negatively influenced retention (Gordon, 2005; Moore, Cruickshank, & Haas, 2006), the current study showed retention was not correlated specifically when managers did not respond to employee requests to upgrade technology.

Computers that empowered business units were enabling technologies (Tidd, Bessant, & Pavitt, 2005). The amount of time it took to complete tasks was, in many cases, a key factor in determining whether an organization made a profit or experienced a loss. Because computer usage was a means to job performance and job performance related to job satisfaction (Gordon, 2005; Moore, Cruickshank, & Haas, 2006), constant delays and long latencies in feedback led to employee frustration, the genesis of being strongly dissatisfied with computer technologies. It followed that if a job required multitasking, such as with the case of outsource recruiters, and the equipment needed to complete tasks hindered job performance, then as Carroll (1978) and Curry, Wakefield, Price, and Mueller (1989) maintained, stress on the job increased which led to a decrease in job satisfaction and lowered organizational performance.

Loyalty is leader inspired (Nicholson, 2009). Employees want to feel important and to be part of a team (Goffe & Jones, 2006). The current study did not significantly support a correlation between "leaders, in engendering loyal followership, must respond to key follower wants" (Nicholson, 2009, p. 146) relative to technological concerns employees faced and employee retention. Other factors reported that affected retention were related to the sense of empowerment (Hathi, 2007; Latham, 1995), concern for job security (Carroll, 1978), the job was intellectually challenging (Gordon, 2005), or the job provided personal fulfillment (Yost, 2006). In an earlier study Michaels & Risher (1999) reported the reason given for why HR professionals were satisfied with their jobs came

down to pay. Nabler (2006) argued dissatisfaction with pay was the number one reason for fleeing. Job satisfaction was important to retention (Shore, Sy, & Strauss, 2006) and compensation increased satisfaction (Nabler, 2006).

Implications

The current study expands leadership, organizational commitment, and the current study generated new insight into the characteristics of responsiveness of managerial staff to the needs of employees in an environment of technological dependency. The current study's findings consisted of a significant association between managerial responsiveness involving responding to employee concerns about dissatisfaction with technology used at work and employee retention, and an insignificant correlation between those variables.

Because computer usage was a means to job performance and job performance related to job satisfaction (Gordon, 2005; Moore, Cruickshank, & Haas, 2006), one implication is the inability to use fast computer equipment at work hinders job performance. It follows that if a job required multitasking, such as with the case of outsource recruiters, and the equipment needed to complete tasks hinders job performance, then a non-responsive manager to the concerns of employees about technology increased job stress and decreased job satisfaction.

When job stress came from managers not responding to employee requests about technology the implication was that in those instances leadership did not increase employee satisfaction. When management ignored requests from outsource recruiters to provide the technology needed for outsource recruiters to provide efficient services, as Yost (2006) maintained, dissatisfaction from leadership contributes to job stress. Job dissatisfaction had a negative relationship on retention (Jones & Shilling, 2000).

Outsource recruiters attend to placing clients in a timely manner to the companies who are in staffing crises. And, because retention required a feeling of achievement and self-actualization (Caroll, 1978; Moore, Cruickshank, & Haas, 2006) non-responsive managers to outsource recruiter concerns about technology can threaten outsource recruiter concerns for satisfying higher-order needs.

Study Limitations

Various study limitations existed. Limitations included the sample population, design, and implementation weaknesses. Explicating research limitations was important given the extent to which the study findings could be generalized (Creswell, 2005).

The first limitation involved the current study's generalizability. Generalizability, the link between the knowledge engendered in a study and the ability to generalize the knowledge (Ferguson, 2004), was a research goal. The current study did not exclude outsource recruiters who had problems with their computer equipment or those who did not experience equipment that hindered their ability to perform. Therefore, the active user sample orientation to the concern of the research question of whether the respondents retain when management does not respond to concerns about technology threatened the generalizability of the current study's findings.

The second limitation was the current study did not compare various factors that caused job stress to how employees felt about leadership. Although relying on inadequate technology which consisted of having to multitask while using inadequate computers increased job stress (Levine, 2009; Tidd, Bessant, & Pavitt, 2005), job stress was the sum of all factors in a workplace (Caroll, 1978; Curry, Wakefield, Price, & Mueller, 1989). Furthermore, this study did not address the association between retention and the fear of

finding new and sustainable employment despite the dissatisfaction of an outsource recruiter who experienced low responsiveness from their manager. Concentrating on job security as a motivational factor may have revealed why retention was high in cases when job dissatisfaction with technology used at work was high. Other factors that increased job stress were unmet monetary incentives (Enright, 2006; Michaels & Risher, 1999; Vocino, 2006), the job was not intellectually challenging (Gordon, 2005), and/or feeling a sense of unmet achievement (Yost, 2006). Each factor was a spurious antecedent variable.

The third limitation was the current study did not distinguish outsource recruiters who experienced more or less stress from outside the workplace. As employees bring stressors to the workplace (Scott & Davis, 2007), the current study did not develop a measure of outsource recruiter comfort and lifestyle satisfaction. Added stress from work may not be enough to measure the overall stress people felt at work.

The fourth limitation in the current study rested on the use of linear regression. The use of linear regression may not make it solely possible to predict the retention of an outsource recruiter if the researcher knew the responsiveness of an organizational leader. A useless linear regression could result if the sample data used violate assumptions upon which the technique depends (Hinton, 2004).

The fifth limitation was the current study identified correlation but such studies did not identify cause-effect relationships (Creswell, 2005). Although, the correlational design identified secondary relational patterns or elements, secondary relational patterns could have little or no reliability and no validity (Cooper & Schindler, 2008).

Furthermore, the relational patterns of correlational studies could lead to being questionable (Cooper & Schindler, 2008).

Future Research Considerations

The results of the current study indicated the presence of a relationship between managerial responsiveness on job satisfaction and retention. Several antecedent variable elements identified in the current study had a strong direct and positive association with a statistically significant p -value < 0.05 level on retention. The current study provided an improved understanding of the motivational factors for job satisfaction based on managers listening, responding, respecting, and adhering to the concerns of outsource recruiters when their concerns regarded technology used at work. And, although a correlational study explained the presence of a relationship, it did not indicate cause and effect (Creswell, 2005).

Recommendations for future research should include conducting either an experimental study which is suitable for finding cause-effect relationships between variables (Neuman, 2003) or conduct a qualitative study to ask broad questions and inquire in a subjective manner to determine the characteristics of experience relative to retention of dissatisfied outsource recruiters who retain. In future studies that are experimental should involve the introduction of an intervention to, and monitoring the effect of that intervention on, the study participants (Neuman, 2003). Whereas, in future studies that are qualitative should explore the specific behaviors of outsource recruiters with the same demographic variables discussed in the current study.

In addition, future research studies in examining motivational factors based on demographics that influence retention of outsource recruiters when they are displeased

with technology used at work should include variables addressing pay and job security. Determining whether pay incentives drive the motivation to perform when the outsource recruiter is dissatisfied with technology used at work may direct the attention of leaders to assure outsource recruiters receive the tools that do not hinder performance. Yet as outsource recruiters are not the highest paid positions, discovering whether fear of finding a new job in times when jobs are low may be worthy of future investigation.

Conclusion

The primary industry providing temporary employees is the outsource industry. Outsource recruiters were in demand and they needed to be good at what they did. Although the decision to use temporary staffing services occurred during severe staffing crises (Manion & Reid, 1989; Workforce Solutions, 2008), outsource agencies deployed millions of workers each day (Bureau of Labor Statistics, 2001). It followed that management should respond timely to outsource recruiter concerns that involved the use of inadequate technology to complete tasks.

Computers were enabling technologies “capable of application in a number of fields” (Tidd, Bessant, & Pavitt, 2005, p. 527). Fast computers enabled performance. The reverse occurred with inadequate computers; if computer memory was low and the CPU slow the system might crash causing for a restart moreover all of which was frustrating and time consuming to any user, to include to an outsource recruiter. The current study explained outsource recruiters would retain when job dissatisfaction was due to using inadequate technology at work. There may also be instances where dissatisfaction from leadership contributed more to job stress outsource recruiters experienced at work than from the technology used that negatively influenced job performance. Yet dissatisfaction

with technology had an indirect relationship on retention. The findings from the current study can be generalized upon employees that multitask and rely on computers to complete tasks.

The desire to stay on the job when management did not respond to employee concerns about technology had a negative impact on job satisfaction of which threatened the happiness employees wanted to feel about their organization. The current study left open the factors of why employees retained when they were unhappy with the tools they used at work. As the responses from the current study instrument indicated, a high percentage of outsource recruiters that retained were pleased with their manager's responsiveness to their concerns about technology used at work. Conversely, managerial responsiveness can reduce retention issues and the current overall dissatisfaction some employees faced.

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APPENDIX A: REQUEST TO USE PREMISES

REQUEST TO USE PREMISES

UNIVERSITY OF PHOENIX

PARTICIPANTS 18 YEARS OF AGE AND OLDER

Dear Sir or Madam,

I am a student at the University of Phoenix working on a Doctorate of Management degree. I am conducting a research study entitled *Correlational Study on the Effect of Managerial Responsiveness on Retention of Outsource Recruiters*.

The purpose of the current study is to determine the relationship between the responsiveness of organization managers to outsource recruiter concerns about technology and outsource recruiter retention.

The purpose of this letter is to request your permission to allow me the use of your premises at your LinkedIn locations to conduct a survey for the study. Outsource recruiter participation will involve a survey given to them that will ask them questions about their level of satisfaction with their duties, organizational leadership, and their technology at work.

The survey will take between 5-10 minutes. Participation is voluntary. Outsource recruiters may choose not to participate. Furthermore, outsource recruiters may withdraw from the study at any time. Choosing not to participate, or withdrawing from the study, will not result in any form of penalty to your employees.

I intend to publish the results of this research study. I will remove your name or any identifier information. I will hold all information that you give to me in confidence.

There are no direct benefits to you and the participants accruing from participating in this study. Possible benefits that may accrue from participation include a

better understanding of the activities that positively and negatively affect outsource recruiter retention.

I have attached a permission to use your premises document to conduct the mentioned study. If you have any questions concerning the research study, please call me at telephone number (702) 406-7745, otherwise fax completed permission document to (775) 206-6104. Thank you.

Sincerely,

Cornell Horn, M.A.
Chorn9926@email.phoenix.edu

APPENDIX B: APPROVAL TO USE PREMISES

APPROVAL TO USE PREMISE

UNIVERSITY OF PHOENIX

Permission to Use Premises, Name, and/or Subjects
(Facility, Organization, University, Institution, or Association)

Check any that apply:

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to use the premises (facility identified below) to conduct a survey for a study entitled *Responsiveness of Organizational Leaders to Outsource Recruiter Concerns about Technology and Outsource Recruiter Retention - A Correlational Study.*

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to recruit subjects for participation to conduct a survey for a study entitled *Responsiveness of Organizational Leaders to Outsource Recruiter Concerns about Technology and Outsource Recruiter Retention - A Correlational Study.*

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified below when publishing results from the survey for a study entitled *Responsiveness of Organizational Leaders to Outsource Recruiter Concerns about Technology and Outsource Recruiter Retention - A Correlational Study.*

Signature *Marcia Weber* Date *1/23/09*
Name *Marcia Weber* Title *District Manager*
Name and Address of Facility
Manpower
6615 S. Eastern #100
Las Vegas, NV 89119

From:

07/27/2009 14:32 #046 P.001/00

UNIVERSITY OF PHOENIX

Permission to Use Premises, Name, and/or Subjects
(Facility, Organization, University, Institution, or Association)

Check any that apply, complete the below, and fax to: (775) 206-6104

I hereby authorize Cornell Horn, student of University of Phoenix, to use the premises (facility identified below) to conduct a study entitled *Responsiveness of Organizational Leaders to Outsource Recruiter Concerns about Technology and Outsource Recruiter Retention - A Correlational Study.*

I hereby authorize Cornell Horn, student of University of Phoenix, to recruit subjects for participation to conduct a study entitled *Responsiveness of Organizational Leaders to Outsource Recruiter Concerns about Technology and Outsource Recruiter Retention - A Correlational Study.*

I hereby authorize Cornell Horn, student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified below when publishing results from the study entitled *Responsiveness of Organizational Leaders to Outsource Recruiter Concerns about Technology and Outsource Recruiter Retention - A Correlational Study.*

Signature  Date

7/27/09

Name Yvonna Sanchez Title

Branch Manager

Name and Address of Facility

Manpower Inc. of Southern Nevada
2535 W. Oshayenne Ave. Ste 100
North Las Vegas, NV 89032

UNIVERSITY OF PHOENIX

Permission to Use Premises, Name, and/or Subjects

(Facility, Organization, University, Institution, or Association)

Please check any two that apply, complete the below, and fax to: (775) 206-6104

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to use the premises (facility identified below) to conduct a survey for a study entitled *Correlation Between Leader Responsiveness And Retention Of Outsource Recruiters*.

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to recruit subjects for participation to conduct a survey for a study entitled *Correlation Between Leader Responsiveness And Retention Of Outsource Recruiters*.

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified below when publishing results from the survey for a study entitled *Correlation Between Leader Responsiveness And Retention Of Outsource Recruiters*.

Signature



Date

10-14-09

Name

Andrew Heroldy

Title

BSP

Name and Address of Facility

Adecco, Inc.
5440 SW Sahara Ave
Las Vegas, NV 89146



Andrew M. Heroldy
Branch Manager

5440 West Sahara Avenue
Suite 101
Las Vegas, NV 89146
Tel: (702) 247-1711
Fax: (702) 247-1999

Call (800) 812-5442
andrew.heroldy@adeccousa.com
www.adeccousa.com



UNIVERSITY OF PHOENIX
Permission to Use Premises, Name, and/or Subjects

(Facility, Organization, University, Institution, or Association)

Please check any two that apply, complete the below, and fax to: (775) 206-6104

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to use the premises (facility identified below) to conduct a survey for a study entitled *Correlation Between Leader Responsiveness And Retention Of Outsource Recruiters*.

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to recruit subjects for participation to conduct a survey for a study entitled *Correlation Between Leader Responsiveness And Retention Of Outsource Recruiters*.

I hereby authorize Cornell Horn, doctoral student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified below when publishing results from the survey for a study entitled *Correlation Between Leader Responsiveness And Retention Of Outsource Recruiters*.

Signature *Lee Gould* Date *10/30/08*

Name *Lee Gould* Title *Owner*

Name and Address of Facility
*Advanced Personnel Services Inc.
3850 W. Trojcanin Suite 59
Las Vegas NV 89128*

APPENDIX C: INFORMED CONSENT OF PILOT PARTICIPANT- PARTICIPANT
18 YEARS OF AGE AND OLDER

INFORMED CONSENT OF PILOT PARTICIPANT

PARTICIPANT 18 YEARS OF AGE AND OLDER

Dear (participant),

My name is Cornell Horn and I am a student at the University of Phoenix working on a doctorate degree. I am conducting a research study entitled *Correlational Study of the Relationship of Managerial Responsiveness on Retention of Outsource Recruiters*. The purpose of the research study is to understand the relationship between the responsiveness of organization managers to outsource recruiter concerns about technology and employee retention in the outsource industry.

Your participation will involve completing a survey that will take between 5-10 minutes. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, you can do so without penalty or loss of benefit to yourself. The results of the research study may be published but your identity will remain confidential and your name will not be disclosed to any outside party.

In this research, there are no foreseeable risks to you.

Although there may be no direct benefit to you, a possible benefit of your participation is that leadership literature may include a better understanding of the activities that positively and negatively affect outsource recruiter retention.

If you have any questions concerning the research study, please call me at (702) 406-7745 or at chorn9926@email.phoenix.edu.

As a participant in this study, you should understand the following:

1. You may decline to participate or withdraw from participation at any time without consequences.
2. Your identity will be kept anonymous.
3. Cornell Horn, the researcher, has thoroughly explained the parameters of the research study and all of my questions and concerns have been addressed.
4. Data will be stored in a secure and locked area. The data will be held for a period of three years, and then destroyed.

By signing this form you acknowledge that you understand the nature of the study, the potential risks to you as a participant, and the means by which your identity will be kept confidential. Your signature on this form also indicates that you are 18 years old or older and that you give your permission to voluntarily serve as a participant in the study described.

Signature of the interviewee _____ Date _____

Signature of the researcher _____ Date _____

APPENDIX D: LIKERT SURVEY PILOT QUESTIONNAIRE- LIKERT SURVEY
QUESTIONNAIRE INSTRUMENT

LIKERT SURVEY PILOT QUESTIONNAIRE INSTRUMENT

Date of survey: dd/mm/yyyy

Job Title

Likert Scale Survey Questions

- 1) The daily number of hours I spend at work working on a computer is? a) 0 - 2; b) 2.1 - 4; c) 4.1 - 6; d) 6.1 - 8; e) 8.1 - 10 or more
 - 2) The computer I use at work increases my job stress. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 3) I am satisfied with the computer system I use at work. A- Strongly Satisfied; B- Somewhat Satisfied; C- Neither Satisfied nor Dissatisfied; D- Somewhat Dissatisfied; E- Strongly Dissatisfied
 - 4) My computer system allows me to do my job well. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 5) I think about changing jobs specifically when the management team does not fulfill my requests. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 6) When I request improvements or upgrades in computer equipment the management team generally fulfills my requests. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 7) When I report a problem with my computer at work the technical team usually solves the problem. A- The same day; B- The next day; C- Two days or more later; D- Never solves the problem; E- Not Applicable
 - 8) I think about changing jobs specifically because of the computer system I use at work. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 9) My manager always treats me with respect. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 10) My manager listens to what I'm saying. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 11) I have some influence over the operations of my workplace. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 12) In general this organization respects their outsource recruiters. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
-

APPENDIX E: THANK YOU LETTER

THANK YOU LETTER

Dear <Participant>,

Thank you for taking the time to be a participant in my research study entitled *Correlation between Managerial responsiveness and Retention of Outsource Recruiters*. I know that your time is valuable and I am grateful for your support. The purpose of this current study is to quantify the relationship between responsiveness of organization managers to outsource recruiter concerns about technology and retention of recruiters in the outsource industry in LinkedIn. Your participation was invaluable to my research and I will send you a copy of the study when it is complete, hopefully sometime in the coming Spring.

If you have any questions concerning the research study, you can reach me by calling telephone number 702-406-7745.

Sincerely,

Cornell Horn, MA.
Chorn9926@email.phoenix.edu

APPENDIX F: ONLINE INFORMED CONSENT OF PARTICIPANT-
PARTICIPANT 18 YEARS OF AGE AND OLDER

ONLINE INFORMED CONSENT OF PARTICIPANT- PARTICIPANT 18 YEARS OF
AGE AND OLDER

Dear (participant),

My name is Cornell Horn and I am a student at the University of Phoenix working on a doctorate degree. I am conducting a research study entitled *Correlational Study of the Relationship of Managerial Responsiveness on Retention of Outsource Recruiters*. The purpose of the research study is to understand the relationship between the responsiveness of organization managers to outsource recruiter concerns about technology and employee retention in the outsource industry.

Your participation will involve completing a survey that will take between 5-10 minutes. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, you can do so without penalty or loss of benefit to yourself. The results of the research study may be published but your identity will remain confidential and your name will not be disclosed to any outside party.

In this research, there are no foreseeable risks to you.

Although there may be no direct benefit to you, a possible benefit of your participation is that leadership literature may include a better understanding of the activities that positively and negatively affect outsource recruiter retention.

If you have any questions concerning the research study, please call me at (702) 406-7745 or at chorn9926@email.phoenix.edu.

As a participant in this study, you should understand the following:

1. You may decline to participate or withdraw from participation at any time without consequences.
2. Your identity will be kept anonymous.
3. Cornell Horn, the researcher, has thoroughly explained the parameters of the research study and all of my questions and concerns have been addressed.
4. Data will be stored in a secure and locked area. The data will be held for a period of three years, and then destroyed.

By signing this form you acknowledge that you understand the nature of the study, the potential risks to you as a participant, and the means by which your identity will be kept confidential. Your signature on this form also indicates that you are 18 years old or older and that you give your permission to voluntarily serve as a participant in the study described.

- Agree (Click in checkbox if you agree to participate in the study).
 Disagree (Click on box if you DO NOT agree to participate in the study). This will check you out of the survey.

SUBMIT

APPENDIX G: ONLINE LIKERT SURVEY QUESTIONNAIRE- LIKERT SURVEY
QUESTIONNAIRE INSTRUMENT

ONLINE LIKERT SURVEY QUESTIONNAIRE INSTRUMENT

Date of survey: dd/mm/yyyy

Job Title

Likert Scale Survey Questions

- 1) The daily number of hours I spend at work working on a computer is? a) 0 - 2; b) 2.1 - 4; c) 4.1 - 6; d) 6.1 - 8; e) 8.1 - 10 or more
 - 2) The computer I use at work increases my job stress. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 3) I am satisfied with the computer system I use at work. A- Strongly Satisfied; B- Somewhat Satisfied; C- Neither Satisfied nor Dissatisfied; D- Somewhat Dissatisfied; E- Strongly Dissatisfied
 - 4) My computer system allows me to do my job well. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 5) I think about changing jobs specifically when the management team does not fulfill my requests. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 6) When I request improvements or upgrades in computer equipment the management team generally fulfills my requests. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 7) When I report a problem with my computer at work the technical team usually solves the problem. A- The same day; B- The next day; C- Two days or more later; D- Never solves the problem; E- Not Applicable
 - 8) I think about changing jobs specifically because of the computer system I use at work. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 9) My manager always treats me with respect. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 10) My manager listens to what I'm saying. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 11) I have some influence over the operations of my workplace. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
 - 12) In general this organization respects their outsource recruiters. A- Strongly agree; B- Somewhat agree; C- Neither agree nor disagree; D- Somewhat disagree; E- Strongly disagree
-

THANK YOU COMMENT

Thank you for participating in the survey above. Submission of the survey will involve adding your initials to the “initial” box and then clicking on submit.

APPENDIX H: SURVEY FREQUENCY RESPONSES

SURVEY FREQUENCY RESPONSES

| 1. The daily number of hours I spend at work working on a computer is? | | |
|--|----|------|
| 0 - 2 | 3 | 4% |
| 2.1 - 4 | 7 | 8% |
| 4.1 - 6 | 11 | 13% |
| 6.1 - 8 | 26 | 31% |
| 8.1 - 10 or more | 38 | 45% |
| Total | 85 | 100% |

| 2. The computer I use at work increases my job stress. | | |
|--|----|------|
| Strongly Agree | 16 | 19% |
| Somewhat Agree | 21 | 25% |
| Neither Agree nor Disagree | 24 | 28% |
| Somewhat Disagree | 10 | 12% |
| Strongly Disagree | 14 | 16% |
| Total | 85 | 100% |

| 3. I am satisfied with the computer system I use at work. | | |
|---|----|------|
| Completely Satisfied | 22 | 26% |
| Somewhat Satisfied | 33 | 39% |
| Neither Satisfied nor Dissatisfied | 8 | 9% |
| Somewhat Dissatisfied | 14 | 16% |
| Completely Dissatisfied | 8 | 9% |
| Total | 85 | 100% |

| 4. My computer system allows me to do my job well. | | |
|--|----|------|
| Strongly Agree | 28 | 33% |
| Somewhat Agree | 33 | 39% |
| Neither Agree nor Disagree | 12 | 14% |
| Somewhat Disagree | 7 | 8% |
| Strongly Disagree | 5 | 6% |
| Total | 85 | 100% |

| 5. I think about changing jobs specifically when the management team does not fulfill my requests. | | |
|--|----|------|
| Strongly Agree | 17 | 20% |
| Somewhat Agree | 27 | 32% |
| Neither Agree nor Disagree | 21 | 25% |
| Somewhat Disagree | 10 | 12% |
| Strongly Disagree | 10 | 12% |
| Total | 85 | 100% |

| 6. When I request improvements or upgrades in computer equipment the management team generally fulfills my requests. | | |
|--|----|------|
| Strongly Agree | 22 | 26% |
| Somewhat Agree | 20 | 24% |
| Neither Agree nor Disagree | 21 | 25% |
| Somewhat Disagree | 12 | 14% |
| Strongly Disagree | 10 | 12% |
| Total | 85 | 100% |

7. When I report a problem with my computer at work the technical team usually solves the problem.

| | | |
|--------------------------|----|------|
| The same day | 44 | 52% |
| The next day | 14 | 16% |
| Two days or more later | 11 | 13% |
| Never solves the problem | 9 | 11% |
| Not Applicable | 7 | 8% |
| Total | 85 | 100% |

8. I think about changing jobs specifically when the management team does not fulfill my requests to improve or upgrade my computer.

| | | |
|----------------------------|----|------|
| Strongly Agree | 5 | 6% |
| Somewhat Agree | 6 | 7% |
| Neither Agree nor Disagree | 21 | 25% |
| Somewhat Disagree | 9 | 11% |
| Strongly Disagree | 44 | 52% |
| Total | 85 | 100% |

9. My manager always treats me with respect.

| | | |
|----------------------------|----|------|
| Strongly Agree | 38 | 45% |
| Somewhat Agree | 20 | 24% |
| Neither Agree nor Disagree | 10 | 12% |
| Somewhat Disagree | 9 | 11% |
| Strongly Disagree | 8 | 9% |
| Total | 85 | 100% |

| 10. My manager listens to what I'm saying. | | |
|--|----|------|
| Strongly Agree | 42 | 49% |
| Somewhat Agree | 23 | 27% |
| Neither Agree nor Disagree | 8 | 9% |
| Somewhat Disagree | 8 | 9% |
| Strongly Disagree | 4 | 5% |
| Total | 85 | 100% |

| 11. I have some influence over the operations of my workplace. | | |
|--|----|------|
| Strongly Agree | 24 | 28% |
| Somewhat Agree | 34 | 40% |
| Neither Agree nor Disagree | 10 | 12% |
| Somewhat Disagree | 7 | 8% |
| Strongly Disagree | 10 | 12% |
| Total | 85 | 100% |

| 12. In general this organization respects their outsource recruiters. | | |
|---|----|------|
| Strongly Agree | 23 | 27% |
| Somewhat Agree | 23 | 27% |
| Neither Agree nor Disagree | 23 | 27% |
| Somewhat Disagree | 10 | 12% |
| Strongly Disagree | 6 | 7% |
| Total | 85 | 100% |

APPENDIX I: ANOVA TABLES OF REGRESSION ANALYSES 1-36

ANOVA TABLES OF REGRESSION ANALYSES 1-36

Table II *Regression I*

| | |
|----------------|-------|
| r^2 | 0.263 |
| Adjusted r^2 | 0.079 |
| r | 0.513 |
| Std. Error | 0.767 |
| n | 6 |
| k | 1 |
| Dep. Var. | Y |

ANOVA table

| Source | SS | df | MS | F | p-value |
|------------|--------|----|--------|------|---------|
| Regression | 0.8387 | 1 | 0.8387 | 1.43 | .2984 |
| Residual | 2.3526 | 4 | 0.5882 | | |
| Total | 3.1913 | 5 | | | |

Regression output

| variables | coefficients | std. error | t (df=5) | p-value | confidence interval | |
|-----------|--------------|------------|----------|---------|---------------------|-----------|
| | | | | | 95% lower | 95% upper |
| Intercept | -0.6012 | 3.0401 | -0.198 | .8529 | -9.0417 | 7.8394 |
| X | 1.5945 | 1.3352 | 1.194 | .2984 | -2.1127 | 5.3016 |

| Observation | Y | Predicted | Residual |
|-------------|---------|-----------|----------|
| 1 | 2.82350 | 3.58193 | -0.75843 |
| 2 | 2.44710 | 2.70029 | -0.25319 |
| 3 | 2.15290 | 2.85036 | -0.69746 |
| 4 | 2.63530 | 2.47519 | 0.16011 |
| 6 | 4.04710 | 3.30055 | 0.74655 |

Table I2 *Regression 2*

| | |
|----------------|--------|
| r^2 | 0.063 |
| Adjusted r^2 | 0.000 |
| r | -0.251 |
| Std. Error | 0.865 |
| n | 6 |
| k | 1 |
| Dep. Var. | Y |

ANOVA table

| Source | SS | df | MS | F | p-value |
|------------|--------|----|--------|------|---------|
| Regression | 0.1999 | 1 | 0.1999 | 0.27 | .6324 |
| Residual | 2.9914 | 4 | 0.7479 | | |
| Total | 3.1913 | 5 | | | |

Regression output

| variables | coefficients | std. error | t (df=5) | p-value | confidence interval | |
|-----------|--------------|------------|----------|---------|---------------------|-----------|
| | | | | | 95% lower | 95% upper |
| Intercept | 4.7726 | 3.4280 | 1.392 | .2363 | -4.7452 | 14.2904 |
| X | -0.7784 | 1.5056 | -0.517 | .6324 | -4.9587 | 3.4019 |

| Observation | Y | Predicted | Residual |
|-------------|---------|-----------|----------|
| 1 | 2.44710 | 2.73049 | -0.28339 |
| 2 | 2.15290 | 3.16090 | -1.00800 |
| 3 | 2.63530 | 3.08764 | -0.45234 |
| 4 | 3.95290 | 3.27079 | 0.68211 |
| 6 | 2.82350 | 2.86786 | -0.04436 |

Table I3 *Regression 3*

| | |
|----------------|--------|
| r^2 | 0.602 |
| Adjusted r^2 | 0.502 |
| r | -0.776 |
| Std. Error | 0.564 |
| n | 6 |
| k | 1 |
| Dep. Var. | Y |

ANOVA table

| Source | SS | df | MS | F | p-value |
|------------|--------|----|--------|------|---------|
| Regression | 1.9203 | 1 | 1.9203 | 6.04 | .0698 |
| Residual | 1.2709 | 4 | 0.3177 | | |
| Total | 3.1913 | 5 | | | |

Regression output

| variables | coefficients | std. error | t (df=5) | p-value | confidence interval | |
|-----------|--------------|------------|----------|---------|---------------------|-----------|
| | | | | | 95% lower | 95% upper |
| Intercept | 8.4738 | 2.2345 | 3.792 | .0192 | 2.2700 | 14.6777 |
| X | -2.4127 | 0.9814 | -2.458 | .0698 | -5.1375 | 0.3121 |

| Observation | Y | Predicted | Residual |
|-------------|---------|-----------|----------|
| 1 | 2.15290 | 2.14407 | 0.00883 |
| 2 | 2.63530 | 3.47814 | -0.84284 |
| 3 | 3.95290 | 3.25106 | 0.70184 |
| 4 | 4.04710 | 3.81877 | 0.22833 |
| 5 | 2.82350 | 2.79692 | 0.02658 |
| 6 | 2.44710 | 2.56984 | -0.12274 |

Table I4 *Regression 4*

| | |
|----------------|--------|
| r^2 | 0.303 |
| Adjusted r^2 | 0.129 |
| r | -0.550 |
| Std. Error | 0.746 |
| n | 6 |
| k | 1 |
| Dep. Var. | Y |

ANOVA table

| Source | SS | df | MS | F | p-value |
|------------|--------|----|--------|------|---------|
| Regression | 0.9663 | 1 | 0.9663 | 1.74 | .2579 |
| Residual | 2.2249 | 4 | 0.5562 | | |
| Total | 3.1913 | 5 | | | |

Regression output

| variables | coefficients | std. error | t (df=5) | p-value | confidence interval | |
|-----------|--------------|------------|----------|---------|---------------------|-----------|
| | | | | | 95% lower | 95% upper |
| Intercept | 6.8859 | 2.9564 | 2.329 | .0803 | -1.3225 | 15.0942 |
| X | -1.7115 | 1.2985 | -1.318 | .2579 | -5.3167 | 1.8937 |

| Observation | Y | Predicted | Residual |
|-------------|---------|-----------|----------|
| 1 | 2.63530 | 2.39567 | 0.23963 |
| 2 | 3.95290 | 3.34203 | 0.61087 |
| 3 | 4.04710 | 3.18094 | 0.86616 |
| 4 | 2.82350 | 3.58366 | -0.76016 |
| 5 | 2.44710 | 2.85879 | -0.41169 |
| 6 | 2.15290 | 2.69770 | -0.54480 |

Table I5 Regression 5

| | |
|----------------|-------|
| r^2 | 0.038 |
| Adjusted r^2 | 0.000 |
| r | 0.195 |
| Std. Error | 0.876 |
| n | 6 |
| k | 1 |
| Dep. Var. | Y |

ANOVA table

| Source | SS | df | MS | F | p-value |
|------------|--------|----|--------|------|---------|
| Regression | 0.1218 | 1 | 0.1218 | 0.16 | .7107 |
| Residual | 3.0695 | 4 | 0.7674 | | |
| Total | 3.1913 | 5 | | | |

Regression output

| variables | coefficients | std. error | t (df=5) | p-value | confidence interval | |
|-----------|--------------|------------|----------|---------|---------------------|-----------|
| | | | | | 95% lower | 95% upper |
| Intercept | 1.6337 | 3.4725 | 0.470 | .6625 | -8.0075 | 11.2749 |
| X | 0.6076 | 1.5252 | 0.398 | .7107 | -3.6269 | 4.8421 |

| Observation | Y | Predicted | Residual |
|-------------|---------|-----------|----------|
| 1 | 3.95290 | 3.22783 | 0.72507 |
| 2 | 4.04710 | 2.89185 | 1.15525 |
| 3 | 2.82350 | 2.94904 | -0.12554 |
| 4 | 2.44710 | 2.80607 | -0.35897 |
| 5 | 2.15290 | 3.06341 | -0.91051 |
| 6 | 2.63530 | 3.12060 | -0.48530 |

Table I6 Regression 6

| | |
|----------------|-------|
| r^2 | 0.754 |
| Adjusted r^2 | 0.692 |
| r | 0.868 |
| Std. Error | 0.443 |
| n | 6 |
| k | 1 |
| Dep. Var. | Y |

ANOVA table

| Source | SS | df | MS | F | p-value |
|------------|--------|----|--------|-------|---------|
| Regression | 2.4059 | 1 | 2.4059 | 12.25 | .0249 |
| Residual | 0.7854 | 4 | 0.1964 | | |
| Total | 3.1913 | 5 | | | |

Regression output

| variables | coefficients | std. error | t (df=5) | p-value | confidence interval | |
|-----------|--------------|------------|----------|---------|---------------------|-----------|
| | | | | | 95% lower | 95% upper |
| Intercept | -3.1061 | 1.7566 | -1.768 | .1517 | -7.9831 | 1.7709 |
| X | 2.7005 | 0.7715 | 3.500 | .0249 | 0.5585 | 4.8425 |

Table I7 Regression 7

| Regression Statistics | |
|-----------------------|-----------|
| R | 0.8682631 |
| R Square | 0.7538808 |
| Adjusted R Square | 0.692351 |
| Standard Error | 0.443125 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-------------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 2.405856528 | 2.4058565 | 12.252286 | 0.024888801 |
| Residual | 4 | 0.785439212 | 0.1963598 | | |
| Total | 5 | 3.19129574 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | -3.106066 | 1.756567574 | -1.7682587 | 0.1517475 | -7.983079409 | 1.7709475 |
| x | 2.7005113 | 0.771502668 | 3.5003266 | 0.0248888 | 0.558476505 | 4.8425461 |

PROBABILITY OUTPUT

| Percentile | Y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

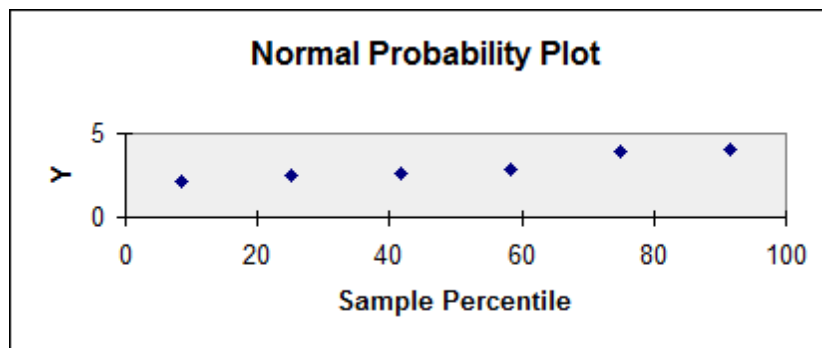


Table I8 *Regression 8*

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| R | 0.5126453 |
| R Square | 0.2628052 |
| Adjusted R Square | 0.0785065 |
| Standard Error | 0.7669105 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.838689084 | 0.8386891 | 1.4259742 | 0.29839499 |
| Residual | 4 | 2.352606656 | 0.5881517 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | -0.6011676 | 3.040067542 | -0.1977481 | 0.8528849 | -9.0417482 | 7.839413 |
| x | 1.5944527 | 1.335229144 | 1.1941416 | 0.298395 | -2.1127377 | 5.3016431 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

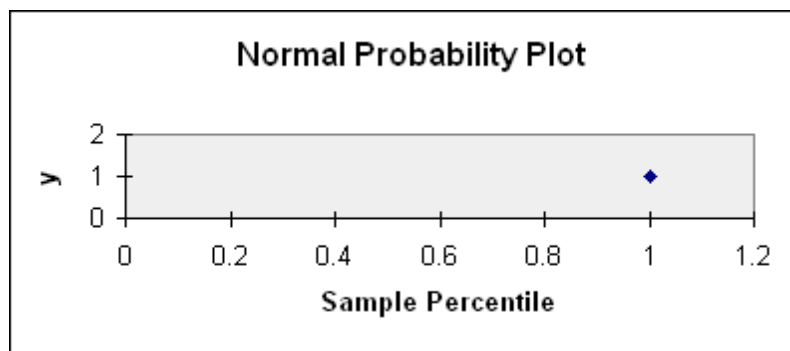


Table I9 Regression 9

| Regression Statistics | |
|-----------------------|------------|
| R | -0.2502671 |
| R Square | 0.0626336 |
| Adjusted R Square | -0.171708 |
| Standard Error | 0.8647851 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-------------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.199882408 | 0.1998824 | 0.2672749 | 0.632436918 |
| Residual | 4 | 2.991413332 | 0.7478533 | | |
| Total | 5 | 3.19129574 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | 4.7726298 | 3.428047131 | 1.3922299 | 0.2362609 | -4.745154878 | 14.290414 |
| x | -0.7783921 | 1.505633797 | -0.5169863 | 0.6324369 | -4.958701695 | 3.4019175 |

PROBABILITY OUTPUT

| Percentile | y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

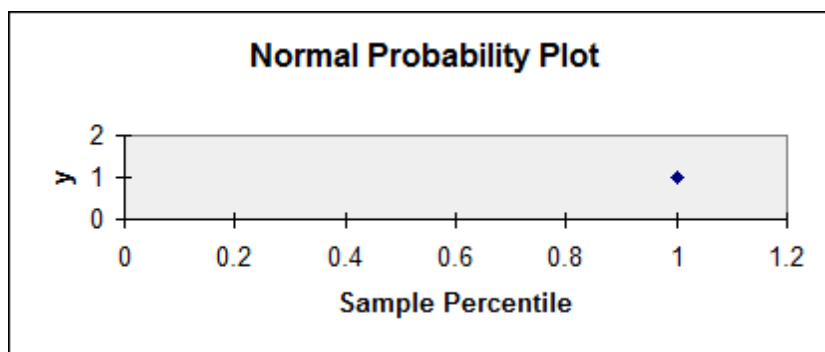


Table I10 *Regression 10*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.7757225 |
| R Square | 0.6017455 |
| Adjusted R Square | 0.5021818 |
| Standard Error | 0.5636816 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 1.920347764 | 1.9203478 | 6.0438281 | 0.06980994 |
| Residual | 4 | 1.270947976 | 0.317737 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 8.4738295 | 2.234459353 | 3.79234 | 0.0192301 | 2.26997581 | 14.677683 |
| x | -2.4126875 | 0.981397685 | -2.4584198 | 0.0698099 | -5.1374843 | 0.3121093 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.33333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

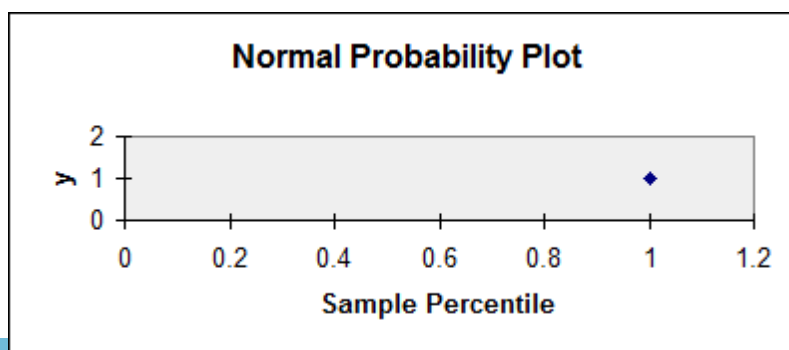


Table I11 *Regression 11*

| Regression Statistics | |
|-----------------------|------------|
| R | -0.5502792 |
| R Square | 0.3028072 |
| Adjusted R Square | 0.128509 |
| Standard Error | 0.745813 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-------------|-----------|----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.966347362 | 0.9663474 | 1.737294 | 0.257895439 |
| Residual | 4 | 2.224948378 | 0.5562371 | | |
| Total | 5 | 3.19129574 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | 6.8858532 | 2.956436405 | 2.3291058 | 0.0803307 | -1.322530185 | 15.094237 |
| x | -1.7115034 | 1.298497482 | -1.3180645 | 0.2578954 | -5.316710397 | 1.8937036 |

PROBABILITY OUTPUT

| Percentile | y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

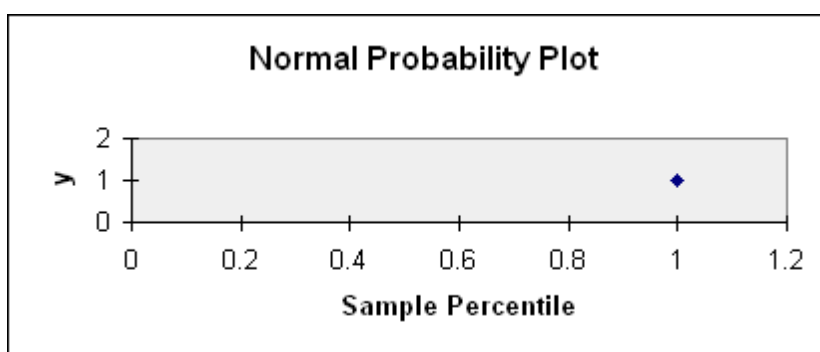


Table I12 *Regression 12*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | 0.1953605 |
| R Square | 0.0381657 |
| Adjusted R Square | -0.2022928 |
| Standard Error | 0.8759991 |
| Observations | 6 |

ANOVA

| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
|------------|-----------|-------------|-----------|-----------|-----------------------|
| Regression | 1 | 0.121798103 | 0.1217981 | 0.1587206 | 0.7106873 |
| Residual | 4 | 3.069497637 | 0.7673744 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 1.633721 | 3.472499753 | 0.4704741 | 0.6625234 | -8.0074839 | 11.274926 |
| x | 0.6076191 | 1.525157849 | 0.3983975 | 0.7106873 | -3.626898 | 4.8421361 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

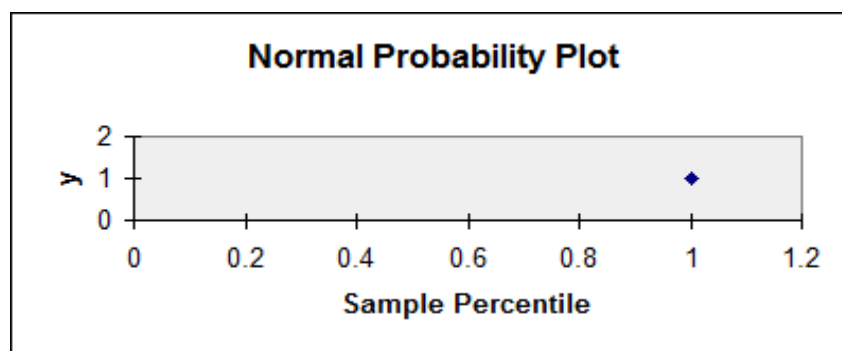


Table I13 *Regression 13*

| Regression Statistics | |
|-----------------------|------------|
| R | 0.1953605 |
| R Square | 0.0381657 |
| Adjusted R Square | -0.2022928 |
| Standard Error | 0.8759991 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-----------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.1217981 | 0.1217981 | 0.1587206 | 0.710687302 |
| Residual | 4 | 3.0694976 | 0.7673744 | | |
| Total | 5 | 3.1912957 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|-----------|-----------|--------------|-----------|
| Intercept | 1.633721 | 3.4724998 | 0.4704741 | 0.6625234 | -8.007483916 | 11.274926 |
| x | 0.6076191 | 1.5251578 | 0.3983975 | 0.7106873 | -3.626897967 | 4.8421361 |

PROBABILITY OUTPUT

| Percentile | Y |
|------------|--------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

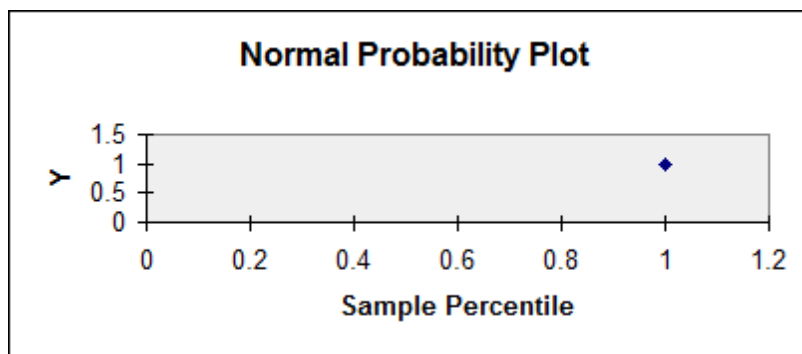


Table I14 *Regression 14*

| Regression Statistics | |
|-----------------------|-------------|
| R | 0.868263083 |
| R Square | 0.753880782 |
| Adjusted R Square | 0.692350977 |
| Standard Error | 0.443125042 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-------------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 2.405856528 | 2.4058565 | 12.252286 | 0.024888801 |
| Residual | 4 | 0.785439212 | 0.1963598 | | |
| Total | 5 | 3.19129574 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | -3.10606597 | 1.756567574 | -1.7682587 | 0.1517475 | -7.983079409 | 1.7709475 |
| x | 2.70051131 | 0.771502668 | 3.5003266 | 0.0248888 | 0.558476505 | 4.8425461 |

PROBABILITY OUTPUT

| Percentile | y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

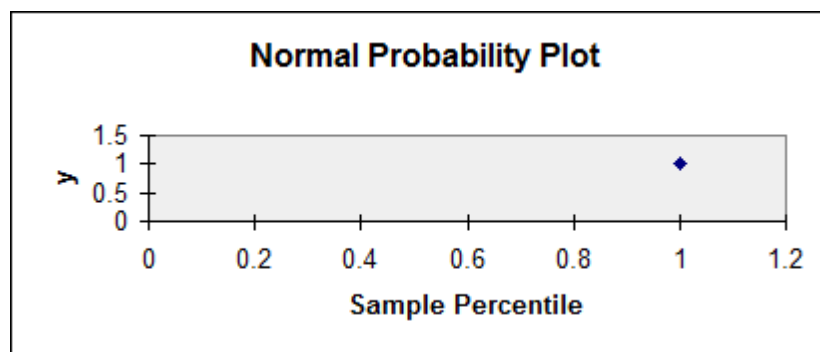


Table I15 *Regression 15*

| Regression Statistics | |
|-----------------------|-----------|
| R | 0.5126453 |
| R Square | 0.2628052 |
| Adjusted R Square | 0.0785065 |
| Standard Error | 0.7669105 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-----------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.8386891 | 0.8386891 | 1.4259742 | 0.298394991 |
| Residual | 4 | 2.3526067 | 0.5881517 | | |
| Total | 5 | 3.1912957 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | -0.6011676 | 3.0400675 | -0.1977481 | 0.8528849 | -9.041748248 | 7.839413 |
| x | 1.5944527 | 1.3352291 | 1.1941416 | 0.298395 | -2.112737746 | 5.3016431 |

PROBABILITY OUTPUT

| Percentile | y |
|------------|--------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

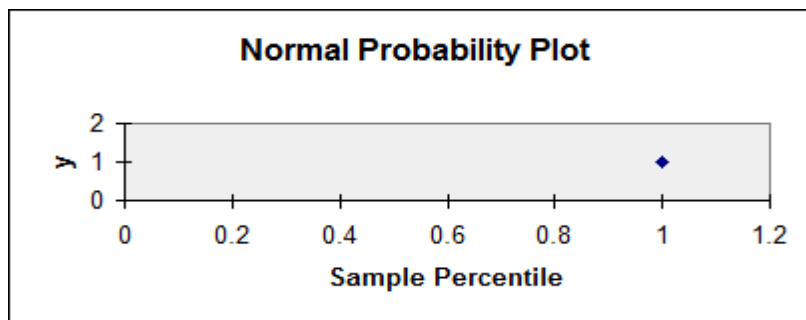


Table I16 *Regression 16*

| Regression Statistics | |
|-----------------------|-------------|
| R | -0.2502671 |
| R Square | 0.062633621 |
| Adjusted R Square | -0.17170797 |
| Standard Error | 0.864785137 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-------------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.199882408 | 0.1998824 | 0.2672749 | 0.632436918 |
| Residual | 4 | 2.991413332 | 0.7478533 | | |
| Total | 5 | 3.19129574 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | 4.7726298 | 3.428047131 | 1.3922299 | 0.2362609 | -4.745154878 | 14.290414 |
| x | -0.77839211 | 1.505633797 | -0.5169863 | 0.6324369 | -4.958701695 | 3.4019175 |

PROBABILITY OUTPUT

| Percentile | y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

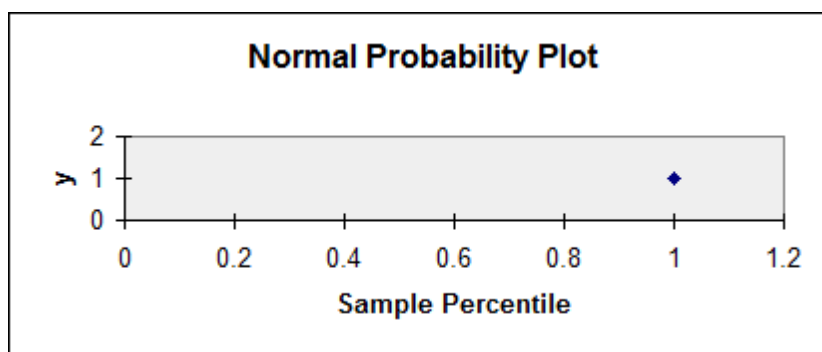


Table I17 Regression 17

| Regression Statistics | |
|-----------------------|------------|
| R | -0.7757225 |
| R Square | 0.6017455 |
| Adjusted R Square | 0.5021818 |
| Standard Error | 0.5636816 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-----------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 1.9203478 | 1.9203478 | 6.0438281 | 0.069809943 |
| Residual | 4 | 1.270948 | 0.317737 | | |
| Total | 5 | 3.1912957 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | 8.4738295 | 2.2344594 | 3.79234 | 0.0192301 | 2.269975808 | 14.677683 |
| x | -2.4126875 | 0.9813977 | -2.4584198 | 0.0698099 | -5.137484332 | 0.3121093 |

PROBABILITY OUTPUT

| Percentile | y |
|------------|--------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

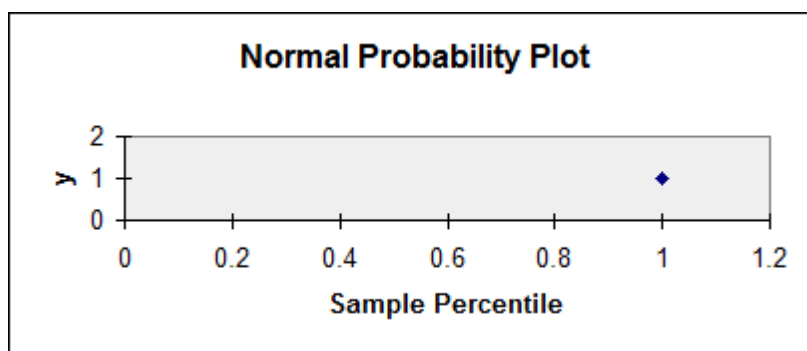


Table I18 *Regression 18*

| <i>Regression Statistics</i> | |
|------------------------------|--------------|
| R | -0.550279212 |
| R Square | 0.302807211 |
| Adjusted R Square | 0.128509014 |
| Standard Error | 0.745813043 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-----------|----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.966347362 | 0.9663474 | 1.737294 | 0.257895439 |
| Residual | 4 | 2.224948378 | 0.5562371 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 6.8858532 | 2.956436405 | 2.3291058 | 0.0803307 | -1.322530185 | 15.094237 |
| x | -1.71150342 | 1.298497482 | -1.3180645 | 0.2578954 | -5.316710397 | 1.8937036 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

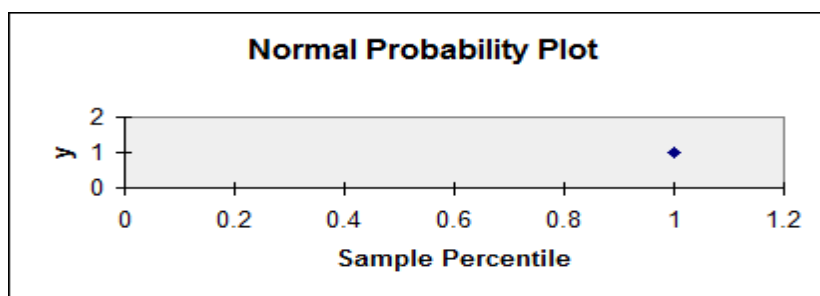


Table I19 Regression 19

| Regression Statistics | |
|-----------------------|------------|
| R | -0.5502792 |
| R Square | 0.3028072 |
| Adjusted R Square | 0.128509 |
| Standard Error | 0.745813 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-------------|-----------|----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.966347362 | 0.9663474 | 1.737294 | 0.257895439 |
| Residual | 4 | 2.224948378 | 0.5562371 | | |
| Total | 5 | 3.19129574 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|--------------|-----------|
| Intercept | 6.8858532 | 2.956436405 | 2.3291058 | 0.0803307 | -1.322530185 | 15.094237 |
| x | -1.7115034 | 1.298497482 | -1.3180645 | 0.2578954 | -5.316710397 | 1.8937036 |

PROBABILITY OUTPUT

| Percentile | Y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

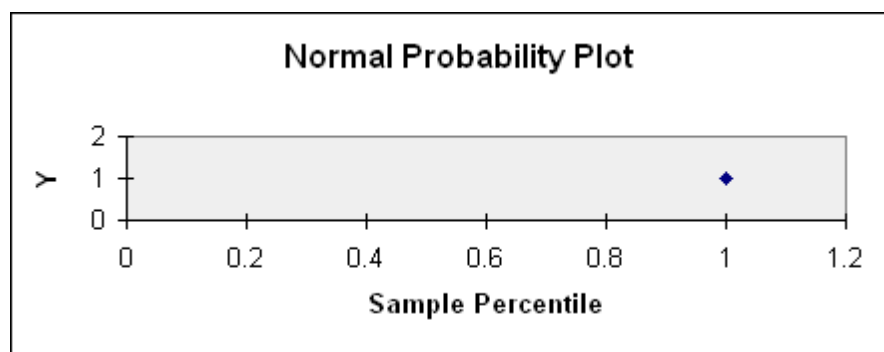


Table I20 *Regression 20*

| Regression Statistics | |
|-----------------------|-----------|
| R | 0.1953605 |
| R Square | 0.0381657 |
| Adjusted R Square | -0.202293 |
| Standard Error | 0.8759991 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-------------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.121798103 | 0.121798103 | 0.1587206 | 0.7106873 |
| Residual | 4 | 3.069497637 | 0.767374409 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 1.633721 | 3.472499753 | 0.470474051 | 0.6625234 | -8.0074839 | 11.274926 |
| x | 0.6076191 | 1.525157849 | 0.398397502 | 0.7106873 | -3.626898 | 4.8421361 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

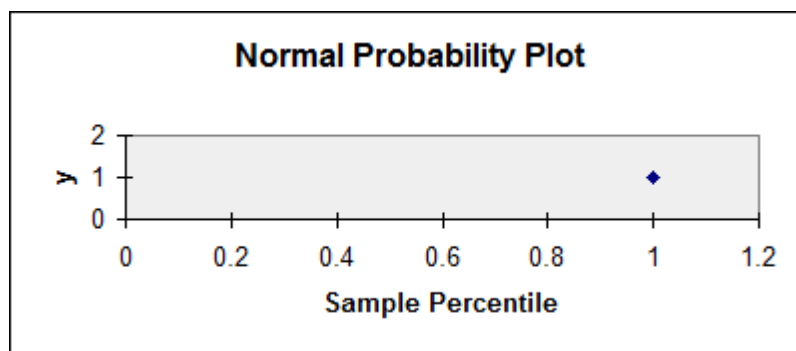


Table I21 *Regression 21*

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| Multiple R | 0.8682631 |
| R Square | 0.7538808 |
| Adjusted R Square | 0.692351 |
| Standard Error | 0.443125 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 2.405856528 | 2.4058565 | 12.252286 | 0.024888801 |
| Residual | 4 | 0.785439212 | 0.1963598 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | -3.106066 | 1.756567574 | -1.7682587 | 0.1517475 | -7.983079409 | 1.7709475 |
| x | 2.7005113 | 0.771502668 | 3.5003266 | 0.0248888 | 0.558476505 | 4.8425461 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

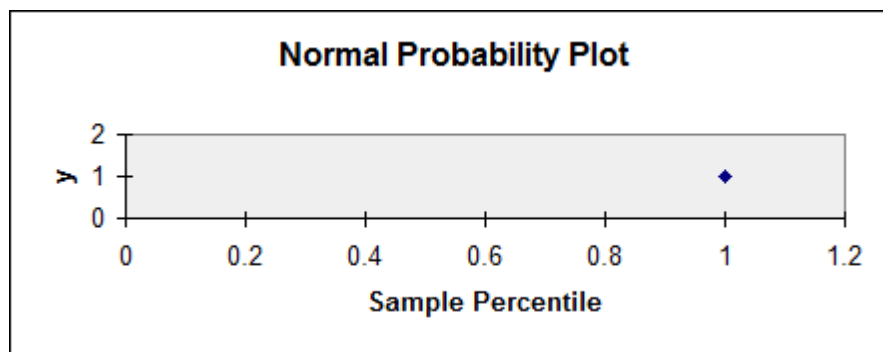


Table I22 *Regression 22*

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| Multiple R | 0.5126453 |
| R Square | 0.2628052 |
| Adjusted R Square | 0.0785065 |
| Standard Error | 0.7669105 |
| Observations | 6 |

ANOVA

| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
|------------|-----------|-------------|-------------|-----------|-----------------------|
| Regression | 1 | 0.838689084 | 0.838689084 | 1.4259742 | 0.298395 |
| Residual | 4 | 2.352606656 | 0.588151664 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | -0.601168 | 3.040067542 | -0.19774811 | 0.8528849 | -9.0417482 | 7.839413 |
| x | 1.5944527 | 1.335229144 | 1.194141606 | 0.298395 | -2.1127377 | 5.3016431 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

Table I23 *Regression 23*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.2502671 |
| R Square | 0.0626336 |
| Adjusted R Square | -0.171708 |
| Standard Error | 0.8647851 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.199882408 | 0.1998824 | 0.2672749 | 0.632436918 |
| Residual | 4 | 2.991413332 | 0.7478533 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 4.7726298 | 3.428047131 | 1.3922299 | 0.2362609 | -4.745154878 | 14.290414 |
| x | -0.7783921 | 1.505633797 | -0.5169863 | 0.6324369 | -4.958701695 | 3.4019175 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

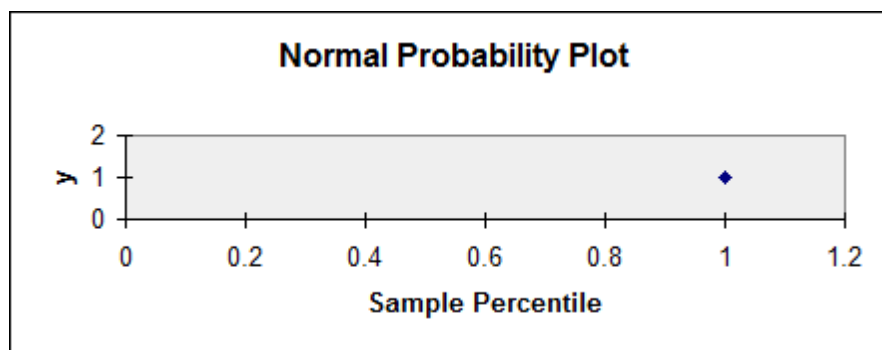


Table I24 *Regression 24*

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| Multiple R | 0.7757225 |
| R Square | 0.6017455 |
| Adjusted R Square | 0.5021818 |
| Standard Error | 0.5636816 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-------------|-------------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 1.920347764 | 1.920347764 | 6.0438281 | 0.0698099 |
| Residual | 4 | 1.270947976 | 0.317736994 | | |
| Total | 5 | 3.19129574 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> | <i>Lower 95.0%</i> | <i>Upper 95.0%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|--------------------|--------------------|
| Intercept | 8.4738295 | 2.234459353 | 3.792339982 | 0.0192301 | 2.2699758 | 14.677683 | 2.2699758 | 14.677683 |
| x | -2.412688 | 0.981397685 | -2.45841983 | 0.0698099 | -5.1374843 | 0.3121093 | -5.1374843 | 0.3121093 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

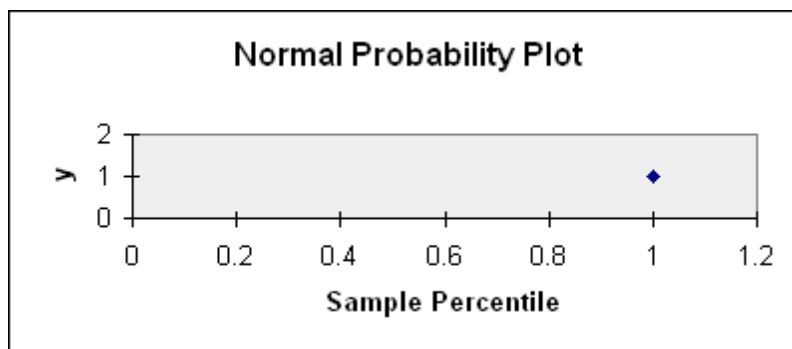


Table I25 *Regression 25*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.7757225 |
| R Square | 0.6017455 |
| Adjusted R Square | 0.5021818 |
| Standard Error | 0.5636816 |
| Observations | 6 |

| <i>ANOVA</i> | | | | | |
|--------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 1.9203478 | 1.9203478 | 6.0438281 | 0.0698099 |
| Residual | 4 | 1.270948 | 0.317737 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 8.4738295 | 2.2344594 | 3.79234 | 0.0192301 | 2.2699758 | 14.677683 |
| x | -2.4126875 | 0.9813977 | -2.4584198 | 0.0698099 | -5.1374843 | 0.3121093 |

RESIDUAL OUTPUT

| <i>Observation</i> | <i>Predicted Y</i> | <i>Residuals</i> |
|--------------------|--------------------|------------------|
| 1 | 2.7969205 | 0.0265795 |
| 2 | 2.5698384 | -0.1227384 |
| 3 | 2.1440714 | 0.0088286 |
| 4 | 3.4781429 | -0.8428429 |
| 5 | 3.2510607 | 0.7018393 |
| 6 | 3.8187661 | 0.2283339 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>Y</i> |
|-------------------|----------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.3333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

Table I26 *Regression 26*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.5502792 |
| R Square | 0.3028072 |
| Adjusted R Square | 0.128509 |
| Standard Error | 0.745813 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.9663474 | 0.9663474 | 1.737294 | 0.2578954 |
| Residual | 4 | 2.2249484 | 0.5562371 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 6.8858532 | 2.9564364 | 2.3291058 | 0.0803307 | -1.3225302 | 15.094237 |
| x | -1.7115034 | 1.2984975 | -1.3180645 | 0.2578954 | -5.3167104 | 1.8937036 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

Table I27 Regression 27

| Regression Statistics | |
|-----------------------|------------|
| R | 0.1953605 |
| R Square | 0.0381657 |
| Adjusted R Square | -0.2022928 |
| Standard Error | 0.8759991 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-----------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.1217981 | 0.1217981 | 0.1587206 | 0.7106873 |
| Residual | 4 | 3.0694976 | 0.7673744 | | |
| Total | 5 | 3.1912957 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|-----------|-----------|------------|-----------|
| Intercept | 1.633721 | 3.4724998 | 0.4704741 | 0.6625234 | -8.0074839 | 11.274926 |
| x | 0.6076191 | 1.5251578 | 0.3983975 | 0.7106873 | -3.626898 | 4.8421361 |

PROBABILITY OUTPUT

| Percentile | y |
|------------|--------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

Table I28 Regression 28

| Regression Statistics | |
|-----------------------|-----------|
| Multiple R | 0.8682631 |
| R Square | 0.7538808 |
| Adjusted R Square | 0.692351 |
| Standard Error | 0.443125 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-----------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 2.4058565 | 2.4058565 | 12.252286 | 0.0248888 |
| Residual | 4 | 0.7854392 | 0.1963598 | | |
| Total | 5 | 3.1912957 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|------------|-----------|
| Intercept | -3.106066 | 1.7565676 | -1.7682587 | 0.1517475 | -7.9830794 | 1.7709475 |
| x | 2.7005113 | 0.7715027 | 3.5003266 | 0.0248888 | 0.5584765 | 4.8425461 |

PROBABILITY OUTPUT

| Percentile | y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

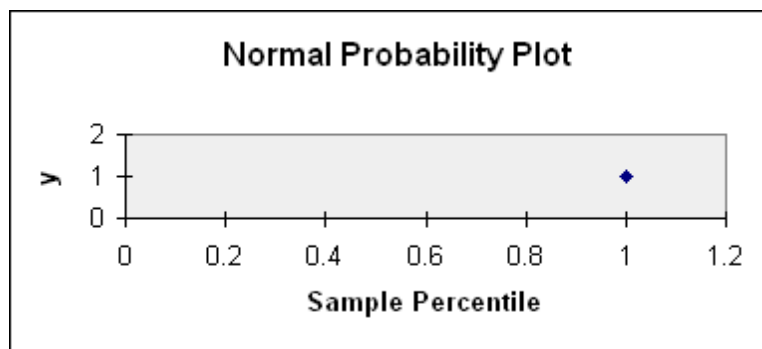


Table I29 *Regression 29*

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| R | 0.5126453 |
| R Square | 0.2628052 |
| Adjusted R Square | 0.0785065 |
| Standard Error | 0.7669105 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.8386891 | 0.8386891 | 1.4259742 | 0.298395 |
| Residual | 4 | 2.3526067 | 0.5881517 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | -0.6011676 | 3.0400675 | -0.1977481 | 0.8528849 | -9.0417482 | 7.839413 |
| x | 1.5944527 | 1.3352291 | 1.1941416 | 0.298395 | -2.1127377 | 5.3016431 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

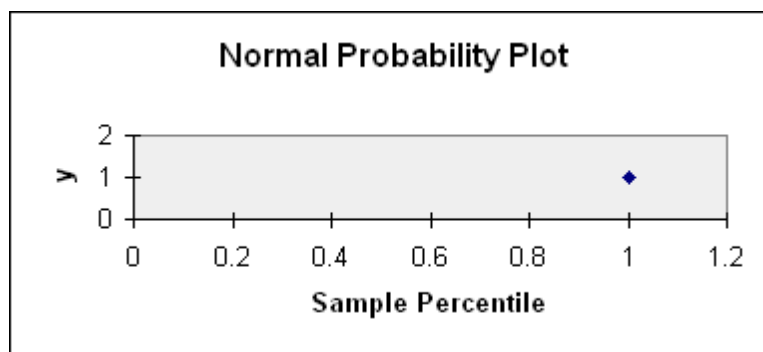


Table I30 *Regression 30*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.2502671 |
| R Square | 0.0626336 |
| Adjusted R Square | -0.171708 |
| Standard Error | 0.8647851 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.1998824 | 0.1998824 | 0.2672749 | 0.6324369 |
| Residual | 4 | 2.9914133 | 0.7478533 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 4.7726298 | 3.4280471 | 1.3922299 | 0.2362609 | -4.7451549 | 14.290414 |
| x | -0.7783921 | 1.5056338 | -0.5169863 | 0.6324369 | -4.9587017 | 3.4019175 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

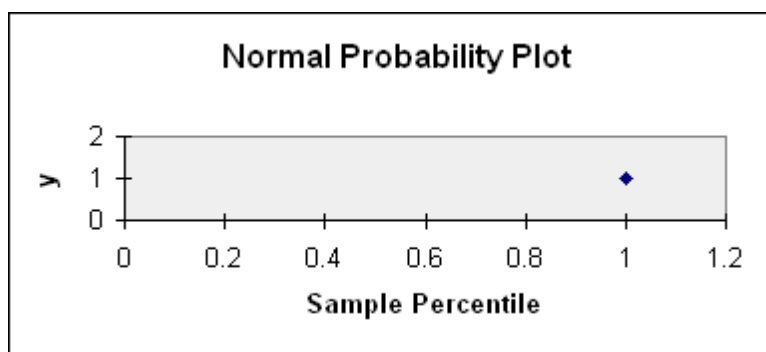


Table I31 *Regression 31*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.2502671 |
| R Square | 0.0626336 |
| Adjusted R Square | -0.171708 |
| Standard Error | 0.8647851 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.1998824 | 0.1998824 | 0.2672749 | 0.6324369 |
| Residual | 4 | 2.9914133 | 0.7478533 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 4.7726298 | 3.4280471 | 1.3922299 | 0.2362609 | -4.7451549 | 14.290414 |
| x | -0.7783921 | 1.5056338 | -0.5169863 | 0.6324369 | -4.9587017 | 3.4019175 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>Y</i> |
|-------------------|----------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

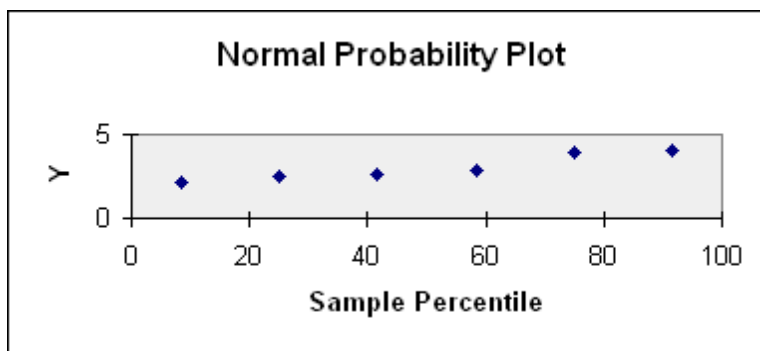


Table I32 *Regression 32*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| R | -0.7757225 |
| R Square | 0.6017455 |
| Adjusted R Square | 0.5021818 |
| Standard Error | 0.5636816 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 1.9203478 | 1.9203478 | 6.0438281 | 0.0698099 |
| Residual | 4 | 1.270948 | 0.317737 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 8.4738295 | 2.2344594 | 3.79234 | 0.0192301 | 2.2699758 | 14.677683 |
| x | -2.4126875 | 0.9813977 | -2.4584198 | 0.0698099 | -5.1374843 | 0.3121093 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

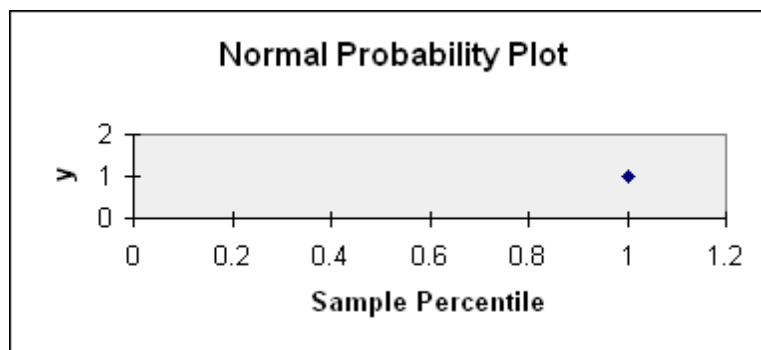


Table I33 *Regression 33*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| Multiple R | -0.5502792 |
| R Square | 0.3028072 |
| Adjusted R Square | 0.128509 |
| Standard Error | 0.745813 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.9663474 | 0.9663474 | 1.737294 | 0.2578954 |
| Residual | 4 | 2.2249484 | 0.5562371 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 6.8858532 | 2.9564364 | 2.3291058 | 0.0803307 | -1.3225302 | 15.094237 |
| x | -1.7115034 | 1.2984975 | -1.3180645 | 0.2578954 | -5.3167104 | 1.8937036 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

Table I34 *Regression 34*

| <i>Regression Statistics</i> | |
|------------------------------|------------|
| Multiple R | 0.1953605 |
| R Square | 0.0381657 |
| Adjusted R Square | -0.2022928 |
| Standard Error | 0.8759991 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 0.1217981 | 0.1217981 | 0.1587206 | 0.7106873 |
| Residual | 4 | 3.0694976 | 0.7673744 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | 1.633721 | 3.4724998 | 0.4704741 | 0.6625234 | -8.0074839 | 11.274926 |
| x | 0.6076191 | 1.5251578 | 0.3983975 | 0.7106873 | -3.626898 | 4.8421361 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |

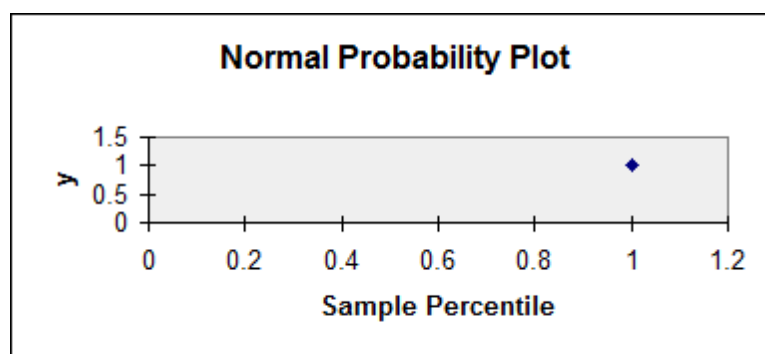


Table I35 *Regression 35*

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| Multiple R | 0.8682631 |
| R Square | 0.7538808 |
| Adjusted R Square | 0.692351 |
| Standard Error | 0.443125 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 2.4058565 | 2.4058565 | 12.252286 | 0.0248888 |
| Residual | 4 | 0.7854392 | 0.1963598 | | |
| Total | 5 | 3.1912957 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Intercept | -3.106066 | 1.7565676 | -1.7682587 | 0.1517475 | -7.9830794 | 1.7709475 |
| x | 2.7005113 | 0.7715027 | 3.5003266 | 0.0248888 | 0.5584765 | 4.8425461 |

PROBABILITY OUTPUT

| <i>Percentile</i> | <i>y</i> |
|-------------------|----------|
| 8.3333333 | 2.1529 |
| 25 | 2.4471 |
| 41.666667 | 2.6353 |
| 58.333333 | 2.8235 |
| 75 | 3.9529 |
| 91.666667 | 4.0471 |

Table I36 Regression 36

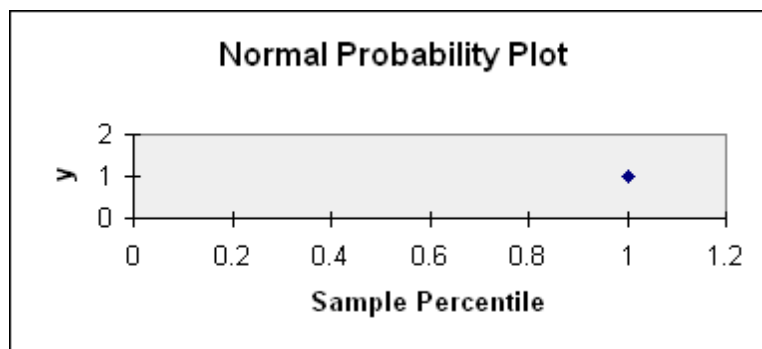
| Regression Statistics | |
|-----------------------|-----------|
| R | 0.5126453 |
| R Square | 0.2628052 |
| Adjusted R Square | 0.0785065 |
| Standard Error | 0.7669105 |
| Observations | 6 |

| ANOVA | | | | | |
|------------|----|-----------|-----------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 0.8386891 | 0.8386891 | 1.4259742 | 0.298395 |
| Residual | 4 | 2.3526067 | 0.5881517 | | |
| Total | 5 | 3.1912957 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
|-----------|--------------|----------------|------------|-----------|------------|-----------|
| Intercept | -0.6011676 | 3.0400675 | -0.1977481 | 0.8528849 | -9.0417482 | 7.839413 |
| x | 1.5944527 | 1.3352291 | 1.1941416 | 0.298395 | -2.1127377 | 5.3016431 |

PROBABILITY OUTPUT

| Percentile | y |
|-------------|--------|
| 8.333333333 | 2.1529 |
| 25 | 2.4471 |
| 41.66666667 | 2.6353 |
| 58.33333333 | 2.8235 |
| 75 | 3.9529 |
| 91.66666667 | 4.0471 |



APPENDIX J - TABLE CONTAINING ALL POSSIBLE ANTECEDENT (*MR*) AND
OUTCOME (*RT*) PAIRED VARIABLE QUESTION COMBINATIONS

TABLE CONTAINING ALL POSSIBLE ANTECEDENT (MR) AND
OUTCOME (RT) PAIRED VARIABLE QUESTION COMBINATIONS

| Regressions | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 | Q6 | Q2 | Q7 | Q3 | Q9 | Q4 | Q10 | Q5 | Q11 | Q8 | Q12 | Q1 |
| 2 | Q6 | Q3 | Q7 | Q4 | Q9 | Q5 | Q10 | Q8 | Q11 | Q1 | Q12 | Q2 |
| 3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 |
| 4 | Q6 | Q5 | Q7 | Q8 | Q9 | Q1 | Q10 | Q2 | Q11 | Q3 | Q12 | Q4 |
| 5 | Q6 | Q8 | Q7 | Q1 | Q9 | Q2 | Q10 | Q3 | Q11 | Q4 | Q12 | Q5 |
| 6 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 |
| 7 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 |
| 8 | Q7 | Q3 | Q9 | Q4 | Q10 | Q5 | Q11 | Q8 | Q12 | Q1 | Q6 | Q2 |
| 9 | Q7 | Q4 | Q9 | Q5 | Q10 | Q8 | Q11 | Q1 | Q12 | Q2 | Q6 | Q3 |
| 10 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 |
| 11 | Q7 | Q8 | Q9 | Q1 | Q10 | Q2 | Q11 | Q3 | Q12 | Q4 | Q6 | Q5 |
| 12 | Q7 | Q1 | Q9 | Q2 | Q10 | Q3 | Q11 | Q4 | Q12 | Q5 | Q6 | Q8 |
| 13 | Q9 | Q2 | Q10 | Q3 | Q11 | Q4 | Q12 | Q5 | Q6 | Q8 | Q7 | Q1 |
| 14 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 |
| 15 | Q9 | Q4 | Q10 | Q5 | Q11 | Q8 | Q12 | Q1 | Q6 | Q2 | Q7 | Q3 |
| 16 | Q9 | Q5 | Q10 | Q8 | Q11 | Q1 | Q12 | Q2 | Q6 | Q3 | Q7 | Q4 |
| 17 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 |
| 18 | Q9 | Q1 | Q10 | Q2 | Q11 | Q3 | Q12 | Q4 | Q6 | Q5 | Q7 | Q8 |
| 19 | Q10 | Q2 | Q11 | Q3 | Q12 | Q4 | Q6 | Q5 | Q7 | Q8 | Q9 | Q1 |
| 20 | Q10 | Q3 | Q11 | Q4 | Q12 | Q5 | Q6 | Q8 | Q7 | Q1 | Q9 | Q2 |
| 21 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 |
| 22 | Q10 | Q5 | Q11 | Q8 | Q12 | Q1 | Q6 | Q2 | Q7 | Q3 | Q9 | Q4 |
| 23 | Q10 | Q8 | Q11 | Q1 | Q12 | Q2 | Q6 | Q3 | Q7 | Q4 | Q9 | Q5 |
| 24 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 |
| 25 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 |
| 26 | Q11 | Q3 | Q12 | Q4 | Q6 | Q5 | Q7 | Q8 | Q9 | Q1 | Q10 | Q2 |
| 27 | Q11 | Q4 | Q12 | Q5 | Q6 | Q8 | Q7 | Q1 | Q9 | Q2 | Q10 | Q3 |
| 28 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 |
| 29 | Q11 | Q8 | Q12 | Q1 | Q6 | Q2 | Q7 | Q3 | Q9 | Q4 | Q10 | Q5 |
| 30 | Q11 | Q1 | Q12 | Q2 | Q6 | Q3 | Q7 | Q4 | Q9 | Q5 | Q10 | Q8 |
| 31 | Q12 | Q2 | Q6 | Q3 | Q7 | Q4 | Q9 | Q5 | Q10 | Q8 | Q11 | Q1 |
| 32 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 |
| 33 | Q12 | Q4 | Q6 | Q5 | Q7 | Q8 | Q9 | Q1 | Q10 | Q2 | Q11 | Q3 |
| 34 | Q12 | Q5 | Q6 | Q8 | Q7 | Q1 | Q9 | Q2 | Q10 | Q3 | Q11 | Q4 |
| 35 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 |
| 36 | Q12 | Q1 | Q6 | Q2 | Q7 | Q3 | Q9 | Q4 | Q10 | Q5 | Q11 | Q8 |

APPENDIX K – TABLE OF RESULTS FROM REGRESSIONS PERFORMED ON
ALL POSSIBLE ANTECEDENT AND OUTCOME COMBINATIONS

TABLE OF RESULTS FROM REGRESSIONS PERFORMED ON ALL
POSSIBLE ANTECEDENT AND OUTCOME COMBINATIONS

| Regressions | r^2 | r | std. error | linear fit | t stat for slope | t stat for intercept | p-value | y-intercept β_0 | slope β_1 |
|-------------|-------|--------|------------|------------|--------------------|------------------------|---------|-----------------------|-----------------|
| 1 | 0.263 | 0.513 | 0.767 | weak | 1.194 | -0.198 | 0.298 | -0.601 | 1.594 |
| 2 | 0.063 | -0.251 | 0.865 | weak | -0.517 | 1.392 | 0.632 | 4.773 | -0.778 |
| 3 | 0.602 | -0.776 | 0.564 | strong | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 4 | 0.303 | -0.550 | 0.746 | weak | -1.318 | 2.329 | 0.258 | 6.886 | -1.712 |
| 5 | 0.038 | 0.195 | 0.876 | weak | 0.398 | 0.470 | 0.711 | 1.634 | 0.608 |
| 6 | 0.754 | 0.868 | 0.443 | strong | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 7 | 0.754 | 0.868 | 0.443 | strong | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 8 | 0.263 | 0.513 | 0.767 | weak | 1.194 | -0.198 | 0.298 | -0.601 | 1.594 |
| 9 | 0.063 | -0.251 | 0.865 | weak | -0.517 | 1.392 | 0.632 | 4.773 | -0.778 |
| 10 | 0.602 | -0.776 | 0.564 | strong | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 11 | 0.303 | -0.550 | 0.746 | weak | -1.318 | 2.329 | 0.258 | 6.886 | -1.712 |
| 12 | 0.038 | 0.195 | 0.876 | weak | 0.398 | 0.470 | 0.711 | 1.634 | 0.608 |
| 13 | 0.038 | 0.195 | 0.876 | weak | 0.398 | 0.470 | 0.711 | 1.634 | 0.608 |
| 14 | 0.754 | 0.868 | 0.443 | strong | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 15 | 0.263 | 0.513 | 0.767 | weak | 1.194 | -0.198 | 0.298 | -0.601 | 1.594 |
| 16 | 0.063 | -0.251 | 0.865 | weak | -0.517 | 1.392 | 0.632 | 4.773 | -0.778 |
| 17 | 0.602 | -0.776 | 0.564 | strong | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 18 | 0.303 | -0.550 | 0.746 | weak | -1.318 | 2.329 | 0.258 | 6.886 | -1.712 |
| 19 | 0.303 | -0.550 | 0.746 | weak | -1.318 | 2.329 | 0.258 | 6.886 | -1.712 |
| 20 | 0.038 | 0.195 | 0.876 | weak | 0.398 | 0.470 | 0.711 | 1.634 | 0.608 |
| 21 | 0.754 | 0.868 | 0.443 | strong | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 22 | 0.263 | 0.794 | 0.767 | weak | 1.194 | -0.198 | 0.298 | -0.601 | 1.594 |
| 23 | 0.063 | -0.251 | 0.865 | weak | -0.517 | 1.392 | 0.632 | 4.773 | -0.778 |
| 24 | 0.602 | -0.776 | 0.564 | strong | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 25 | 0.602 | -0.776 | 0.564 | strong | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 26 | 0.303 | -0.550 | 0.746 | weak | -1.318 | 2.329 | 0.258 | 6.886 | -1.712 |
| 27 | 0.038 | 0.195 | 0.876 | weak | 0.398 | 0.470 | 0.711 | 1.634 | 0.608 |
| 28 | 0.754 | 0.868 | 0.443 | strong | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 29 | 0.263 | 0.513 | 0.767 | weak | 1.194 | -0.198 | 0.298 | -0.601 | 1.594 |
| 30 | 0.063 | -0.251 | 0.865 | weak | -0.517 | 1.392 | 0.632 | 4.773 | -0.778 |
| 31 | 0.063 | -0.251 | 0.865 | weak | -0.517 | 1.392 | 0.632 | 4.773 | -0.778 |
| 32 | 0.602 | -0.776 | 0.564 | strong | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 33 | 0.303 | -0.550 | 0.746 | weak | -1.318 | 2.329 | 0.258 | 6.886 | -1.712 |
| 34 | 0.038 | 0.195 | 0.876 | weak | 0.398 | 0.470 | 0.711 | 1.634 | 0.608 |
| 35 | 0.754 | 0.868 | 0.443 | strong | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 36 | 0.263 | 0.513 | 0.767 | weak | 1.194 | -0.198 | 0.298 | -0.601 | 1.594 |

APPENDIX L – TABLE OF MANAGERIAL RESPONSIVENESS (*MR*) AND
RETENTION (*RT*) QUESTION COMBINATION MATRIX THAT LEAD TO HIGHLY
CORRELATED REGRESSION RESULTS

TABLE OF MANAGERIAL RESPONSIVENESS (*MR*) AND RETENTION
(*RT*) QUESTION COMBINATION MATRIX THAT LEAD TO HIGHLY
CORRELATED REGRESSION RESULTS

| Regressions | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> | <i>mr</i> | <i>rt</i> |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 |
| 6 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 |
| 7 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 |
| 10 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 |
| 14 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 |
| 17 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 |
| 21 | Q10 | Q4 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 |
| 24 | Q10 | Q1 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 |
| 25 | Q11 | Q2 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 |
| 28 | Q11 | Q5 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 |
| 32 | Q12 | Q3 | Q6 | Q4 | Q7 | Q5 | Q9 | Q8 | Q10 | Q1 | Q11 | Q2 |
| 35 | Q12 | Q8 | Q6 | Q1 | Q7 | Q2 | Q9 | Q3 | Q10 | Q4 | Q11 | Q5 |

APPENDIX M – TABLE OF REGRESSIONS RESULT FOR QUESTION
COMBINATIONS THAT ARE HIGHLY CORRELATED

TABLE OF REGRESSIONS RESULT FOR QUESTION COMBINATIONS
THAT ARE HIGHLY CORRELATED

| Regressions | r^2 | r | std. error | t stat for slope | t stat for intercept | p- value | β_0 | β_1 |
|-------------|-------|--------|---------------|-----------------------|---------------------------|-------------|-----------|-----------|
| 3 | 0.602 | -0.776 | 0.564 | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 6 | 0.754 | 0.868 | 0.443 | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 7 | 0.754 | 0.868 | 0.443 | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 10 | 0.602 | -0.776 | 0.564 | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 14 | 0.754 | 0.868 | 0.443 | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 17 | 0.602 | -0.776 | 0.564 | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 21 | 0.754 | 0.868 | 0.443 | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 24 | 0.602 | -0.776 | 0.564 | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 25 | 0.602 | -0.776 | 0.564 | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 28 | 0.754 | 0.868 | 0.443 | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |
| 32 | 0.602 | -0.776 | 0.564 | -2.458 | 3.792 | 0.070 | 8.474 | -2.413 |
| 35 | 0.754 | 0.868 | 0.443 | 3.500 | -1.768 | 0.025 | -3.106 | 2.701 |