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Employee Contributions to Organizational Decision-Making Processes and Outcomes

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Employee Contributions to Organizational Decision-Making Processes and Outcomes

By
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A Thesis Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts in Organizational Leadership

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ST. CATHERINE UNIVERSITY
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Master of Arts in Organizational Leadership

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Abstract

An organizations' ability to make the right decision at the right time is critical to its success (Wernz & Deshmukh, 2010; Roberto, 2013). Given the importance of effective decision-making to organizations, it is not surprising there is significant research on this topic. However, most analysis and research focuses on the role leaders play in organizational decision-making. I believe a holistic approach to decision-making needs to take into account employees' contributions to decision-making processes and outcomes. The purpose of my study is to add to the body of literature on organizational decision-making, and provide both leaders and employees with information on which employee behaviors support effective decision-making processes and outcomes. To answer these questions I used a mixed methods approach conducted in two phases. I first used leader interviews to identify which employee behaviors are perceived as most effective in supporting their decision-making. Then, by using those responses to develop a questionnaire, I surveyed both leaders and employees to determine if the presence of these behaviors in an organization predicts a high level of decision-making effectiveness as reported by survey respondents. The results of my research indicate a strong correlation between the presence of certain employee behaviors and decision-making effectiveness. In addition, I was able to theorize which of these behaviors have the greatest impact on decision-making effectiveness. These results have important implications for organizations, leaders and employees looking for ways to improve decision-making processes and outcomes.

In today's complex fast-paced business environment, organizations need the ability to effectively respond to threats and take advantage of opportunities. This can be accomplished by making high quality decisions quickly and efficiently, and then implementing accordingly. Effective decision-making is well established as a key competency of successful organizational leadership (Ewing, 1964; Norton, Gustafson, & Foster, 1977; Tjosvold, Wedley and Field, 1986 as cited in Caruth, Caruth, & Humphreys, 2009).   Decisions must be made on every facet of a business, including strategy definition, capital allocation, and organizational structure. As organizations become larger, more complex and more challenging to control, effective decision-making becomes even more important (Wernz & Deshmukh, 2010). An organization's ability to make the right decision at the right time is critical to its success (Wernz & Deshmukh, 2010; Roberto, 2013).

In my role as planning and delivery leader in a large financial services company, I was often involved in making and supporting organizational decisions. My organization recognized the importance of making high quality decisions. They invested in a company-wide decision-making model. This model identifies the different roles in the decision-making process; for example, the role of the individual(s) accountable for informing, recommending, and agreeing with the decision. Both leaders and employees are integral in this model. In my experience, this model was familiar to most employees but used inconsistently. In addition, employee survey results and my daily interactions with employees reflected their dissatisfaction with decision-making effectiveness. I saw employees struggle to understand, influence and support key decisions. Employees saw ineffective decision-making as the leaders' problem. My experience and intuition tell me employees have an important role in decision-making, and their participation increases organizational decision process and outcome quality. I would like to see

organizations, leaders and employees increase their recognition of the important role employees play in effective decision-making, and for both leaders and employees to have more tools and training available to support employees' contributions to effective decision-making. I believe this will improve organizations' success and effectiveness.

Purpose Statement

Given the importance of effective decision-making to organizations, it is not surprising there is significant research on this topic. However, in my literature review, I found most analysis and research focuses on the role that leaders play in organizational decision-making. This is understandable given leaders are the ones typically making decisions in business settings. However, I believe that a holistic approach to decision-making needs to account for employees' contributions to decision-making processes and outcomes. My goal was to address the gap in current research, and gain a better understanding of employees' role in organizational decision-making. By interviewing leaders involved in key organizational decision-making, I gained insight into specific employee behaviors that leaders perceive as most effective in supporting their decision-making. Then, by using their responses in a survey, I determined if these behaviors predicted a high level of decision-making effectiveness as reported by survey respondents. My research can inform tangible, actionable steps for both leaders and employees to improve decision-making in organizations. For example, organizations can develop training programs for employees that focus on the behaviors most supportive of effective decision-making.

My research could also improve leadership effectiveness. In their book *The Leadership Challenge*, Kouzes and Posner (2012) outline five practices of effective leaders. One of these practices, "enable others to act," recognizes the importance of teamwork and collaboration

(Kouzes & Posner, 2012, p. 14). Recognizing and supporting the role of employees in effective decision-making encourages leaders to be more inclusive in their decision-making approach. By understanding what employee behaviors support effective decision-making, and having the tools and training available to increase the frequency of these behaviors, leaders can help employees act in ways that contribute to organizational decision-making processes and outcomes. As a result, leaders become more effective.

The purpose of my study is to add to the body of literature on organizational decision-making, and provide both leaders and employees with information on which employee behaviors support decision-making processes and outcomes. As a result of my study, I hope to improve my organization's decision-making. As a leader, I will more effectively develop employees when I know which employee behaviors contribute to decision-making processes and outcomes. As an employee, I will be better prepared to act in a way that supports decision-making.

Analysis of Conceptual Context

There is a significant amount of research and literature on decision-making across various disciplines including economics, management, psychology, sociology, and neuroscience. I conducted a thorough literature review focused on management and organizational decision-making. My goal was to define decision-making for the purposes of my study. In addition, I sought to establish what is known about how decisions are made in organizations, how members of an organization contribute to effective decision-making and how effective decision-making in an organization can be measured. While conducting this literature review I found existing theories and research that provide context and data to understand decision-making. These theories and research form the basis for much of the literature on decision-making effectiveness. However, the literature focuses either implicitly or explicitly on leader contributions to effective

organizational decision-making processes and outcomes; there is little that addresses employee contributions. In addition, I was unable to find a generally accepted or proven model to measure effective decision-making. In this section, I will summarize the results and implications of my literature review, provide support for employees' contributions to effective decision-making and propose a model to measure effective decision-making.

Definition of Organizational Decision-Making

Decision-making can be broadly defined as a set of steps that begins with the definition of a problem, identification of alternative solutions, evaluation of alternatives based on criteria, and the choice of one of these solutions (Melé, 2010). Many managerial decision-making models include a final implementation step (Caruth, et al., 2009). The choice made as part of a decision-making process results in an outcome, another component of decision-making. However, external factors also affect the outcome of a decision (Dean & Sharfman, 1996). For example, an organization may decide to expand internationally in order to meet its objective to increase market share.   If a competitor makes a similar decision, this could affect whether or not the organization is able to achieve the desired objective.

Organizational decisions can be tactical or strategic. While both decision types focus on solving problems, tactical decisions are routine, follow established practices and are focused on short-term goals (Lant & Hewlin, 2002). In contrast, strategic decisions have long-term consequences, and include both complex issues and significant investment (Hickson, Butler, Cray, Mallory, & Wilson, 1986; Mintzberg, Raisinghani, & Theoret, 1976 as cited in Amason & Mooney, 2008). In strategic decision-making, organizational politics impact decision-makers (Bottom & Kong, 2010). For example, the decision-maker and the stakeholders affected by the decision often have differing goals; as a result, the decision-maker must influence stakeholders in

order to increase the probability the decision will be accepted. (Bottom & Kong, 2010).

Decision-making becomes even more complicated in large and complex organizations where decisions are intertwined; for example, decisions made by corporate leaders may affect decisions made by functional leaders and vice versa (Wernz & Deshmukh, 2010).

In practice, organizations and researchers may describe a decision as strategic even if it does not meet all these criteria. Many decisions facing an organization fall somewhere between tactical and strategic, but are still considered important to the organization. Often organizations consider a decision critical if an opportunity or a threat is present, and management must make a choice in order to achieve an organizational goal. My research focused on decisions considered strategic or critical to organizations and their leaders because of the relative impact of these types of decisions on organizations' success.

How Decision-Making Occurs in Organizations

Understanding how organizations make decisions is an important step to determining how to improve decisions. Existing theories and research can answer such questions as: What steps do individuals or groups go through to make a decision? What are some factors that influence decision-making processes? Does decision-making occur in a linear or non-linear fashion?

There are many different theories and much research on decision-making processes. On one end of the continuum is rational decision-making theory based on a linear decision-making process. A part of traditional managerial theory, rational decision-making theory proposes that an effective organizational decision must follow a rational process of defining appropriate alternatives and choosing the one that maximizes its ability to achieve organizational objectives (Melé, 2010). Although rational decision-making theory is still accepted by some (McGrath &

More, 2001), much of what is commonly found in the literature today regarding organizational decision-making processes is based on a pivotal article written in 1959 by influential social scientist Herbert A. Simon. In this article, "Theories of Decision-Making in Economics and Behavioral Science," Simon (1959) applied psychology to economic organizational decision-making. He introduces the idea that humans have a limited capacity to process information (Simon, 1959). As a result, we may not be able to determine the optimal or most rational choice; instead, we may choose a less optimal solution as long as it satisfies our criteria (Simon, 1959). In later work, he refers to this as "bounded rationality" (Simon, 1991, p.125).

Simon's work on bounded rationality opened the door for research and theories on other variables influencing decision-making. These include human characteristics such as intuition (Hensman & Sadler-Smith, 2011) and emotion (Barsade & Gibson, 2007), social aspects and relationships among organizational members (Addleson, 2001), availability and accessibility of information (Lant & Hewlin, 2002), emotional intelligence (Scott-Ladd & Chan, 2004), past organizational performance (Amason & Mooney, 2008), and even technology effectiveness (Shattuck & Lewis Miller, 2006).

Decision-making in large, complex organizations often involves more than one individual; therefore, in organizational settings additional factors beyond those seen in individual decision-making processes are involved (Lant & Hewlin, 2002). In group decision-making, group dynamics may influence decision-making processes. For example, "groupthink" is a framework proposed to explain problems that often result when people make decisions as part of a group, such as the tendency to seek consensus over decision quality (Janus, 1972 as cited in Ben-Hur et al., 2012, p. 712).

On the other end of the continuum are theories or research that support a non-linear decision-making approach. For example, in the "garbage can decision-making model," initially proposed in the 1970s by Cohen, March and Olsen, problems and solutions appear in a rapid and non-linear sequence (McGrath & More, 2001, pp. 182-183). Decision participants may change during the decision-making process, and no one individual is designated as the decision-maker (Kuwashima, 2014). In addition, there is growing interest in applying complexity theory to organizations, where organizations are described as unpredictable and adaptive, with unclear boundaries and a highly integrated structure (Cilliers, 2000). In complexity theory, decisions are based on guiding principles or values rather than following a step-by-step process (Cilliers, 2000).

Improving Decision-Making Effectiveness

These theories and research on how organizations make decisions form the basis for much of the literature on decision-making effectiveness. For example, in Michael A. Roberto's popular book, *Why Great Leaders Don't Take Yes for an Answer: Managing for Conflict and Consensus* (2013), Roberto conducted a meta-analysis of existing decision-making research and theory, along with his own extensive independent research. Rather than focusing on the decision itself, Roberto concludes it is critical for leaders to "decide how to decide" in order to increase the probability of making high quality decisions and achieving successful outcomes (Roberto, 2013, pp. 29-30). Roberto proposes several solutions for leaders to improve decision-making processes, including involving the right individuals in the organization, creating an environment that is "safe" for people to contribute to decision-making, and establishing an appropriate communication structure based on the type of decision.

Other researchers have proposed solutions to improve organizational decision-making processes in the form of new or improved decision-making models, frameworks and guidelines. For example, Hsu's (2001) empirical research supports a hybrid decision-making model that compensates for limited information during turbulent conditions by using a combination of rational and experimental behaviors. Research by Hensman and Sadler-Smith (2011) supports the use of intuitive decision-making by banking and finance leaders; they offer a framework and guidelines to improve decision-making in fast-paced business environments by combining intuitive and analytical decision-making processes. Ben-Hur et al. (2012) argue that groupthink is one of the biggest challenges to effective organizational decision-making; in response they propose effectively managing the flow of information to and from leaders, allowing decisions to be challenged, and regularly reflecting on decision-making effectiveness.

A decision-making process does not need to be linear in order to increase decision-making process effectiveness, although much of the existing empirical research is based on a linear decision-making process. Roberto (2013) acknowledges the fluid nature of decision-making in organizations and the need for leaders to navigate the social and political aspects of their organizations. Rather than ignoring these dynamics, he suggests processes to help leaders manage these challenges (Roberto, 2013). Research by McGrath and Moore (2001) proposes and tests a model based on garbage can decision-making theory; this model suggests tactics such as forming coalitions to deal with political and power-based issues. Similarly, when discussing the application of complexity theory to organizations, Cilliers (2000) argues that politics must be considered an integral component of the successful workings of organizations.

Employees' Contributions to Effective Decision-Making

These models for improving decision-making effectiveness explicitly or implicitly focus on the critical role leaders play in decision-making processes and outcomes. But what about employees? Can employees contribute to effective decision-making? I believe the answer to this question is "yes." First, the complexity of today's business environment means a greater distribution of the knowledge, expertise and information necessary for effective decisions. In his book *The Effective Executive,* Peter Drucker (2006) describes the results of distributed knowledge among workers, including the critical role most organizational members play in decision-making. When employees participate in decision-making, they facilitate information flow within an organization, helping organizations respond more quickly to change (Anderson and McDaniel, 1999 as cited in Scott-Ladd & Chan, 2004) and resulting in a greater level of employee support for decision outcomes (Black and Gregersen, 1997; Denton and Zeytinoglu, 1993 as cited in Scott-Ladd & Chan 2004).

Next, organizations are part of a complex system; in this system, employees and leaders are constantly interacting to get things done things (Cilliers, 2000). Therefore, employees and leaders depend on each other to support effective decision-making. For example, Roberto (2013) recommends leaders allow others to challenge their thinking and decision-making; he provides compelling examples of what can happen when others do not challenge leaders' decisions. However, this also requires that employees do their part and challenge their leaders.

Finally, in organizational settings employees influence their leaders both directly and indirectly. However, the level of influence employees have over their leaders is an important consideration. In other words, employees' ability to behave in a way that supports effective decision-making may be moderated by leadership's support for participation in decision-making processes (Scott-Ladd & Chan, 2004). For example, Ben-Hur et al. (2012) argue that in order to

make effective decisions, leaders need to behave in a way that allows for the information flow that supports decision-making. This could be disconfirming evidence for my research. It raises the question, how much power and influence can employees have over their leaders? Is it up to leaders to create an environment that allows employees to contribute to effective decision-making processes and outcomes, or do employees need to play a part in influencing leaders to create the environment? I would argue the answer is "yes" to both questions. Much of what I have learned in my career and in the MAOL program is that we do not have to have formal leadership responsibilities to be a leader. Therefore, both formal leaders and employees as informal leaders must take responsibility for making sure employees can contribute to decision-making. Employee participation in decision-making is a function of trust between employees and leaders; organizational goals are fulfilled when employees and leaders trust and work together (Aboyassin, 2008).

How to Measure Effective Organizational Decision-Making

Organizational decision-making effectiveness can be defined in terms of how well an organization meets its objectives (Roberto, 2013). However, measuring organizational decision-making effectiveness is a challenge. The most significant challenge is demonstrating a direct causal relationship between the decision itself and how well the organization met its objectives (Dean & Sharfman, 1996). In addition to the decision itself, how well the organization met its objectives may be impacted by external factors (i.e. competitor actions or the economy) and/or other organizational decisions (Dean & Sharfman, 1996). Therefore, although organizational-level results such as profits and market share can be objectively assessed, they cannot be used as a direct measure of decision-making effectiveness (Dean & Sharfman, 1996).

If organizational decision-making effectiveness cannot be measured using organizational-level results, what is an objective measurement? Based on my review of the literature, there is no generally accepted or proven measurement; therefore, I decided to use Roberto's (2013) model to frame my research. In his research and meta-analysis, Roberto (2013) establishes that quality decision-making processes, implementation effectiveness, and timeliness lead to better decision outcomes. This causal relationship exists because "different processes lead to different choices" and "different choices lead to different outcomes" (Dean & Sharfman, 1996, p. 369). Because decision-making processes have a direct impact on decision outcomes, I believe organizational decision-making effectiveness can be measured by evaluating decision-making processes. Roberto (2013) proposes a conceptual framework describing how leaders can shape quality decision-making processes and outcomes. In Roberto's (2013) conceptual framework, constructive conflict and management consensus result in a quality decision *process.* Constructive conflict is important to a quality decision process because it allows critical assumptions to be tested and creative alternatives to be proposed; management consensus increases the likelihood leaders will overcome obstacles and will coordinate effectively to implement the decision as intended (Roberto, 2013). Roberto's (2013) framework is based on research showing the causal relationship between decision-making processes and outcomes; in this framework decision quality, implementation effectiveness and timeliness result in high quality *outcomes*. Collectively assessing these attributes of quality decision-making processes and outcomes provides an overall measurement of organizational decision-making effectiveness.

In conclusion, existing theories and research provide important context and data to understand how effective decisions can be made in organizations. These theories and research form the basis for much of the literature on decision-making effectiveness. However, a gap

exists in employee contributions to decision-making that I believe can and should be addressed by organizations, leaders and employees. In addition, there is no generally accepted or proven decision-making effectiveness measurement. I believe Roberto (2013) provides a reliable model; therefore, I used it heavily to inform my research design and analysis.

Method

My study was designed to address the following primary and secondary research questions:

What is the relationship between employee contributions to organizational decision-making and effective organizational decision-making processes and outcomes?

- What employee behaviors do leaders identify as contributing most effectively to leaders' decision-making?
- To what degree do those behaviors correlate with an effective organizational decision-making process and outcomes?

To answer these questions I used a mixed methods approach, conducted in two phases. Because there is very little research today that focuses on employee contributions to effective organizational decision-making, I began by identifying employee behaviors that leaders perceive as most effective in supporting their decision-making. I accomplished this through interviewing leaders involved in key decision-making in their organizations. Then, by using their responses to develop a questionnaire, I surveyed both leaders and employees to determine if the occurrence of these behaviors in an organization predicts a high level of decision-making effectiveness as reported by survey respondents.

Phase I: Identify Behaviors through Leader Interviews

The first phase of my research involved interviewing eight mid-level and senior leaders who have accountability for strategic or critical organizational decision-making. I used semi-structured interviews to learn about their role in decision-making in their organization, how they and their organization make decisions, and what employee behaviors they feel support effective decision-making. In this section, I review key information related to my interview participants including recruitment method and characteristics of the leaders, describe my interview protocol, and outline my approach to analyzing the resulting interview data.

Participants. I identified participants for the interviews through my professional network, including referrals. I contacted participants via email (see recruitment script in Appendix A). Because I asked questions specific to both their experience and their organization, I required all interview participants to have accountability for decision-making and at least one year of experience in their current organization. In both phases of my research, I focused on leaders and employees in large businesses with more than 500 employees based in the United States.[1] I attempted to study a variety of industries and geographic locations. However, I leveraged my professional network for both the leader interviews and employee/leader survey. Based on my professional network, I expected the context/setting to be heavily weighted in financial services within the midwest and northeast areas of the country. In fact, all the leaders I interviewed worked out of primary offices located in Minnesota. However, several of the companies represented have significant presence in other areas of the country and the scope of responsibilities of these leaders included other U.S. geographic regions.

The final set of interviewees represented a variety of industries and functional areas (see Table 1). Based on their descriptions of their organizational responsibilities and title, the

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[1] I used number of employees to define organizational size because my research involves employee behaviors.

interviewees were mid to senior level leaders (Assistant Vice President and above) in their

current organization, with years of service from 3 years to over 30 years. Of the eight

participants, three were male and five were female.

Table 1

Interview Participant Title, Industry and Functional Area

Leader #/ Title	Industry	Functional Area
L1: VP Demand Management	Financial Services	Operations
L2: CIO	Healthcare	Information Technology
L3: VP of IT Capabilities	Financial Services	Information Technology
L4: VP Member Services	Financial Services	Operations
L5: AVP Strategy	Financial Services	Operations
L6: VP Enterprise Strategy & Planning	Agribusiness and Energy	Strategic Planning/ Finance
L7: VP Sales & Operations	Manufacturing	Sales
L8: Chief HR Officer & Director of Legal Affairs	Higher Education	Human Resources and Legal Affairs

Each leader had some accountability for strategic or critical decisions in their

organization, although the specific level of and type of involvement varied. Two of the leaders

developed and were responsible for facilitating their company's critical decision-making process.

Three of the leaders were direct participants in making critical decisions; i.e. were members of

senior leadership boards or committees responsible for critical decision-making. All leaders

make recommendations for critical decisions as part of their functional responsibilities.

Interview protocol.   Interview participants signed a consent to participate form

(Appendix B). I interviewed each leader using prepared questions (Appendix C) in a semi-

scripted format; thus, when answers were unclear or too generalized I probed for clarity or

additional information. The majority of interviews were in-person; two leaders requested I

conduct the interview over the phone. I began each interview with general questions about the

leader's current role and organization. Because the focus of my research is on strategic or

critical decision-making, I defined what I meant by "critical organizational decisions" and then asked each leader to describe types of critical decisions and key challenges and/or opportunities within her company or industry. The purpose of these questions was to prompt leaders to begin thinking about situations when their company made critical decisions. Next, I asked specific questions about decision-making processes and outcomes in their organizations, and their roles in their organizations' decision-making processes. Then I used a situational interviewing technique ("Tell me about a time when..") to gather employee behavior examples that were either supportive or unsupportive during both effective and ineffective critical decision-making situations. I concluded by asking each leader to describe how employees participate in decisions in their organization and what employee behaviors they observe that best support effective decision-making.

Data analysis. Throughout and at the end of the interview phase I analyzed the data collected using best practices of both categorizing and connecting strategies (Maxwell, 2005). As I reviewed my interview notes and listened to the interviews, I wrote down the behaviors leaders described as supportive of their decision-making in the leaders exact words. In some cases, leaders chose to describe behaviors that were unsupportive rather than supportive. I noted both the supportive and unsupportive behaviors. Several leaders described behaviors of other leaders as well as employees, even though the questions were specific to employee behaviors only. This could be disconfirming evidence for my research, suggesting leaders see other leaders as having a more significant impact on decision-making processes and outcomes. However, the leader responses may also be explained by their roles in the organization. Many of the leaders I interviewed were at very high levels in their companies and interact more frequently with other leaders. Therefore, they are more likely to observe the behaviors of other leaders participating

directly in decision-making than the supportive role of employees. For example, one leader described the behavior of her direct reports, all of whom are Vice Presidents. It is likely this leader does not have as much interaction with non-leaders as she does with her direct reports, peers and superiors all of whom are most likely in leadership roles.

I categorized all behaviors as either leader or employee. Because my study focused on employee behaviors, I eliminated the leader behaviors from the set of behaviors, and began grouping similar employee behaviors together.

After I captured and grouped together similar behaviors, I used connecting strategies to note how the groups of behaviors connect to the decision-making research and theories found in my literature review.   I primarily used Roberto's (2013) conceptual framework for shaping effective decision-making processes and outcomes. Because Roberto (2013) focuses on leader behaviors, I used other research and theories to fill in any gaps and to support the connection between Roberto's (2013) framework and employee behaviors. Connecting the behaviors to the literature allowed me to narrow down behaviors more likely to contribute to effective decision-making processes and outcomes.

The words leaders used to describe behaviors varied significantly in terms of level of completeness, specificity and sentence structure. In addition, some behaviors were embedded in examples or within the overall context of the interview. For example, leaders referred back to prior answers or related the behaviors to higher-level decision-making concepts discussed in the interview. In order to support my analysis and make it easier to understand my results, I added a description of each behavior that used as much of the leaders words as possible, but was easier to understand outside the context of the interview. When leaders' exact words were unclear or could be interpreted in multiple ways, I reviewed the interview transcript to look for specific or

contextual references to the behavior to make sure my description reflected the leader's intent as accurately as possible. I captured these behavior descriptions along with the leaders exact words, and used both in my analysis.

In addition to noting specific behaviors, I looked for common themes in the interview data. This helped me better understand the behaviors noted, and provided overall context to my interview results. This analysis was intended to inform the employee behaviors used in my survey; a detailed description of my approach is described in the next section (see "Survey development and protocol").

Phase II: Determine Correlation of Behaviors to Effective Decision-Making Using Survey

The second phase of my research involved surveying both employees and leaders to determine if the presence of these behaviors in an organization predict a high level of decision-making effectiveness as reported by survey respondents. The survey consisted of two major set of questions; one set of employee behavior questions based on leader interview results and one set of decision-making effectiveness questions based on the literature. In this section, I review key information related to my survey participants including recruitment method, response rate and sample size; describe how I developed the content of my survey and the tool I used to administer my survey; and outline my approach to analyzing the resulting survey data.

Participants. Survey participants were solicited from my personal and professional network, including referrals. I contacted participants directly using LinkedIn, eliminating anyone I knew would not meet the qualifications (see recruitment script in Appendix D). In addition, I posted a request to my entire network and emailed some of my contacts to ask them to distribute my survey. By leveraging my network for referrals, I attempted to reach participants

with a greater diversity of roles, industries, and geographic locations within the United States than I have in my network.

In population surveys in the United States, sample sizes of between 150 and 200 are generally considered sufficient (Fowler, 2009). Therefore, I set an initial goal of 200 participants. I also needed to consider the appropriate sample size to support statistical analysis (Cohen, 1988). One commonly accepted guideline is to have at least five, and ideally 15-20, observations for each variable in order to be able to generalize results of statistical tests (Hair, Black, Babin, & Anderson, 2010). Based on my survey questions, I had up to 24 different independent variables (employee behaviors). This would require me to have a sample size of at least 120 to generalize the results of any statistical tests that used all 24 employee behaviors.

I sent the survey electronically to approximately 400 individuals, allowing for a 50% response rate to reach my goal. In addition, I posted a request to my entire LinkedIn network of over 500. The requirements for survey participants were similar to leader interviews. I required at least one year of employment with their current organization so respondents could answer questions based on experience with their current employer. As previously mentioned, my study focused on leaders and employees in large businesses with more than 500 employees based in the United States; therefore, respondents needed to meet both these requirements to participate.

The actual response rate was significantly lower than 50%; this response rate appeared to be due to a larger-than-expected number of individuals in my network who have changed jobs within the past year or work for companies with less than 500 employees. I received 118 responses; this result was under my goal of 200 and less than the 120 responses needed to generalize the results of certain statistical tests. Of the 118 responses, 17 respondents did not qualify for or complete the survey, bringing my sample size to 101. Because I intended to

conduct statistical testing on my sample and use the results to make inferences to the population as a whole, my sample size was an important consideration (Lewis-Beck, 1995; Cohen, 1988; Fowler, 2009; Saunders, Lewis, & Thornhill, 2009). I was concerned that a sample size of 101 would not be sufficient for some of the statistical testing needed to answer my research questions within a certain degree of certainty. However, due to time constraints, I decided to proceed with my analysis. I addressed the potential impact of my sample size on my results by evaluating and reporting the *p*-value of my tests. The *p*-value is used to determine what is the probability of the results occurring by chance alone; a p-value of <.05 is generally used to describe a statistically significant result (Saunders, Lewis, & Thornhill, 2009). In addition, I used statistical tests that limited the number of independent variables, allowing me to generalize the results without requiring a larger sample size.

Survey development and protocol. The survey was developed and completed using Survey Monkey®, a web-based surveying tool (https://www.surveymonkey.com). I anticipated the time for participants to take the survey to be 15-20 minutes. The survey consisted of the following sections (see complete survey content in Appendix F):

Introduction and consent. The survey began with an introduction section describing the purpose, procedures, risks and benefits, and confidentiality of the survey. This section also explained the voluntary nature of the study, and included a statement of consent. By clicking a "Submit" button, survey participants consented to participation in the study. However, participants were able to withdraw from the study at any time prior to submitting responses to all questions.

Background Questionnaire. Because I asked questions specific to both their experience and their organization, interview subjects were required to have at least one year of experience in

their current organization. The survey began with questions to ensure respondents work in large organizations with more than 500 employees, have at least one year of experience in their current organization, and consent to participate. If the respondent did not meet the criteria or did not consent to participate, the survey automatically completed and was considered a non-response.

Employee Behaviors Questionnaire. The first set of questions measured the observed frequency of behaviors identified by leaders as supportive of effective decision-making. These questions were developed based on the outcome of the leader interviews in phase I of my research. Key definitions needed to interpret the questions were provided (for example, "Key organizational decisions are those that have long-term consequences, involve complex issues, and/or require significant investment"). A Likert 5-scale rating was used for all questions to measure the frequency of the observed behavior (1: *Never*, 2: *Rarely*, 3: *Sometimes*, 4: *Often*, 5: *Always*). Survey respondents were asked to select the best answer; answers were required for each question. Using best practices for developing surveys, I ordered the questions with the easiest questions first while keeping the questions grouped by behavior category (Dillman, Smyth, & Christian, 2009).

I developed the employee behavior questions by using categorizing and connecting strategies to analyze the leader interview results and determine the behaviors that were most likely to support effective decision-making. I grouped each identified behavior into categories based on similarity of the behavior, and then aligned the behaviors and behavior groups to Roberto's (2013) conceptual model for driving effective decision-making processes and outcomes, and other key concepts found in the literature. The behavior categories and connecting concepts are listed in Table 2.

Table 2

Employee behavior categories and connecting concepts

Employee Behavior Category	Connecting Concept
1. Effectively Facilitate & Follow Decision-Making Processes 2. Think Outside the Box 3. Provide Constructive & Informed Feedback 4. Demonstrate Broad Thinking	- Decide How to Decide (Roberto, 2013) - Manage Constructive Conflict (Roberto, 2013) - Create Management Consensus (Roberto, 2013)
5. Gather Relevant Data & Conduct Analysis 6. Identify & Communicate Underlying Issues 7. Provide Information to Decision-Makers 8. Communicate in a Clear, Concise, Calm & Meaningful Way 9. Embrace & Actively Drive Change 10. Execute Effectively 11. Put in Extra Effort to Make Things Happen	- Decision Quality (Roberto, 2013) - Facilitate Effective Flow of Information (Scott-Ladd & Chan, 2004) - Implementation Effectiveness (Roberto, 2013) - Timeliness (Roberto, 2013)
12. Maintain Effective Relationships & Influence Others	- Employees & Managers Trust & Work Together (Aboyassin, 2008)

Roberto (2013) focuses on leader behaviors; therefore, in order to align employee behaviors to his model, I analyzed each behavior category to determine which employee behavior would best support the required leader behavior. For example, one of Roberto's key conclusions is that it is critical for leaders to "decide how to decide"; in other words establish the overall context of decision-making processes (Roberto, 2013, pp. 29-30). When employees effectively facilitate and help others follow these decision-making processes, they are supporting leaders' ability to establish and utilize decision-making processes.

For the attribute of decision quality, I used an additional concept from the literature. Roberto defines decision quality as the extent to which the decision meets organizational objectives. Because information is a critical aspect of ensuring a decision best meets

organizational objectives, I combined decision quality with the key concept regarding the role employees play in facilitating effective flow of information (Employee participation in decision-making facilitates information flow within an organization (Anderson and McDaniel, 1999 as cited in Scott-Ladd & Chan, 2004)),

Finally, I added one additional behavior-category to reflect the overall working relationship between leaders and employees. This was not specifically covered by Roberto, but was supported by other research related to employee participation in decision-making (Employee participation in decision-making is a function of trust between employees and leaders; organizational goals are fulfilled when employees and leaders trust and work together (Aboyassin, 2008).)

Using the identified behaviors, I developed one or more survey questions for each behavior category. I wanted the survey questions to reflect behaviors identified most frequently and that would be applicable in a variety of organizations and industries, with the assumption that behaviors that were most frequently noted would be more important to the decision-making process. This assumption is tested in my quantitative analysis. In order to determine the frequency of identified behaviors, I counted the total number of behaviors and the number of behaviors by leader in each category. Then I evaluated the responses within each category by looking at the specific wording and assessing the underlying meaning of each response. For unsupportive behaviors, I defined a corresponding supportive behavior. I made sure the questions would be meaningful to survey respondents by eliminating or consolidating any behaviors that were too generic ("strong communication skills") or too specific ("create the RACI document").   I edited each question for clarity and conciseness, and made sure sentence

structures were consistent across the questionnaire. The total number of questions was twenty-four.

Decision-Making Effectiveness Questionnaire. The second set of questions measured the perceived effectiveness of decision-making processes and outcomes in the respondent's organization. As in the previous questionnaire, key definitions were provided and respondents were instructed to select the best answer to each question. I was unable to find an existing reliable instrument to measure effective organizational decision-making; therefore, I developed a set of nine questions. Five of the nine questions were derived from an existing employee survey that measures the perceived effectiveness of organizational decision-making. A benefit of using these questions is that they focus on an employees' point-of-view and what the employee population as a whole is able to observe and assess.

A limitation of using the existing employee survey questions is that although some of these questions are widely used in organizational surveys, the primary purpose of the survey questions is to assess employee satisfaction and engagement not organizational decision-making effectiveness itself. Therefore, I cross-referenced these questions with Roberto's (2013) conceptual model for shaping organizational processes and outcomes and added additional questions to ensure I was addressing each component in his model. In addition, I included two questions to assess whether the organization has an objective decision-making process, if it is used and if it is well understood, because of the fundamental importance of decision-making processes to Roberto's (2013) model.

Five of the survey questions were aligned to Roberto's (2013) conceptual framework and key concepts. These questions assessed the quality of outcomes based on Roberto's (2013) framework: decision quality ("We choose the right course of action when making key decisions

at my company"), implementation effectiveness and timeliness ("Once a key decision is made at my company, we implement it as intended"). Roberto (2013) also recognizes the importance of making timely decisions ("We make decisions on a timely basis at my company"). I added three additional questions based on Roberto's (2013) model that were not part of the survey questions. These questions assess the presence of constructive conflict ("Leaders in my company encourage input and constructive debate when making key decisions") and management consensus ("The Leaders of my company show commitment and support for key decisions once they are made"). I added a final question to reflect a high level concept of Roberto's (2013) model: "When we make key decisions at my company, they lead to positive outcomes." Since these questions also measured observed frequency, I used the same Likert 5-point rating scale as the Employee Behaviors Questionnaire. The total number of questions was nine.

Optional Questions. The final set of questions was not required in order for the participants' other responses to be included in my final survey results. The purpose was to assess the diversity of survey respondents. My initial plan was to collect information on the industry classification that best fits their current employer, the state in which they reside, and whether or not they have managerial responsibilities in their current role. While designing the survey, I decided that using geographic region rather than state would be easier for a respondent to answer and would serve the same purpose. In addition, I decided that collecting the respondent's role from a predetermined list of roles would be a better measure of respondent diversity than just whether or not the respondent was a manager. As a result of these changes, this section consisted of three questions: the geographic region of their primary work location, the industry of their current employer and their current role. The industries and roles listed as choices were developed from the Department of Labor Bureau of statistics.

Completion Page. The survey concluded by thanking the participant for taking the survey and providing contact information for any questions.

Once I developed all the survey questions and created the survey in Survey Monkey, I piloted the survey with a small group from my network, and asked them to provide feedback on clarity of instructions and questions. I modified my survey based on their feedback.

Data analysis. Prior to completing any analysis, I prepared my data for statistical testing. I eliminated any incomplete responses and reviewed the data to make sure there were no unusual responses (for example, the exact same response for all employee behaviors and/or decision-making effectiveness questions). Finally, I established a numeric code for the Likert scale data (i.e. *Always* = 5, *Often* = 4, etc.) and coded the data accordingly within the statistical analysis tool.

Regression analysis is a type of quantitative analysis that can be used to "predict the values of one variable using the values of one or more other variables" (Allen, 1997, p. 3). My assumption based on my research questions was I would be examining the relationship between employee behaviors and decision-making effectiveness using regression analysis. However, prior to conducting regression analysis, I needed to analyze my data to determine what tests would be most appropriate. In addition, because I did not collect as large of a sample as I planned, I also needed to consider what tests would be most suitable for my sample size.

Descriptive Statistical Analysis. Following best practices of data analysis, I began with an examination of the variables themselves (Lewis-Beck, 1995). This approach allowed me to test some of the assumptions required to complete a regression test (i.e. normal distribution of the variables), and assisted me in determining if different types of tests would be needed. I calculated and analyzed both the central tendency and dispersion of each variable. Central

tendency measurement is used to summarize data, while variable dispersion measurement is used to describe the differences in the data (Lewis-Beck, 1995). Based on my dataset of Likert scale data, I focused on the mean and mode as measurements of central tendency. I determined the minimum and maximum values of each variable to measure the range, and calculated the standard deviation (average distance from the mean) as a measurement of the concentration of values. I examined how each variable aligned to a standard distribution by creating a histogram for each variable and calculating the skew.

      Inferential Statistical Analysis. Next, I examined the relationships among employee behavior variables. I began by running correlation tests to determine if the variables were related; i.e. if the value of one variable increases, the value of the other variable will also increase (Lewis-Beck, 1995). The most commonly used correlation test is Pearson's *r* (Lewis-Beck, 1995)*;* therefore, I used this test to calculate correlation values. These tests also produced a *p*-value used to assess the statistical significance of the relationship. In addition, I ran a Cronbach's Alpha test to determine if there is internal consistency, meaning the extent to which all items measured the same construct within my data set (Tavakol & Dennick, 2011). A value between .70 and .95 is considered acceptable and would indicate a high level of internal consistency (Tavakol & Dennick, 2011). I ran identical tests for all decision-making effectiveness items. For the purposes of examining the relationships between employee behaviors and decision-making effectiveness, I assumed I would be able to look at the employee behaviors as either one composite independent variable by calculating the mean of all values, or as individual independent variables. Further, I assumed I would treat the nine decision-making effectiveness variables as one composite dependent variable by calculating the mean of all values. Examining the correlations of these variables was an important step to validating these

assumptions. Based on the results of these steps, I created composite variables for both employee behavior items and decision-making effectiveness items, by calculating the mean value of all the items in the two constructs.

My final set of steps examined the relationships between employee behaviors and decision-making effectiveness. Due to the size of my sample, I decided to conduct both regression testing and independent sample *t*-tests. A regression test was used to look at the overall relationship between employee behaviors and decision-making effectiveness. Independent sample *t*-tests were used to look at the relative effect of each employee behavior on decision-making effectiveness. In both cases, I used the mean of all decision-making effectiveness items as my dependent variable. I ran a regression analysis to examine the correlation and causality (Lewis-Beck, 1995) between the composite mean of decision-making effectiveness items as the dependent variable, and the composite mean of employee behavior items as the independent variable. Finally, I ran independent sample *t*-tests to compare the means of decision-making effectiveness when an employee behavior occurs frequently (*Always* or *Often*) to when the behavior occurs less frequently (*Sometimes*, *Rarely*, or *Never*). I examined the statistical significance of each result, and calculated Cohen's *d* to estimate the size of the effect. My final step was to compare the results for each behavior in order to identify which behaviors may contribute more significantly to decision-making effectiveness than others.

Validity

As a leader with decision-making responsibilities, I brought my own biases and conclusions on how I believe employees' contribute to effective decision-making processes and outcomes into my study. This may have caused me to pay more attention to certain responses or interpret them in a way that is consistent with my belief.   In addition, my research subjects may

have biases. The way survey respondents feel about their organization, or even their personality (Couch & Keniston, 1960) may have impacted how they answered the questions. For example, if an organization recently made an unpopular decision, such as outsourcing jobs to a third party vendor, many employees and leaders may perceive decision-making processes and outcomes in that organization as ineffective regardless of the actual effectiveness of the decision-making process and outcome. In addition, an employee who is happy with her current employer, or has a tendency to be agreeable overall, may have answered positively to all the questions resulting in a stronger correlation between employee behaviors and decision-making effectiveness (Couch & Keniston, 1960).

There is also a risk of reactivity in the qualitative portion of my study. As a researcher I am part of the research; this creates a risk ("reactivity") that I will influence the leaders I am interviewing (Maxwell, 2005). For example, I may have appeared more interested in certain responses that are consistent with my beliefs; this could have encouraged participants to elaborate in certain areas or provide certain responses. I knew many of the leaders and they may have assumed I was looking for certain responses based on their knowledge of and experiences with me, or I may have made assumptions regarding their responses because I know them.

It is not possible to eliminate validity threats in research; however, there are several ways to respond to and reduce the impact of these threats (Maxwell, 2005). In the qualitative phase of my study, I reduced the impact of my biases and the potential for reactivity by collecting thick, rich data, being curious and probing into answers through semi-scripted interviewing. I followed best practices for interviews such as using a scripted introduction and the same set of questions for all participants, and reducing non-verbal and verbal cues to which subjects may respond (Fowler, 2009). Finally, I improved the validity of my qualitative study by using a quantitative

study to test the results.   For the quantitative phase of my study, my goal was be to include a sufficient number of questions to insure reliability and validity of my instrument (Crocker & Algina, 1986 as cited in Collins, 2014). I followed best practices of survey design in order to help respondents interpret questions and answer as accurately as possible (Dillman, Smyth, & Christian, 2009). I used statistical testing, specifically Cronbach's Alpha test, to measure the reliability of my instrument with the existing data set. I addressed the risk of bias in my survey respondents by conducting independent sample t-tests for responses with a higher or lower frequency rating, and analyzed the differences in results across all employee behaviors. Finally, I assessed my data and sample size to determine the most appropriate tests, and calculated p-values to examine the statistical significance of my results.

Results

Phase I: Leader Interviews Results

As described in the methodology section, I interviewed eight mid-level to senior leaders from a variety of industries. These leaders held roles in multiple functional areas: Information Technology, Strategic Planning, Operations, Sales, Human Resources and Legal Affairs. The purpose of the leader interviews was to identify which employee behaviors support effective decision-making processes and outcomes. I accomplished this by asking leaders who have accountability for strategic decision-making to describe employee behaviors both within the context of examples of critical decisions and within their broader organizational setting.

Behaviors Identified for Survey Development. In my analysis, I identified 121 employee behaviors in 12 categories. Examples of these behaviors include "think about [an idea] all weekend and then have another couple ideas", "listen well and then translate what they are hearing", and "telling me all the bad things that can go wrong, all the ways we can make the

idea better, all the risks we should worry about." The behaviors and behavior categories were used to develop survey questions. A summary of the results including behavior categories, descriptions of the behavior categories, and corresponding survey questions can be found in Table 3. The complete results are presented in a table which includes my description of each behavior and the behavior in the leaders' exact words is found in Appendix G.

Table 3

Summary of Leader Interview Results

Behavior Category	Category Description	Survey Questions
1. Effectively Facilitate & Follow Decision-Making Processes	Provide effective support for and follow established and/or agreed-to organizational decision-making processes.	1. At my company we effectively facilitate decision-making processes, such as gathering input to decisions in a consistent and timely manner. 2. At my company we help others understand how to follow decisions-making processes that are established.
2. Think Outside the Box	Creatively think about and be willing to use new methods in order to solve problems and effectively contribute to decision-making.	3. At my company we approach problems using new or different methods.
3. Provide Constructive and Informed Feedback	Take the initiative to provide decision-makers with constructive and informed feedback, even when not asked, in order to actively support decision-making.	4. At my company if we are informed that key decisions are in the process of being made, we take the initiative to provide informed suggestions or feedback to leaders.

4. Demonstrate Broad Thinking	Think broadly and understand organizational challenges and opportunities in order to support effective decision-making.	5. At my company we take time to understand and are able to think broadly about challenges we face.
		6. At my company we make sure we understand why key decisions were made.
		7. At my company we understand how specific initiatives connect to any overall strategies.
		8. At my company we are more focused on whether a key decision is best for the overall organization rather than how the decision may impact us personally.
5. Gather relevant data and conduct analysis	Gather the data and complete analysis as needed to support effective decision-making**.**	9. At my company we effectively conduct research and gather data to support decision-making.
		10. At my company we effectively analyze data and present trend or other analysis to support decision-making.
6. Identify and communicate underlying issues.	Take time to identify underlying issues and communicate issues appropriately to support effective decision-making.	11. At my company we identify and communicate underlying issues.
7. Provide information to decision-makers.	Provide relevant, supported information to decision-makers including answering their questions, making recommendations, and educating them on the ramifications, risks and trade-offs of decisions.	12. At my company we support decision-making by answering detailed questions within our area(s) of expertise.
		13. At my company we provide decision-makers

		with only the information needed to make a decision.
		14. At my company we provide decision-makers with evidence-based recommendations within our area(s) of expertise.
		15. At my company we educate decision-makers on the ramifications, risks and trade-offs of decisions.
8. Communicate in a clear, concise, calm and meaningful way.	Demonstrate strong written and verbal communication skills in order to support decision-makers ability to accurately understand information necessary to decision-making.	16. At my company we communicate controversial information in a calm manner.
		17. At my company we communicate in a way that is easily understood by others.
		18. At my company we tell stories in order to provide examples and context to illustrate a point.
9. Embrace/ actively drive change.	Embrace and actively drive organizational change resulting from decisions, including taking the initiative to learn, adopt, and drive changes and providing coaching and support to others.	19. At my company we coach and support each other to make sure new procedures or methods are being followed.
		20. At my company we take the initiative to learn and own new processes or tools in order to drive adoption in the organization.

10. Execute effectively.	Support effective execution of decisions by holding others and ourselves accountable for completing tasks and actions needed for successful decision implementation.	21. At my company we hold ourselves accountable for completing assigned tasks on time and as required when implementing projects or initiatives.
11. Put in extra effort to make things happen.	Put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.	22. At my company we put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.
12. Maintaining Effective Relationships and Influencing Others.	Maintain effective relationships and influence others in order to successfully make and implement decisions.	23. At my company we understand how to deliver messages to different audiences and manage internal politics.
		24. At my company we effectively collaborate with leaders and other areas to successfully make and implement decisions.

Impact of Leaders' Role. Each leader identified between seven and 22 employee behaviors. The employee behaviors identified by leaders were often related to the leaders' role and responsibilities. For example, one leader is responsible for developing and implementing new enterprise capabilities. The majority of her responses were within the categories of "Think Outside the Box" ("come at it in a much more strategic fashion ") and "Embrace & Actively Drive Change" ("evangelizing the [new] methods"), behaviors important to her ability to be successful in her role. Another leader was responsible for the strategic planning process, and many of the behaviors he identified were in influencing others in the organization to follow this process ("We have a certain agenda that we drive because we have process and procedures

around a lot of stuff. But what they are very good at is doing it in a way that doesn't feel forced

or prescriptive. They are there to help you."). Because the sample consisted of several different

roles, there was a fair amount of variance of the behaviors identified across leaders. This is

consistent with and reflects complexity of decision-making per the literature (see for example

Roberto, 2013; Cilliers, 2000; McGrath & More, 2001; Kuwashima, 2014).

Employees Play a Supportive Role. Based on these leader's responses, employees play

a supportive role in critical decision-making rather than being a direct or active participant.

Examples most often given of employee participation included gathering data ("hours and hours

of research"), analyzing data ("looking at…trends over time"), providing input to decisions

("educate us on the downside and the ramifications"), facilitating decision-making processes

("make sure all of the inputs were coming together at the same time") , and executing decisions

("took charge and… held people accountable to timelines, decisions"). This result is not

surprising due to the greater level of responsibility of leaders in most organizations and the

importance of decision-making to organizational outcomes.

Impact of Organizations' Decision-Making. All leaders described the existence of

some level of formal decision-making process for critical decisions. Leaders were also asked if

they believe their organization is effective at decision-making. Only one of the eight leaders

responded that her organization is <u>not</u> effective at decision-making. This appeared to

significantly influence the behaviors she identified as supporting decision-making. Many of the

behaviors she described were leader behaviors that were unsupportive of the decision-making.

Of the twelve employee behaviors she identified, only two were supportive. In both cases, the

supportive behaviors she described involved doing things differently than is typically done at her

company. ("..they didn't follow company protocol…" and "you have the change agent of the

person who says I own this and I'm going to work on towards moving it forward…"). The remaining ten behaviors were unsupportive of effective decision-making, but were described in a way that if employees in the organization had done things differently, a better decision would have been made.

Phase II: Survey Results

My survey was open for three weeks, from August 27 to September 17, 2015. As described in the methodology section, I distributed the survey invitation directly to approximately 400 individuals, allowing for a 50% response rate to reach my goal of 200 responses. In addition, I posted a request to my LinkedIn network (over 500 individuals) and emailed some of my colleagues requesting they distribute my survey to their network. I received 118 responses;17 respondents did not qualify for or complete the survey, bringing my sample size to 101.

Diversity of Survey Respondents. My survey consisted of three optional questions to assess the geographic and job-related diversity of my survey participants. Almost all survey respondents answered these questions. As I expected, my sample was heavily weighted in financial services ("financial activities") (47.5% of my sample) and from the Midwest and Northeast regions of the U.S. (combined total of 95% of my sample). The results are presented in frequency tables found in Appendix H.

Descriptive Statistics of Employee Behaviors and Decision-Making Effectiveness Items. The descriptive statistics for employee behaviors and decision-making effectiveness items are presented in Tables 4 and 5. Employee behaviors with the highest mean value were "At my company we hold ourselves accountable for completing assigned tasks on time and as required when implementing projects or initiatives", "At my company we understand how

specific initiatives connect to any overall strategies", and "At my company we communicate controversial information in a calm manner". Behaviors with the lowest mean value were "At my company we provide decision-makers with *only* the information needed to make a decision", "At my company we approach problems using new or different methods", and "At my company we tell stories in order to provide examples and context to illustrate a point." Based on the mode of the employee behavior items, most respondents perceive these behaviors occur often at their current company. The exception to this was the behaviors "At my company we understand how to deliver messages to different audiences and manage internal politics", "At my company we approach problems using new or different methods", and "At my company we provide decision-makers with *only* the information needed to make a decision."; for these behaviors, the mode was "3" (*sometimes*). This theme held true for decision-making effectiveness items as well; all items had a mode of "4" (*often*) with the exception of "We put the right amount of effort into making and executing key decisions at my company", "Leaders at my company encourage input and constructive debate when making key decisions", and "We make key decisions on a timely basis at my company". These items had a mode of "3" (*sometimes*).

Table 4

Descriptive Statistics for Employee Behavior Variables (Ordered by M value)

Employee Behavior	Min	Max	Mode	*M*	*SD*
At my company we hold ourselves accountable for completing assigned tasks on time and as required when implementing projects or initiatives.	1	5	4	3.89	.847
At my company we understand how specific initiatives connect to any overall strategies.	2	5	4	3.86	.872
At my company we communicate controversial information in a calm manner.	2	5	4	3.83	.736

At my company we put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.	2	5	4	3.80	.837
At my company we communicate in a way that is easily understood by others.	2	5	4	3.78	.743
At my company we take time to understand and are able to think broadly about challenges we face.	2	5	4	3.77	.760
At my company we are more focused on whether a key decision is best for the overall organization rather than how the decision may impact us personally.	1	5	4	3.73	.823
At my company we provide decision-makers with evidence-based recommendations within our area(s) of expertise.	2	5	4	3.69	.718
At my company we make sure we understand why key decisions were made.	2	5	4	3.69	.797
At my company we support decision-making by answering detailed questions within our area(s) of expertise.	2	5	4	3.68	.824
At my company we educate decision-makers on the ramifications, risks and trade-offs of decisions.	1	5	4	3.67	.861
At my company we effectively analyze data and present trend or other analysis to support decision-making.	1	5	4	3.66	.840
At my company we effectively collaborate with leaders and other areas to successfully make and implement decisions.	2	5	4	3.61	.812
At my company we effectively conduct research and gather data to support decision-making.	1	5	4	3.60	.813
At my company we identify and communicate underlying issues.	1	5	4	3.55	.842
At my company we coach and support each other to make sure new procedures or methods are being followed.	1	5	4	3.53	.890

At my company we effectively facilitate decision-making processes, such as gathering input to decisions in a consistent and timely manner.	2	5	4	3.52	.769
At my company we help others understand how to follow decisions-making processes that are established.	2	5	4	3.47	.831
At my company we understand how to deliver messages to different audiences and manage internal politics.	2	5	3	3.43	.753
At my company if we are informed that key decisions are in the process of being made, we take the initiative to provide informed suggestions or feedback to leaders.	1	5	4	3.43	.952
At my company we take the initiative to learn and own new processes or tools in order to drive adoption in the organization.	1	5	4	3.41	.918
At my company we tell stories in order to provide examples and context to illustrate a point.	1	5	4	3.37	.935
At my company we approach problems using new or different methods.	2	5	3	3.25	.793
At my company we provide decision-makers with *only* the information needed to make a decision.	1	5	3	3.11	.786

Table 5

Descriptive Statistics Decision-Making Effectiveness Variables (Ordered by M value)

Decision-Making Item	Min	Max	Mode	*M*	*SD*
Leaders at my company show commitment and support for key decisions once they are made.	2	5	4	4.02	.787
Once a key decision is made at my company, we implement it as intended.	2	5	4	3.71	.726

Leaders at my company chose the right course of action when making key decisions.	2	5	4	3.67	.694
When we make key decisions at my company, they lead to positive outcomes.	2	5	4	3.59	.586
Individuals at my company are clear on the role they should play in making and executing key decisions.	1	5	4	3.54	.866
We use an objective decision-making process for key decisions at my company.	1	5	4	3.53	.769
We put the right amount of effort into making and executing key decisions at my company.	1	5	3	3.42	.852
Leaders at my company encourage input and constructive debate when making key decisions.	1	5	3	3.41	.940
We make key decisions on a timely basis at my company.	2	5	3	3.34	.840

All employee behavior and decision-making item variables followed a fairly normal distribution, and most had a negative skew, meaning the distribution of the data tended to be slightly above the mean. In other words, most survey participants' responses indicated the employee behaviors and decision-making effectiveness items occur at an "above average" frequency. Two employee behavior items had a slight positive skew: "At my company we approach problems using new or different methods" (skew=.140) and "At my company we understand how to deliver messages to different audiences and manage internal politics" (skew=.115). Two decision-making effectiveness items also had a slight positive skew: "We make key decisions on a timely basis at my company" (skew=.119) and "Leaders at my company

encourage input and constructive debate when making key decisions" (skew=.131). Examples of

histograms with overlayed normal distribution curves are show in Figures 1 & 2.

Figure 1

Illustrative Histogram for Employee Behavior Item Variable
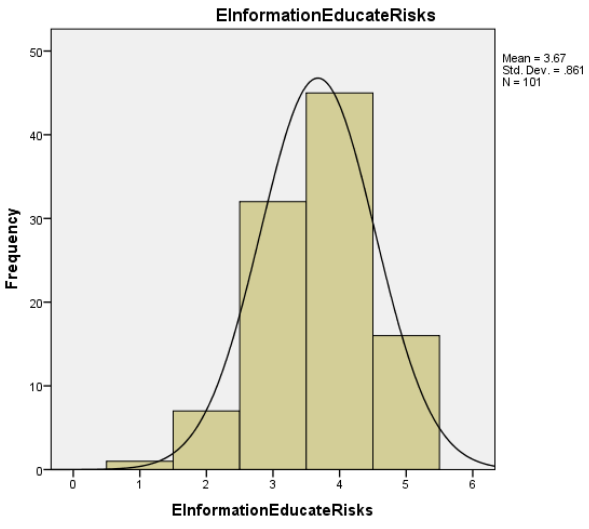
Figure 2

Illustrative Histogram for Decision-Making Effectiveness Item Variable
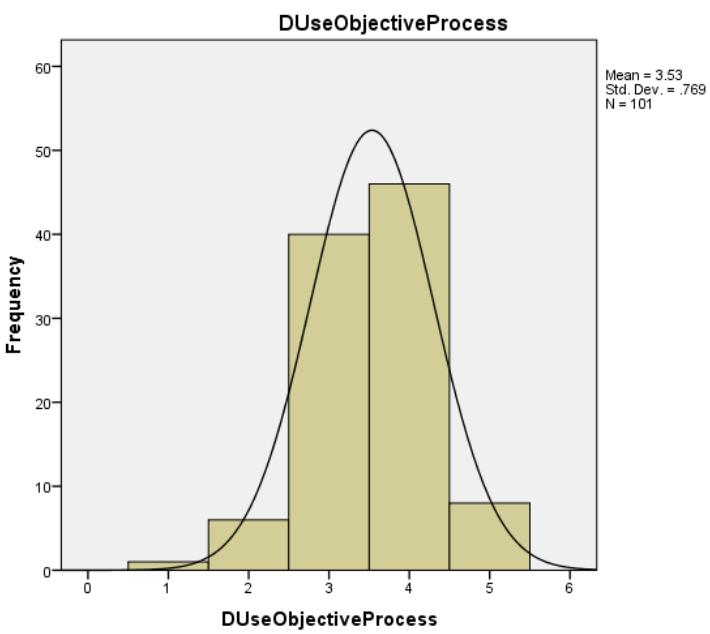
Inter-relationships of Employee Behavior and Decision-Making Effectiveness Items.

Prior to conducting tests to examine the relationship of employee behaviors and decision-making effectiveness, I examined the relationships among the variables within each of these two constructs. For employee behaviors, my goal was to be able to treat each item as either a separate independent or predictor variable, or as a composite independent variable, to allow flexibility in analyzing the relationships between the two constructs. I expected to be able to treat the decision-making effectiveness items as one single construct so I could conduct analysis on these items as a single dependent variable. The resulting correlations are presented in Tables 6 and 7.

The inter-correlations of most employee behavior items ranged from .215 to .730, suggesting that these items are at least moderately and at times strongly correlated. One item, "At my company we provide decision-makers with *only* the information needed to make a decision" had mostly low positive correlations and some low negative correlations to the other employee behavior items; in addition, the *p-values* of these correlations were not <.05 (meaning these relationships are *not* statistically significant).   This could indicate the wording of the question or the use of italics"*only*" was confusing or interpreted differently by the respondents in my sample. The inter-correlations of the decision-making effectiveness items ranged from .388 to .703, indicating a strong relationship between the decision-making effectiveness items.

Table 6

Correlations of Employee Behavior Items

	EB1	EB2	EB3	EB4	EB5	EB6	EB7	EB8	EB9	EB10	EB11	EB12	EB13	EB14	EB15	EB16	EB17	EB18	EB19	EB20	EB21	EB22	EB23	EB24
EB1	1																							
EB2	.709*	1																						
EB3	.646*	.730*	1																					
EB4	.439*	.582*	.565*	1																				
EB5	.477*	.407*	.505*	.287*	1																			
EB6	.510*	.502*	.484*	.362*	.378*	1																		
EB7	.484*	.489*	.556*	.456*	.408*	.526*	1																	
EB8	.474*	.502*	.495*	.468*	.389*	.382*	.652*	1																
EB9	.558*	.435*	.500*	.388*	.346*	.571*	.440*	.422*	1															
EB10	.427*	.338*	.356*	.403*	.257*	.458*	.438*	.466*	.659*	1														
EB11	.092	.086	.022	-.049	.076	.004	-.057	.102	-.092	.038	1													
EB12	.347*	.358*	.363*	.354*	.215*	.451*	.287*	.457*	.566*	.477*	.095													
EB13	.496*	.566*	.485*	.427*	.425*	.515*	.441*	.524*	.528*	.459*	.112	.580*	1											
EB14	.431*	.406*	.384*	.417*	.321*	.522*	.422*	.360*	.475*	.406*	.015	.432*	.401*	1										
EB15	.407*	.393*	.462*	.344*	.313*	.517*	.369*	.458*	.562*	.409*	-.027	.474*	.388*	.554*	1									
EB16	.442*	.407*	.333*	.284*	.232+	.457*	.350*	.426*	.489*	.386*	.040	.348*	.498*	.454*	.505*	1								
EB17	.493*	.544*	.432*	.425*	.320*	.449*	.323*	.404*	.548*	.411*	.073	.416*	.556*	.444*	.526*	.544*	1							
EB18	.521*	.486*	.495*	.486*	.290*	.547*	.338*	.360*	.533*	.383*	.007	.388*	.422*	.428*	.439*	.419*	.674*	1						
EB19	.380*	.424*	.439*	.380*	.216+	.383*	.401*	.440*	.520*	.437*	.033	.520*	.403*	.243+	.343*	.240+	.423*	.494*	1					
EB20	.463*	.313*	.373*	.257*	.285*	.391*	.324*	.431*	.469*	.445*	.064	.497*	.450*	.254+	.332*	.285*	.372*	.431*	.449*	1				
EB21	.433*	.487*	.411*	.428*	.314*	.391*	.343*	.450*	.633*	.461*	-.012	.503*	.494*	.437*	.507*	.430*	.478*	.514*	.465*	.341*	1			
EB22	.407*	.572*	.573*	.473*	.338*	.430*	.402*	.497*	.521*	.473*	.004	.481*	.504*	.442*	.423*	.254*	.469*	.373*	.389*	.475*	.566*	1		
EB23	.497*	.624*	.616*	.456*	.318*	.523*	.575*	.555*	.534*	.549*	.004	.530*	.503*	.511*	.482*	.314*	.448*	.417*	.472*	.489*	.543*	.680*	1	
EB24	.502*	.640*	.600*	.568*	.388*	.537*	.394*	.527*	.499*	.509*	.059	.560*	.619*	.440*	.522*	.422*	.580*	.523*	.456*	.407*	.495*	.595*	.677*	1

*p-value <.01; +p-value <.05

EB1: At my company we take time to understand and are able to think broadly about challenges we face.

EB2: At my company we make sure we understand why key decisions were made.

EB3: At my company we understand how specific initiatives connect to any overall strategies.

EB4: At my company if we are informed that key decisions are in the process of being made, we take the initiative to provide informed suggestions or feedback to leaders.

EB5: At my company we are more focused on whether a key decision is best for the overall organization rather than how the decision may impact us personally.

EB6: At my company we approach problems using new or different methods.

EB7: At my company we effectively conduct research and gather data to support decision-making.

EB8: At my company we effectively analyze data and present trend or other analysis to support decision-making.

EB9: At my company we identify and communicate underlying issues.

EB10: At my company we support decision-making by answering detailed questions within our area(s) of expertise.

EB11: At my company we provide decision-makers with *only* the information needed to make a decision.

EB12: At my company we provide decision-makers with evidence-based recommendations within our area(s) of expertise.

EB13: At my company we educate decision-makers on the ramifications, risks and trade-offs of decisions.

EB14: At my company we communicate controversial information in a calm manner.

EB15: At my company we communicate in a way that is easily understood by others.

EB16: At my company we tell stories in order to provide examples and context to illustrate a point.

EB17: At my company we coach and support each other to make sure new procedures or methods are being followed.

EB18: At my company we take the initiative to learn and own new processes or tools in order to drive adoption in the organization.

EB19: At my company we hold ourselves accountable for completing assigned tasks on time and as required when implementing projects or initiatives.

EB20: At my company we put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.

EB21: At my company we understand how to deliver messages to different audiences and manage internal politics.

EB22: At my company we effectively collaborate with leaders and other areas to successfully make and implement decisions.

EB23: At my company we effectively facilitate decision-making processes, such as gathering input to decisions in a consistent and timely manner.

EB24: At my company we help others understand how to follow decisions-making processes that are established.

Table 7

Correlations of Decision-Making Effectiveness Items

Decision-Making Item	DM1	DM2	DM3	DM4	DM5	DM6	DM7	DM8	DM9
DM1: We use an objective decision-making process for key decisions at my company.	1								
DM2: Individuals at my company are clear on the role they should play in making and executing key decisions.	.624**	1							
DM3: We make key decisions on a timely basis at my company.	.508**	.584**	1						
DM4: Leaders at my company encourage input and constructive debate when making key decisions.	.388**	.389**	.446**	1					
DM5: Leaders at my company show commitment and support for key decisions once they are made.	.494**	.600**	.504**	.557**	1				
DM6: Leaders at my company chose the right course of action when making key decisions.	.593**	.531**	.482**	.604**	.579**	1			
DM7: Once a key decision is made at my company, we implement it as intended.	.493**	.601**	.603**	.392**	.605**	.546**	1		
DM8: When we make key decisions at my company, they lead to positive outcomes.	.553**	.479**	.463**	.592**	.581**	.703**	.570**	1	
DM9: We put the right amount of effort into making and executing key decisions at my company.	.543**	.557**	.669**	.537**	.525**	.672**	.664**	.582**	1

**p <.001

As described in my methodology section, I also decided to look at the internal consistency of both the employee behavior items and decision-making effectiveness items using Cronbach's Alpha test. The result of these tests (.944 for employee behavior items and .897 for decision-making effectiveness items) indicated strong internal

consistency of the data within my sample for both of these constructs. Based on these

results, I combined the items by calculating the mean of all values of the items. The

descriptive statistics of the two composite mean variables are presented in Table 8 and 9.

Table 8

Descriptive Statistics for New Variable: Mean of all Employee Behavior Items

	N	Min	Max	Mean	Std. Deviation	Skewness	
						Statistic	Std. Error
ECompositeMean	101	2.21	5.00	3.60	.547	-.116	.240

Table 9

Descriptive Statistics for New Variable: Mean of all Decision-Making Effectiveness Items

	N	Min	Max	Mean	Std. Deviation	Skewness	
						Statistic	Std. Error
DCompositeMean	101	2.22	5.00	3.58	.606	-.144	.240

Relationship of Employee Behaviors and Decision-Making Effectiveness. My

goal was to understand the relationship between the employee behaviors and decision-

making effective, and determine if certain behaviors had a greater degree of impact than

others on effective decision-making. A simple linear regression was calculated to predict

decision-making effectiveness (the dependent variable) based on employee behaviors (the

independent variable). A significant regression equation was found ($F_{(1,99)}=301.00$,

$p<.00$), with an $R^2=.752$. In other words, 75.2% of the variance in decision-making

effectiveness can be explained by employee behaviors. Employee behaviors significantly

predicted the results of decision-making effectiveness (β=.962, t(17.349), p<.000).

These results indicates an increase in the frequency of employee behaviors causes an

increase in decision-making effectiveness that is statistically significant.

The relationship is graphically displayed in a simple scatter-plot between the two

variables, seen in Figure 3.

Figure 3

Scatterplot: Employee Behaviors as Independent Variable (Y-Axis) and Decision-Making

Effectiveness as Dependent Variable (X-Axis).
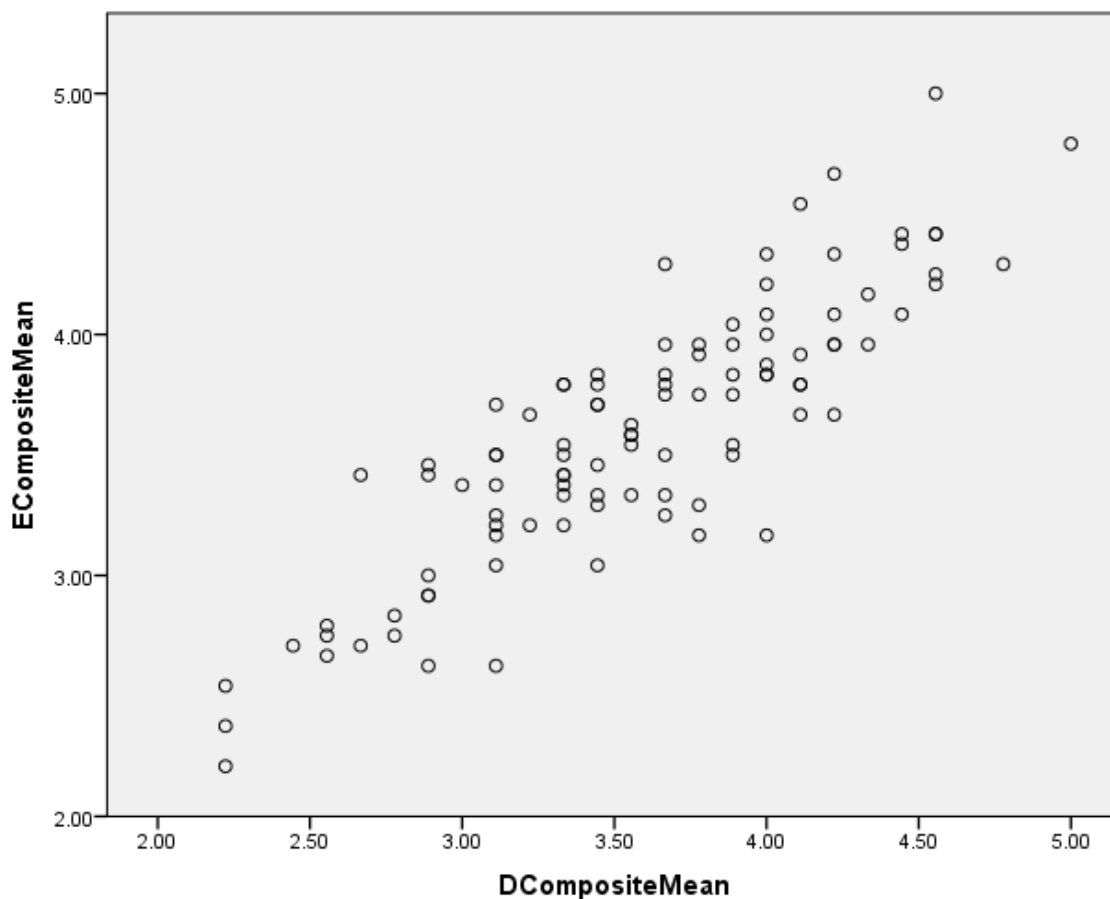
To test the hypothesis that an employee behavior that occurs *always* or *often* and

an employee behavior that occurs *sometimes*, *rarely*, or *never* are associated with

statistically significant different means of decision-making effectiveness, independent

sample *t*-tests were performed. As seen in Table 10, all behaviors occurring *always* or

often, with one exception ("At my company, we provide decision-makers with *only* the

information needed to make a decision"), were associated with a statistically significant

greater mean of decision-making effectiveness.   In several cases, both the difference in

mean and the effect size (estimated using Cohen's *d* value), was large. For example,

when the behavior "At my company, we understand how specific initiatives connect to

any overall strategies" occurs *always* or *often,* the mean of decision-making effectiveness

was 0.832 (*p*<.001) greater than when this behavior occurs *sometimes*, *rarely*, or *never*,

and the effect size as estimated by Cohen's *d* is 1.67 (2 * t (8.313) / sqrt df(99)). This is a

much larger mean difference and effect size compared to the behavior "At my company

we tell stories in order to provide examples and context to illustrate a point" (MD= 0.400,

p=.001, *d*=0.70). This indicates some employee behaviors have a greater impact on

decision-making effectiveness than others.

Table 10

Independent Sample t-Test Results by Employee Behavior Item

Employee Behavior Item	Mean Difference (t-test)	Sig. *p* value	Effect Size (Cohen's *d)*
At my company we understand how specific initiatives connect to any overall strategies.	0.832	<.001	1.67
At my company we effectively facilitate decision-making processes, such as gathering input to decisions in a consistent and timely manner.	0.793	<.001	1.71
At my company we effectively collaborate with leaders and other areas to successfully make and implement decisions.	0.729	<.001	1.46
At my company we help others understand how to follow decisions-making processes that are established.	0.712	<.001	1.46

At my company we communicate controversial information in a calm manner.	0.716	<.001	1.31
At my company we communicate in a way that is easily understood by others.	0.705	<.001	1.28
At my company we make sure we understand why key decisions were made.	0.675	<.001	1.29
At my company we identify and communicate underlying issues.	0.649	<.001	1.26
At my company we understand how to deliver messages to different audiences and manage internal politics.	0.647	<.001	1.26
At my company we educate decision-makers on the ramifications, risks and trade-offs of decisions.	0.646	<.001	1.23
At my company we effectively analyze data and present trend or other analysis to support decision-making.	0.636	<.001	1.17
At my company we coach and support each other to make sure new procedures or methods are being followed.	0.628	<.001	1.19
At my company we provide decision-makers with evidence-based recommendations within our area(s) of expertise.	0.628	<.001	1.17
At my company we take time to understand and are able to think broadly about challenges we face.	0.623	<.001	1.13
At my company we approach problems using new or different methods.	0.617	<.001	1.13
At my company we effectively conduct research and gather data to support decision-making.	0.602	<.001	1.13
At my company if we are informed that key decisions are in the process of being made, we take the initiative to provide informed suggestions or feedback to leaders.	0.577	<.001	1.09
At my company we hold ourselves accountable for completing assigned tasks on time and as required when implementing projects or initiatives.	0.573	<.001	0.90
At my company we are more focused on whether a key decision is best for the overall organization rather than how the decision may impact us personally.	0.569	.001	0.99
At my company we take the initiative to learn and own new processes or tools in order to drive adoption in the organization.	0.568	<.001	1.07
At my company we support decision-making by answering detailed questions within our area(s) of expertise.	0.523	<.001	0.94
At my company we put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.	0.512	<.001	0.88
At my company we tell stories in order to provide examples and context to illustrate a point.	0.400	.001	0.70
At my company we provide decision-makers with *only* the information needed to make a decision.	0.091	.489	0.14

Discussion

Findings and Implications

The purpose of my study was to address the existing gap in current research and gain a better understanding of employees' role in organizations decision making. I designed my study to address my primary research question: What is the relationship between employee contributions to organizational decision-making processes and outcomes? I used a mixed methods approach, conducted in two phases.

In the first phase, I conducted leader interviews to answer my secondary research question: What employee behaviors do leaders identify as contributing most effectively to leader's decisions? As a result of the leader interviews, I identified and categorized a significant number of employee behaviors. The number and variety of behaviors is consistent with the overall complexity of decision-making within large organization. The leaders I interviewed were male and female; represented a variety of functional roles, responsibilities, and industries; and had a large range of years of service within their current organization. These aspects of leader diversity may have also contributed to the large number of identified behaviors. The supportive nature of the employee behaviors identified by leaders was also consistent with the literature on strategic decision-making in organizations. Leaders are responsible for driving strategic decision-making in their organization (Roberto, 2013); although employees may participate in decision-making (Aboyassin, 2008; Scott-Ladd & Chan, 2004), by implication employees are playing a more supportive role. However, it is important to make a distinction between playing a supportive role and being passive. Many of the employee behaviors identified by leaders in my study were not passive behaviors; they included taking initiative, putting in extra

effort, being accountable, and providing recommendations. In addition, many of these behaviors involved communication and collaboration with others, including leaders. Finally, most of the behaviors noted by the leaders could be seen as either a collective (involving groups or large numbers of people) or an individual behavior. In other words, the impact of the behavior could be seen if it was performed by just one individual employee or by a group of employees.

I developed a survey using the behaviors identified in the first phase to address my other secondary research question: To what degree do those behaviors correlate with an effective organizational decision-making process and outcomes? I also developed a set of questions, based on Roberto's (2013) model, to measure effective organizational decision-making. I conducted several statistical tests on the survey data to examine the relationships between employee behaviors and decision-making effectiveness. I found a strong overall correlation between the behaviors that leaders identified as supportive of decision-making and decision-making effectiveness. Overall this is not surprising; the leaders interviewed are heavily involved in decision-making processes in their organization and therefore would be expected to have an understanding of the behaviors impacting decision-making in their organization. It is important to note that both leaders and non-leaders responded to the survey; therefore, based on these results there appears to be some consensus on which behaviors support effective decision-making.

In my quantitative analysis, I identified which of these behaviors have the greatest effect on decision-making effectiveness relative to the other behaviors. Three of the top five behaviors based on my analysis are directly related to decision-making processes ("At my company we effectively facilitate decision-making processes, such as gathering

input to decisions in a consistent and timely manner", "At my company we effectively collaborate with leaders and other areas to successfully make and implement decisions" and "At my company we help others understand how to follow decision-making processes that are established"). This result reinforces the relationship between decision-making processes and decision outcomes established in Roberto's (2013) model and other research (see for example Dean & Sharfman, 1996). Understanding how specific initiatives connect to overall strategies was found to have the largest effective on decision-making relative to other behaviors; it may be that having this understanding is necessary for effective participation in decision-making. Other top behaviors were related to communication ("At my company we communicate controversial information in a calm manner" and "At my company we communicate in a way that is easily understood by others"). This may reflect the importance of people's ability to exchange information and ideas in order to support effective decision-making.

Taken as a whole, the top five behaviors reflect that decision-making effectiveness is influenced most by those behaviors that allow employees to work collaboratively with leaders and effectively participate in decision-making processes; employee behaviors related to providing data, analysis or input into decisions have less of an impact. Based on the results of my interviews, this may not be well-understood by leaders. Many of the behaviors identified most frequently by leaders focused on employee input to decisions. For example, six of the eight leaders identified behaviors within the category of "gather relevant data & conduct analysis". Based on the statistical tests on survey data, the employee behaviors within this category ("At my company we effectively conduct research and gather data to support decision-making" and "At my

company we effectively analyze data and present trend or other analysis to support decision-making") had only moderate impact relative to decision-making effectiveness when compared to the other behaviors.

The importance of collaboration between employees and leaders in my findings has implications for leaders. As described previously in the Purpose Statement section, one of the five practices of effective leaders based on the research of Kouzes and Posner is "enable others to act" (Kouzes & Posner, 2012, p. 14). This leadership practice recognizes the importance of teamwork and collaboration. My findings demonstrate that certain employee behaviors impact decision-making, and that when employees participate in decision-making, decision-making is more effective. Leaders, therefore, should take note of these findings and look for ways to support employee participation in organizational decision-making.

Overall results indicate most respondents perceive their organization's decision-making is effective, and the employee behaviors supporting effective decision-making as occurring frequently in their organization. This was somewhat surprising to me coming from an organization that appeared to struggle with effective decision-making. This result is good news for organizations, as it appears there is a solid foundation on which to build further improvements to organizational decision-making.

Limitations

Although my study provides insights, it does not provide a complete picture of how organizations can improve decision-making effectiveness. My results show what employee behaviors drive more effective decision-making, but does not tell us what needs to be in place for these behaviors to occur. For example, leaders have a strong

impact on both decision-making effectiveness and employee behavior, and it may be that leader behaviors are needed first before employees can behave in a manner that supports effective decision-making. In addition, there may be pre-requisites to the identified employee behaviors; for example, an organization needs to have a strategy in place before an employee can understand how specific initiatives connect to that strategy.

My study also focused on employee behaviors that increase effective decision-making, but does not tell us if there are behaviors that decrease effective decision-making. This is an important consideration because the presence of these "negative" behaviors may offset the effects of the "positive" behaviors found in my study. Similarly, my study focuses on the frequency of behaviors, but it is possible a behavior can occur infrequently but still have a large impact on the organization's ability to make effective decisions.

Finally, my study results are based on perceptions and observations of leaders and employees, and did not include direct observation of behaviors. It is possible that other behaviors that are less easily perceived or observed may be impacting decision-making effectiveness.

Further Research

Further research could improve the validity of my results and address the limitations of my study. In particular, although my leader interview participants were relatively diverse and represented a variety of industries and functions, my survey sample size was lower and less diverse than I hoped. A study with a larger, more diverse survey sample size would better represent the overall U.S. population, and therefore determine if my results apply within a broader context. In addition, my survey data combined

responses of both leaders and employees. Future research could examine the differences between leader and employee perceptions of what employee behaviors have the most impact on decision-making effectiveness.

My research required an instrument to measure organizational decision-making; because I could not find an instrument, I needed to develop one. However, the focus of my study was not to develop and test the validity of this instrument. Future research could build on the instrument I developed, and focus on ensuring it is a valid instrument that could be used for other applications.

Although my research adds to the body of knowledge on decision-making, because of the complexity of this topic there are many additional factors that could be taken into account in further studies. For example, future research could look at types of decision-making approaches (ex. rational vs. intuitive) or organizational environments (structured vs. chaotic), and determine if these factors influence which employee behaviors contribute more to effective decision-making processes and outcomes. For example, an organization that is more structured may benefit from behaviors that are more process-oriented than an organization that is more chaotic.

Recommendations

Although further research would provide even more insights, my study can help organizations increase their decision-making effectiveness. As a first step, I recommend organizations use my survey questions to assess the frequency of these behaviors at their company. Where there are gaps, provide training to employees to address those gaps, paying particular attention to those behaviors that have the greatest impact on effective organizational decision-making. Alternatively, organizations can focus on those

behaviors found in my study to have the greatest impact on decision-making effectiveness. In particular, those behaviors that support decision-making processes may have the greatest overall impact. Organizations may also want to consider ways to select and reward employees who demonstrate these behaviors.

I recommend leaders use the results of my study to gain a deeper understanding of how employees can contribute to effective decision-making, and make sure they are creating an environment in their organization to support employees' participation in decision-making. Examples can include listening to providing guidance to employees to better understand overall strategies, taking time to listen to employees' feedback on decisions, and creating an environment of trust so that employees feel safe providing feedback and input to decisions.

Finally, I recommend employees make sure they recognize their contributions to effective decision-making, and look for ways to increase the frequency of those behaviors that support effective decisions in their organizations. This includes supporting decision-making and leaders in an active, engaged way such as taking initiative, putting in extra effort, being accountable, and providing recommendations. In addition, employees must do their part to build trusting and collaborative relationships with leaders.

Conclusion

My study identified employee behaviors that support effective organizational decision-making process and outcomes, showed that there is a positive relationship between the behaviors and effective decision-making and provided insight into which of those behaviors have a more significant impact on effective decision-making. For companies looking to improve their decision-making capabilities, these are important

findings. As a first step, I recommend organizations use my survey questions to assess the frequency of these behaviors at their company. Where there are gaps, provide training to employees to address those gaps, paying particular attention to those behaviors that have the greatest impact on effective organizational decision-making. Organizations may also want to consider ways to select and reward employees who demonstrate these behaviors. Finally, my study demonstrates the role employees play in decision-making. It is important for leaders and organizations to acknowledge this role, and for leaders to focus on providing the right support and environment for employees to behave in ways that support effective decision-making. Employees also need to understand their role in contributing to effective decision-making, and make sure they are looking for ways to increase the frequency of their behaviors that support decision-making. It is in this way that employees and leaders will work together to accomplish organizational goals, and help both themselves and their organizations be more successful.

References

Aboyassin, N. A. (2008). Managers' belief in employees' job and psychological readiness and employees' participation in decision making. *International Journal of Commerce & Management*, *18*(3), 252-266. doi:10.1108/10569210810907164

Addleson, M. (2001). Stories about firms: Boundaries, structures, strategies, and processes. *Managerial & Decision Economics*, *22*(4), 169-182. Retrieved from http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1099-1468

Allen, M. P. (1997). *Understanding regression analysis*. New York, NY: Plenum Press.

Amason, A. C., & Mooney, A. C. (2008). The Icarus paradox revisited: How strong performance sows the seeds of dysfunction in future strategic decision-making. *Strategic Organization*, *6*(4), 407-434. doi:10.1177/1476127008096364

Barsade, S. G., & Gibson, D. E. (2007). Why does affect matter in organizations? *Academy of Management Perspectives*, *21*(1), 36-59. doi:10.5465/AMP.2007.24286163

Ben-Hur, S., Kinley, N., & Jonsen, K. (2012). Coaching executive teams to reach better decisions. *Journal of Management Development*, *31*(7), 711-723. doi:10.1108/02621711211243908

Bottom, W. P., & Kong, D. T. (2010). Normative models for strategic decision making in industrial-organizational psychology and organizational behavior. *Industrial & Organizational Psychology*, *3*(4), 417-420. doi:10.1111/j.1754-9434.2010.01261.x

Caruth, D. L., Caruth, G. D., & Humphreys, J. H. (2009). Towards an experiential model
of problem initiated decision making. *Journal of Management Research , 9*(3),
123-132. Retrieved from http://www.macrothink.org/journal/index.php/jmr

Cilliers, P. (2000). What can we learn from a theory of complexity? *Emergence*, *2*(1), 23-
33. Retrieved from http://emergentpublications.com/catalog_detail.aspx?Value=5

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition).
New York, NY: Lawrence Erlbaum Associations.

Collins, M. (2014). *Coworker discretionary support: developing and exploring a
construct*. [Master of Arts in Organizational Leadership Theses]. Retrieved from
http://sophia.stkate.edu/maol_theses/22

Couch, A., & Keniston, K. (1960). Yeasayers and Naysayers: Agreeing Response Set As
a Personality Variable. *Journal of Abnormal and Social Psychology, Vol. 60, No.
2*, 151-174.

Dean, J.W., & Sharfman, M.P. (1996). Does decision process matter? A study of strategic
decision-making effectiveness. *The Academy of Management Journal*, *39*(2), 368-
396. Retrieved from http://amj.aom.org/content/39/2.toc

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, Mail, and Mixed-Mode
Surveys - The Tailored Design Method Third Addition.* Hoboken: John Wiley &
Sons, Inc.

Drucker, P. F. (2006). *The effective executive*. New York, NY: HarperBusiness.

Fowler, F. J. (2009). *Survey research methods*. Thousand Oaks, CA: Sage Publications.

Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis* (7th edition). Upper Saddle River, NJ: Prentice Hall.

Hensman, A., & Sadler-Smith, E. (2011). Intuitive decision making in banking and finance. *European Management Journal*, *29*(1), 51-66. doi:10.1016/j.emj.2010.08.006

Hsu, F. B. (2001). Strategic decision-making in a new millennium: The contribution from hybrid decision-making modes. *Creativity & Innovation Management*, *10*(1), 40. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/caim.2001.10.issue-1/issuetoc

Kouzes, J.M., & Posner, B.Z. (2012). *The leadership challenge* (4th edition). San Francisco, CA: Jossey-Bass.

Kuwashima, K. (2014). How to use models of organizational decision making? *Annals of Business Administrative Science*, *13*(4), 215-230. doi:10.7880/abas.13.215

Lant, T. K., & Hewlin, P. F. (2002). Information cues and decision making: The effects of learning, momentum, and social comparison in competing teams. *Group & Organization Management*, *27*(3), 374. Retrieved from http://gom.sagepub.com/content/27/3.toc

McGrath, G. M., & More, E. (2001). The Greta system: Organizational politics introduced to the garbage can. *Decision Support Systems*, *31*(2), 181. Retrieved from http://www.sciencedirect.com/science/article/pii/S0167923600001305

Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (3rd edition). Thousand Oaks, CA: Sage Publications.

Melé, D. (2010). Practical wisdom in managerial decision making. *Journal of Management Development*, *29*(7), 637-645. doi:10.1108/02621711011059068

Roberto, M. A. (2013). *Why great leaders don't take yes for an answer: Managing for conflict and consensus*. Upper Saddle River, NJ: FT Press.

Scott-Ladd, B., & Chan, C. C. A. (2004). Emotional intelligence and participation in decision-making: Strategies for promoting organizational learning and change. *Strategic Change*, *13*(2), 95-105. doi:10.1002/jsc.668

Shattuck, L. G., & Lewis Miller, N. (2006). Extending naturalistic decision making to complex organizations: A dynamic model of situated cognition. *Organization Studies*, *27*(7), 989-1009. doi:10.1177/0170840606065706

Simon, H. A. (1959). Theories of decision-making in economics and behavioral science. *The American Economic Review*, *49*(3), 253-283.

Simon, H. A. (1991). Bounded rationality and organizational learning. *Organization Science, 2*(1), 125-134. Retrieved from http://pubsonline.informs.org/doi/pdf/10.1287/orsc.2.1.125

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students Fifth Edition.* Essex: Pearson Education Limited.

Tavakol, M., & Dennick, R. (2011). Making Sense of Cronbach's Alpha. *International Journal of Medical Education*, 53-55.

Wernz, C., & Deshmukh, A. (2010). Multiscale decision-making: Bridging organizational scales in systems with distributed decision-makers. *European Journal of Operational Research*, *202*(3), 828-840. doi:10.1016/j.ejor.2009.06.022

Appendix A

Sample of Recruitment Script for Leader Interviews

[My name is Melissa Bearth;] I am studying organizational leadership at St. Catherine's University. I understand you currently have accountability for making critical decisions in your organization. I am conducting a research study on employee contributions to effective decision-making processes and outcomes in large companies. Would you be willing and interested in taking part in a 60-90 minute interview as part of my research study? The interview will consist of a series of questions about decision-making processes at your current organization, including examples of your experiences when others behaviors supported effective decision-making. The study data will be confidential and your participation is completely voluntary. If you chose not to participate or answer any questions during the study, it will not negatively affect your relationship with me or with St. Catherine's University.

If you are willing and interested in participating in my research study, please let me know and I will schedule the interview at a mutually agreeable time and location. Prior to beginning the interview, I will ask you to sign a "Consent to Participate in Research" form. This form will provide additional details on the study. If you have any questions in the meantime, please let me know. Thank you for your consideration.

Appendix B

Interview Consent Form

Consent to Participate in Research

Introduction and Purpose

My name is Melissa Bearth; I am a graduate student studying organizational leadership at St. Catherine's University in St. Paul under the supervision of Dr. Sharon Radd, a faculty member in the Department of Organizational Leadership.   I would like to invite you to take part in my research study that asks which employee behaviors support effective decision-making processes and outcomes in organizations.

You were selected as a possible participant in this research because you indicated you have been employed at your current company for at least one year, you work for a company with at least 500 employees that is based in the United States, and you have accountability for making critical decisions in your organization. Please read this form and ask questions before you agree to be in the study.

Procedures

If you agree to participate in my research, I will conduct an interview with you at a mutually agreeable time and location. The interview will involve a series of questions related to your experience. It should last approximately 60 – 90 minutes. I will audiotape the interview and take notes during the interview. The recording is to accurately record the information you provide, and will be used for transcription purposes only. The recording and notes will be destroyed at the conclusion of the study. Additionally, if you prefer not to continue the interview at all, you can stop the interview at any time.

I expect to conduct only one interview; however, follow-ups may be needed for added clarification. If needed, I will contact you by email for clarification of your interview responses.

Risks and Benefits

The study has minimal risks. However, due to the nature of the study you may be providing potentially sensitive/ proprietary organizational data and/or sensitive professional information. Please do not share any proprietary data as part of this study that may result in a conflict of interest to me or to you. I will also mitigate these risks by minimizing the collection of confidential and sensitive data, keeping the data secure and maintaining confidentiality of your identify and the data I collect from you.

There is no direct benefit to you for taking part in this study; you will not be paid for taking part in this study.

Confidentiality

Your study data will be confidential. Only I will know your identity and any identifiable information. If results of this study are published or presented, individual names, company names and other personally identifiable information will not be used.

To minimize the risks to confidentiality, I will store all transcripts, survey and interview responses in a secured computer drive accessible only by me or in secured, password-protected cloud storage. All identifying data will be coded, with only me knowing the true identify of each respondent.

At the conclusion of this project, I will destroy the recording and notes.

Rights
Participation in this research is completely voluntary. You are free to decline to take part in the project. You can decline to answer any questions and are free to stop taking part in the project at any time. Whether or not you choose to participate in the research and whether or not you choose to answer a question or continue participating in the project, there will be no penalty to you and it will not negatively affect your relationship with me or with St. Catherine University.

Questions
If you have any questions about this research, please feel free to contact me. I can be reached at 651-302-9252 or mabearth@gmail.com.

You may ask questions now, or if you have any additional questions later, the faculty advisor, (Sharon Radd at sradd@stkate.edu or 612-600-5420), will be happy to answer them.

If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739 or jsschmitt@stkate.edu.

CONSENT
You will be given a copy of this consent form to keep for your own records.

If you wish to participate in this study, please sign and date below.

_____
Participant's Name *(please print)*

_____   _____
Participant's Signature   Date

Appendix C

Interview Questions

1. Background
   - Where is your office located?
   - Are there more than 500 employees in your current company?
   - What is the high-level industry classification of your company (ex. retail, financial services, manufacturing)?

2. Describe your organizational role (title, years of service, leadership responsibilities).

3. Later in this interview, I will be asking you to describe specific examples when you have been involved in critical organizational decisions. What I mean by critical organizational decisions are those that have long-term consequences, complex issues and/or require significant investment. In order to prepare you for these questions, I would like you to begin thinking about some situations when your organization needed to make critical decisions. For example, what are some types of decisions your company has needed to make in order to be successful (ex. outsourcing, expanding internationally)? What are some key challenges and/or opportunities of your company or industry?

4. How are critical or key decisions made in your organization? Tell me about any formal or informal decision-making processes used by your organization to make critical decisions. Do these processes include methods to assess the effectiveness of the decision? If so, please describe.

5. What is your role in making decisions in your organization? How would you describe your decision-making approach?

6. Do you feel your organization is effective at making decisions? Why or why not?

7. Tell me about a time you were involved in a critical organizational decision that went well. What was the decision, your role and the outcome? What challenges did you face in making the decision? What did your team members or other employees do to help you overcome these challenges? What else did your team members or other employees do to support the decision-making process?

8. Tell me about a time you were involved in a critical organizational decision that did not go well. What was the decision, your role and the outcome? What challenges did you face in making the decision? What do you think your team members or other employees could have done to help you overcome these challenges?

9. How do employees in your organization participate in decision-making in your organization? What behaviors of employees do you observe that support effective decision-making processes and outcomes?

Appendix D
Sample of Recruitment Scripts for Survey

Request for Survey Distribution

I am currently studying organizational leadership at St. Catherine's University. As part of my studies, I am researching employee contributions to effective decision-making processes and outcomes in large companies. My research includes an online survey. I would like my survey data to include respondents from a variety of industries. Therefore, I am reaching out to request your help by distributing my survey to your associates.

Below is information on the survey and a survey link. If you are willing to distribute this survey to your associates using LinkedIn or email, please include all the information below.

If you have any questions, please don't hesitate to reach out to me by responding to this request or directly to my email: mabearth@gmail.com . Thank you for your consideration.

<include Recruitment Script: Request for Survey Participation>

Request for Survey Participation

I am currently studying organizational leadership at St. Catherine's University. As part of my studies, I am researching employee contributions to effective decision-making processes and outcomes in large companies. My research includes an online survey.

You are eligible to participate in my online survey if you currently work at a company in the United States with more than 500 employees and have been with your current company for at least one year.

The survey will take approximately 15-20 minutes to complete, and will consist of a series of questions about employee behaviors and qualities of decision-making at your current company.

The study data will be confidential and your participation is completely voluntary. If you chose not to participate or answer any questions during the study, it will not negatively affect your relationship with me or with St. Catherine's University.

Prior to beginning the survey, you will be asked to provide your consent for participation in my study. If you have any questions, please don't hesitate to reach out to me by responding to this request or directly to my email: mabearth@gmail.com . Thank you for your consideration.

<link to survey URL>

Appendix E

Permission to Use Employee Survey Questions

From: Meehan, Sarah (Talent)
Sent: Tuesday, November 25, 2014 2:44 PM
To: Bearth, Melissa A (Mutual Funds)
Cc: Patel, Mayuri (Org Capabilities)
Subject: RE: Hartford Survey Info for Thesis on Decision-Making

Hi Melissa,

Sorry for my delay. I had a meeting with our survey vendor this afternoon, which provided me with some great additional context for my response.

- The questions that we use were developed by The Hartford in collaboration with our Survey vendor IBM Kenexa. If you need to refer to them at all they are IBM® Kenexa® Survey Enterprise.
- In speaking with our consultant at IBM Kenexa, he noted that if you want to use these questions in a survey of your own that you create, then you can do so. The questions on our Annual Employee Survey that fall into this index are as follows:

	Role Clarity & Decision Effectiveness
17.	Individuals are clear on the role they should play in making and executing our most important decisions.
18.	Leaders at The Hartford consistently demonstrate behaviors which support effective decision making and execution.
19.	At The Hartford, we choose the right course of action when making critical decisions.
20.	The Hartford makes decisions on a timely basis.
21.	Once a decision is made it is implemented as intended.
22.	The right amount of effort is put into making and executing decisions.

If you have questions around surveying for Decision Effectiveness or surveys in general, our IBM Consultant, Dr. Cameron Klein, has also offered to chat with you if you'd like. His schedule is pretty packed, but he mentioned that he might have some availability on the 10th or 11th. His e-mail is kleinc@us.ibm.com.

I've also cc'd Mayuri Patel on this e-mail as she owns the Strategy behind Decision Effectiveness from a Core Capability perspective and might be a great internal resource for you as well.

Thanks,
Sarah

Appendix F: Survey Content

Research Study on Employee Contributions to Effective Organizational Decision-Making Processes and Outcomes

You are invited to participate in a research study. Please take time to read the information below and contact the researcher at mabearth@gmail.com with any questions.

Purpose
The purpose of this study is to understand which employee behaviors support effective decision-making processes and outcomes in organizations.

Procedures
You will be asked to rate a series of questions regarding employee behaviors and qualities of decision-making at your current company. The survey will take 15 to 20 minutes.

Risks and Benefits to Participants
This study has minimal risk.
There is no direct benefit to you for taking part in this study; you will not be paid for taking part in this study.

Voluntary Nature of Participation
Participation in this study is voluntary. Your decision to participate or to withdraw from participation at any time before submitting your responses will not result in any penalty or adverse consequences.

Confidentiality
Responses will be anonymous. Data from this research will be used solely for the purpose of this study and any publication that may result from this study.
Questions/ Concerns: If you have any questions about confidentiality, the research, or the results please contact the researcher at mabearth@stkate.edu, the researcher's advisor Sharon Radd siradd@stkate.edu, or St. Catherine University's IRB Chair John Schmidt at jsschmitt@stkate.edu.

Statement of Consent
You are making a decision whether or not to participate. By clicking the submit button below, you are confirming you read this information and your questions have been answered. Even after beginning the survey, you may withdraw from the study at any time before submitting your response. This will not result in any penalty or adverse consequences. If you would like a copy of this consent form, please print this page before clicking on the *Submit* button below.
  <Submit>

Survey Content

Background Questionnaire
Do you work in the United States?
Yes or no response. If yes, continue. If no, thank them but give message that they are not eligible for this survey sample.

Have you worked at your current company for at least one year?
 Yes or no response. If yes, continue. If no, thank them but give message that they are not eligible for this survey sample.

Are there more than 500 employees at your current company?
Yes or no response. If yes, continue. If no, thank them but give message that they are not eligible for this survey sample.

Employee Behaviors Questionnaire
For each item below, indicate on the scale the extent to which you believe employees at your current company engage in the described behavior. Please select the **best** answer. Your answer may be based on your observations, what you have heard others at your company describe, or your general perceptions of employee behaviors at your company.

Definitions
In this questionnaire "we" refers to the general population of employees; these individuals contribute to but do not directly make key organizational decisions. Key organizational decisions are those that have long-term consequences, involve complex issues and/or require significant investment.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1. At my company we take time to understand and are able to think broadly about challenges we face.
2. At my company we make sure we understand why key decisions were made.
3. At my company we understand how specific initiatives connect to any overall strategies.
4. At my company if we are informed that key decisions are in the process of being made, we take the initiative to provide informed suggestions or feedback to leaders.
5. At my company we are more focused on whether a key decision is best for the overall organization than how the decision may impact us personally.
6. At my company we approach problems using new or different methods.
7. At my company we effectively conduct research and gather data to support decision-making.
8. At my company we effectively analyze data and present trend or other analysis to support decision-making.

9. At my company we identify and communicate underlying issues.
10. At my company we are able to answer detailed questions within our area(s) of expertise.
11. At my company we provide decision-makers with *only* the information needed to make a decision.
12. At my company we provide decision-makers with evidence-based recommendations within our areas of expertise.
13. At my company we educate decision-makers on the ramifications, risks, and trade-offs of specific decisions.
14. At my company we communicate controversial information in a calm manner.
15. At my company we communicate information to others in a way they can easily understand it.
16. At my company we tell stories in order to provide examples and add context to illustrate a point.
17. At my company we coach and support each other to make sure new procedures or methods are being followed.
18. At my company we take the initiative to learn and own new processes or tools in order to drive adoption in the organization.
19. At my company we hold ourselves and others accountable for completing assigned tasks on time and as required when implementing projects or initiatives.
20. At my company we put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.
21. At my company we understand how to deliver messages to different audiences and manage internal politics.
22. At my company we effectively collaborate with leaders and other areas in order to make sure we successfully make and implement decisions.
23. At my company we effectively facilitate decision-making processes, such as gathering input to decisions in a consistent & timely manner.
24. At my company we help others understand how to follow decision-making procedures that are established.

Decision-Making Effectiveness Questionnaire

For each item below, indicate on the scale the extent to which you believe the statement describes your current company. Please select the **best** answer based on your observations, what you have heard others at your company describe, or your general perceptions of your current company.

Definitions
In this questionnaire "we" refers to all employees including leaders. "Leaders" refers to senior leaders responsible for making or implementing key organizational decisions. Key

organizational decisions are those that have long-term consequences, involve complex issues and/or require significant investment.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

1. We use an objective decision-making process for key decisions at my company.
2. Individuals at my company are clear on the role they should play in making and executing key decisions.
3. We make key decisions on a timely basis at my company.
4. Leaders at my company encourage input and constructive debate when making key decisions.
5. Leaders at my company show commitment and support for key decisions once they are made.
6. Leaders at my company chose the right course of action when making key decisions.
7. Once a key decision is made at my company, we implement it as intended.
8. When we make key decisions at my company, they lead to positive outcomes.
9. We put the right amount of effort into making and executing key decisions at my company.

Optional Background Questionnaire

Thank you for taking the time to complete this survey.

Below are optional questions about your primary work location and the type of work you do. Please consider responding to these questions so that we may understand the diversity of organizations and occupations of survey respondents. In the final report, I will only provide aggregate information consisting of the percentage of each question response. This section has no impact on our ability to use the responses you provided to the rating questions. Please select the **best** response to each question.

1. What is the U.S. geographic region of your primary work location?
   o Midwest
   o Northeast
   o Southeast
   o Southwest
   o West

2. What industry sector do you work in?
   o Agriculture, forestry, fishing and hunting
   o Construction
   o Educational services

    o   Financial activities
    o   Government
    o   Health care and social assistance
    o   Information
    o   Leisure and hospitality
    o   Manufacturing
    o   Mining
    o   Professional and business services
    o   Education services
    o   Retail trade
    o   Wholesale trade
    o   Transportation and warehousing
    o   Utilities
    o   Other

3. Select the occupation that most closely matches your job:
    o   Architecture and Engineering
    o   Arts, Design, Entertainment, Sports and Media
    o   Building and Grounds Cleaning and Maintenance
    o   Business and Financial Operations
    o   Community and Social Service
    o   Computer and Mathematical
    o   Construction and Extraction
    o   Education, Training and Library
    o   Farming, Fishing, and Forestry
    o   Food Preparation and Serving Related
    o   Healthcare Practitioners and Technical
    o   Healthcare Support
    o   Installation, Maintenance, and Repair
    o   Legal
    o   Life, Physical, and Social Science
    o   Management
    o   Office and Administrative Support
    o   Personal Care and Service
    o   Production
    o   Protective Service
    o   Sales and Related
    o   Transportation and Material Moving

Completion Page
Thank you for taking the time to complete this survey.

If you have any questions, you may contact the researcher at mabearth@stkate.edu , the researcher's advisor Sharon Radd at siradd@stkate.edu , or St. Catherine University's IRB Chair, John Schmitt at jsschmitt@stkate.edu .

Appendix G: Leader Interview Results
Roberto: Decide How to Decide (Managerial Levers)

Category	Category Description	# of Employee Behaviors by Leader
Effectively Facilitate & Follow Decision-Making Processes	**Provide effective support for and follow established and/or agreed-to organizational decision-making processes.**	**L1(1), L3(2), L4(3), L5(3), L6(4), L7(1)**
Employee Behaviors		**Survey Question(s)**
1. Organize and help facilitate decision-making process. *"someone who is organized and can help facilitate a process"*		1. At my company we effectively facilitate decision-making processes, such as gathering input to decisions in a consistent and timely manner.
2. Help others follow decision-making processes in way that does not feel forced or prescribed. *"But what they are very good at is doing it [drive processes and procedures] in a way that doesn't feel forced or prescriptive. They are there to help you."*		2. At my company we help others understand how to follow decisions-making processes that are established.
3. Help others understand decision-making processes, including providing recommendations for specific actions. *"we [my team] help them understand the process better. And here's what we recommend you do"*		
4. Influence and get input/feedback (into decision-making processes) from others. *"knowing… how to be able to influence and get input and feedback from people"*		
5. Ensure all inputs and feedback (to decision-making) come together at the same time. *"made sure that all of the inputs were coming together at the same time."*		
6. Complete a structured assessment (as part of decision-making process). *"doing the things like the structured assessments that I referenced before"*		
7. Follow prescribed decision-making procedures, such as defined roles and responsibilities of decision-makers. * *"we create the RACI document and then we set it aside and we actually do what the organization wants"*		
8. Provide timely input to the decision-making process. *"Call me fast. Three weeks ago when you had the idea you should have just called us right there on that."*		
9. Follow decision-making plans and processes as agreed-to. *"following the plans (and set process) we've agreed to"*		
10. Follow a structured decision-making process that facilitates decision-making, such as establishing and using weighted decision-making criteria.		

"each of the individuals followed a weighted process that allowed the team to make a decision"	
11. Support decision-making processes at the appropriate level (not to high) in the organization. * *"people wait for other people to make decisions.. we push decisions up too high in the organization"*	
12. Be actively engaged in the analysis (supporting a decision). *"the people that were actively engaged [in the analysis] were much more helpful than the people who were sort of just kind of following along"*	
13. Actively participate in putting together recommendations. *"be active in the recommendations themselves, [not just the data provisioned]"*	
14. Be accountable for decision outcomes. * *"[don't just] tell me what you want me to do and I'll do it"*	

Roberto: Quality of Decision Processes (Constructive Conflict)

Category	Category Description	# of Employee Behaviors by Leader
Think Outside the Box	**Creatively think about and be willing to use new methods in order to solve problems and effectively contribute to decision-making.**	**L2(3), L4(4)**
Employee Behaviors		**Survey Question(s)**
1. Be willing to approach a problem in a unique way using new procedures or methods. *"and a couple of folks saying I'm going to attack it a little bit differently using these methods"*		1. At my company we approach problems using new or different methods.
2. Examine and approach problems through a different perspective or angle. *" try to run at it based on what I know, or do I look at it backwards from, if I look at it through a business capabilities lens the best way to get at that is to go through a different set of methods"*		
3. Approach problems more strategically. *"come at it in a much more strategic fashion"*		
4. Be willing to think and operate outside the traditional way of thinking or operating in order to envision new possibilities.* *"we are very traditional in our thought process. And we know our box, and we too often operative in our box. So we have a really hard time envisioning the possibilities…"*		
5. Understand that doing things differently can result in different outcomes. * *"[employees] don't really have a perspective of you can do things differently and have a different outcome."*		

6. Be willing to consider why an idea might work rather than only why it won't work. *
"they sit there and they'll tell you every reason why it won't work. Versus helping go through a process identifying why it will work."
7. Be willing to risk failure and move on. *
"fear of failure. You move on to the next idea."

Category	Category Description	# of Employee Behaviors by Leader
Provide Constructive & Informed Feedback	**Take the initiative to provide decision-makers with constructive and informed feedback, even when not asked, in order to actively support decision-making.**	**L2(5), L3(1), L4(1), L8(3)**
Employee Behaviors		**Survey Question(s)**
1. Be willing to challenge leader decisions. * *"And the flip side to it is there was also nobody then that would have challenged him. Because they were used to him making all the decisions."*		1. At my company if we are informed that key decisions are in the process of being made, we take the initiative to provide informed suggestions or feedback to leaders.
2. Take the initiative to put together useful information and bring it to decision-makers. *"could have put together a couple financial models and put it in front of him."*		
3. Take the initiative to provide a unique perspective based on functional knowledge to decision-makers. *"So if either of those people had said I'm going to use my functional position to do the work even if nobody is telling me to and put it in front of him, he would have listened. Nobody gave him anything else."*		
4. Provide input when presented with decisions before moving forward with associated actions. * *"sit and listen and not throw anything in, good or bad, no risks, just tell me what to do and I'll do it."*		
5. Offer to examine problem and provide decision-maker reasons why decision does not make sense and/or alternative solutions. * *"nobody challenged him. Nobody came back and said No Jim that doesn't make sense, and here's why it doesn't make sense. Or at least say let me take a look at this, is there a different way to solve the problem"*		
6. Take time outside of work to come up with ideas and provide them to decision-makers. *"think about it all weekend and then have another couple ideas"*		

7. Voice concerns about decisions to leaders. *"and you'll hear about it which is better than not hearing about it and not doing it."*	
8. Take time to review provided materials that support decisions. *"take the time to read reports, materials, the kind of information that we make available to [employees] on a particular issue"*	
9. Bring forward errors and omissions, and provide suggestions based on provided materials that support decisions. *"employees find things that we missed and bring it forward and make suggestions"*	
10. Provide informed, objective feedback to decision-makers. *"... their feedback comes from a very emotional place, from how they are feeling about a particular issue or the impact of a particular decision without really doing the homework or the research that we would ask people."*	

Roberto: Quality of Decision Processes (Management Consensus)Category	Category Description	# of Employee Behaviors by Leader
Demonstrate Broad Thinking	**Think broadly and understand organizational challenges and opportunities in order to support effective decision-making.**	**L1 (1), L3(1), L4(1), L5(2), L6(1), L7(1), L8(2)**
Employee Behaviors		**Survey Question(s)**
1. Be able to both think broadly and grasp details in order to effectively support decision-making. *"big thinker and connect dots and then also grasp details [is very helpful in] putting together information and bringing a concept through to that execution."*		1. At my company we take time to understand and are able to think broadly about challenges we face.
2. Consider the overall context of decisions and what you might have done if you were the decision-maker. *"understand where the entire company was at at the time, and what we were going through. For the good of the whole, it may individually have had an impact that doesn't work for you but when you think about it more broadly, maybe you would have made the same decision…"*		2. At my company we make sure we understand why key decisions were made. 3. At my company we understand how specific initiatives connect to any overall strategies.
3. Take an idea and put it in the context of overall organizational goals and strategies. *"But what our team helped to do was then to take that idea and convert it …into something that is good for the enterprise because ..it could lead into other things. So what my team did was to help package it all, into a bigger enterprise strategy"*		4. At my company we are more focused on whether a key decision is best for the overall organization rather than how the decision may impact us personally.
4. Be thoughtful about the reasons for and context of the work we do, rather than just focusing on getting the work done.		

"figuring out why we are doing it in the first place.. going for the check instead of going for what does this really mean"
5. Read regular employee communications that are provided to keep employees informed of overall issues. * *"We know from analytics that about 30% of our employees sort of open [employee communications] that goes out regularly and with all the information in it."*
6. Focus on the impact to the organization rather than a personal impact. * *"not think about, well, how's this going to affect me"*
7. Demonstrate awareness of what's going on in the organization. *"You see more people probably more in tune with what's going on than ever before."*
8. Stay calm and remove yourself from the emotion of the issue by thinking about what is best for the organization. *"stay calm and remove themselves from the emotion of the issue.. the best way on behalf of the organization which is in turn is best for the employees and [customers]".*
9. Understand the history of the organization and be able to explain the reasons why certain procedures are followed. *".. I'll go why well because and I'll go why well because and they'll go down the line until they'll hit a I don't know why"*

Roberto: Quality of Decision Outcomes (Decision Quality)
<u>Facilitate Effective Flow of Information</u>
(Anderson and McDaniel, 1999; Soloman, 1994 as cited in Scott-Ladd & Chan, 2004). Employee participation in decision-making facilitates information flow within an organization.

Category	Category Description	# of Employee Behaviors by Leader
Gather relevant data & conduct analysis	**Gather the data and complete analysis as needed to support effective decision-making.**	**L1(3)**, L2(3)**, L3(1), L5(3)**, L7(2), L8(1)**
Employee Behaviors		**Survey Question(s)**
1. Complete a substantial amount of research and data gathering. *"Hours and hours of research. Gathering data."* *"do the research and the homework"* *"Yeah they all went out and gathered their perspectives."*		1. At my company we effectively conduct research and gather data to support decision-making.
2. Complete research above and beyond what is expected. *"get so excited about an idea that they actually go look up on competitors."*		2. At my company we effectively analyze data and present trend or other analysis to support decision-making.
3. Complete competitive analysis.* *"could [have] done some competitor intelligence to show him what the other competitors were bidding."*		

4. Complete detailed analysis of alternative solutions. *"go out and audit the various companies to look at what are the benefits of making this decision to go away from a big partner of ours."*
5. Complete a rigorous and thorough analysis of alternatives quickly in order to support effective decision-making. *"That team came together relatively quick, traveled to meet with the suppliers and conducted a very thorough test, analysis with very I would say decisive type of questions that allowed them to make a decision about which one to go with"*
6. Gather a set of comprehensive requirements up front in the process. * *"the requirements gathering wasn't done very well, so we didn't listen very well to the fact that there were different types of fiche."*
7. Complete a thorough and comprehensive analysis including looking at past trends and projecting future trends. *"looking at ...trends over time... a whole gamut of factors that were reviewed and looked at over a period of time with projections into the future."*
8. Gather data quickly at a moment's notice. *"quick turnaround – lots of firedrills"*
9. Respond positively to requests to shift data gathering tactics. *"Or even shift tactics. Team responded positively, frustration but very hard-working, positive. They weren't happy about it but they were positive about getting the information – happy to do it."*
10. Recognize differences in the data used as input to decisions up front in order to more effectively complete analysis. * *"they could have recognized their own differences more quickly [in the data used for input into the decisions]*
11. Be willing to learn new things needed to support requirements gathering and analysis. *"were willing to kind of jump in and learn something new that wasn't kind of in their wheelhouse [during requirements gathering and analysis]"*

Category	Category Description	# of Employee Behaviors by Leader
Identify & Communicate Underlying Issues	**Take time to identify underlying issues and communicate issues appropriately to support effective decision-making.**	**L1(1), L4(1), L5(2)**, L6(1)****
Employee Behaviors		**Survey Question(s)**

1. Listen well and translate what they are hearing into something that is tangible, either a need or a problem, and can be acted upon. *"listen well and then translate what they are hearing either in the way of a need or a problem and translate that into something that is tangible to be able to execute from,"*	1. At my company we identify and communicate underlying issues.
2. Listen and identify the problem. *" the biggest thing my team members contribute is, I can think of the ones that do the best on my team are those that have the ability to listen and identify the problem"* *"or what I look for is OK what is the real issue here what is the underlying issue."*	
3. Make sure the underlying problem is identified before making a decision. *"before we immediately make this decision let's take a look at what is the problem we are trying to solve, you know what data, we should have actually gone to our [customers] and got a sense for what people liked or disliked."*	
4. Take time to understand and communicate issues within a broader context and with the right level of criticality. * *"raised these issues sort of one off, and weren't very clear about what.. they would say oh, I found this one that was wrong. Versus we've got sort of a bigger problem. [Later] they really focused on it that they realized there was problem."*	
5. Understand that doing things differently can result in different outcomes. * *"[employees] don't really have a perspective of you can do things differently and have a different outcome."*	

Category	Category Description	# of Employee Behaviors by Leader
Provide Information to Decision-Makers	**Provide relevant, supported information to decision-makers including answering their questions, making recommendations, and educating them on the ramifications, risks and trade-offs of decisions.**	**L1(3), L2(6), L3(7), L8(2)**
		Survey Question(s)
1. Respond well to requests for details on specific items. *"sometimes tapped depending on meeting for details of a specific item. As a SME. Responded well to being asked to provide those details."*	1. At my company we support decision-making by answering detailed questions within our area(s) of expertise.	
2. Answer detailed decision-maker questions within areas of expertise. *" answer something so down in the depths and details and senior executives are happy to hear it."*	2. At my company we provide decision-makers with only the	

3. Provide information in format preferred by leaders. *"People who were giving it to me had worked for me in the past so they knew what kind of format I would like."*	information needed to make a decision.
4. Provide right level of information so decision-makers can focus on information most relevant to the decision. *"provide the information so that the decision can be made… not too much data or in a manner that demonstrates what you know, frequently comes in at a much deeper level… to weed through it is time-consuming.."*	3. At my company we provide decision-makers with evidence-based recommendations within our area(s) of expertise. 4. At my company we educate decision-makers on the ramifications, risks and trade-offs of decisions.
5. Provide evidence-based data and recommendations based on experience and expertise. *"...provide me with some data, some reports and make recommendations, based on their own expertise and experience in that particular area… backing it up with good evidence."*	
6. Help decision-makers understand to downsides of not making decisions. *"I think the biggest one was helping them to realize the downsides of not making the decision."*	
7. Educate and inform decision-makers of the risks and ramifications of a decision. *"...educate us on the downside and the ramifications so we were very informed. [In the past] as soon as somebody made a decision they'd say, oh OK, and the all the bad things would just happen."*	
8. Illustrate the tradeoffs of decisions. *"I think a lot of it was kind of illustrating the tradeoffs."*	
9. Inform decision-makers of all the different aspects of a decision, such as the risks, downsides, and how to make the idea better. *"… telling me all the bad things that can go wrong, all the ways we can make the idea better, all the risks we should worry about."*	
10. Review different scenarios with decision-makers. *"play through the scenarios"*	
11. Review different models with decision-makers. *"talk through what would it look like if we did this much business, with this number of staff, how many staff, the workforce planning. They modeled that out."*	
12. Review competitor and other analysis with decision-makers. *"say what are the odds of us getting this… what are our competitors doing, what is our competitive stance against it."*	
13. Provide information needed for decisions while acting independently and exercising discretion based on expertise.	

"... acting independently and exercising their discretion in their areas of expertise, providing me with any information that I need."	

Category	Category Description	# of Employee Behaviors by Leader
Communicate in a Clear, Concise, Calm and Meaningful way	**Demonstrate strong written and verbal communication skills in order to support decision-makers ability to accurately understand information necessary to decision-making.**	**L1(3)**,L2(2),L5(4)**, L6(4)****
		Survey Question(s)
1. Demonstrate strong verbal and written communication skills. *"strong communication skills both verbal and written."* *" Strong, effective communication skills."* *"We help to convey the message well."*		1. At my company we communicate controversial information in a calm manner. 2. At my company we communicate in a way that is easily understood by others. 3. At my company we tell stories in order to provide examples and context to illustrate a point.
2. Communicate in a clear and concise manner, so others can easily digest and understand the information or message. *"I think there are people that tend to present things in a way that are very clear and concise, and that you can digest them and understand them.*		
3. Communicate in a way that reflects the right level of importance or urgency. "*And there are other people that sort of you know make a lot of noise around things or talk about things, emotionally is probably not the right word, but sort of with a lot of passion that maybe overemphasizes something that may not be as big of a deal as it really is. But it's blown into something that is bigger than it should be.* *"articulate it in a way that sort of manages the message or manages the issue at the right level."*		
4. Communicate information to decision-makers within a strategic framework that facilitates their understanding. *"And we helped by preparing the message to the board, by presenting it to the board, defending it to the board. We worked by folding this strategy into our overall strategy, etc. etc."*		
5. Communicate in a calm manner. *"ability to remain calm when other people are not calm"* *"In general, one of the things that was helpful was people remained calm. The topic itself was alarming, so for people to be able to relay the information in a way that showed this wasn't something you know we weren't on fire."*		

6. Communicate in a concise and engaging manner, summarizing key points and avoiding buzz words and acronyms.   *"you can't walk in there with a ton of buzz words and acronyms, you'll lose them in three seconds. Just get right down to the point. you should hit the highlights. Don't bore them with a financial analysis just tell them that you reviewed it with others and we said it was good. So we provide that pre-kind of quality screening…"*
7. Communicate assumptions to decision-makers rather than overly technical or less beneficial information.   "*So what I really want to talk to you about is what are the assumptions I made around that. let's spend time on what's really beneficial. Before we'd go way too technical when we go to the board and it just wastes everybody's time."*
8. Provide stories and examples from the best to decision-makers to illustrate the consequences of not making decisions.   "*So you have to tell the story and give them examples from their past when they didn't make these tough decisions, the negative consequences. Storytelling was the best way."*
9. Provide stories in addition to data to enhance understanding of decision-makers.   "*I think people seem to relate faster to stories than I'm just showing you data, just trust it. Or I'm the finance guy just trust me, I know you don't understand what all these terms are you just need to do it my way."*

Roberto: Quality of Decision Outcomes (Implementation Effectiveness)

Category	Category Description	# of Employee Behaviors by Leader
Embrace/actively drive change	**Embrace and actively drive organizational change resulting from decisions, including taking the initiative to learn, adopt, and drive changes and providing coaching and support to others.**	L3(4), L4(1)**, L7(2)**
Employee Behaviors		**Survey Question(s)**
1. Support and manage change. *"There was a strong element of change management. Some people said it's about time, how come you didn't do this earlier, you know that whole continuum."*		1. At my company we coach and support each other to make sure new procedures or methods are being followed.
2. Provide coaching and support to ensure people are adhering to new, agreed-to operating principles. *"…provide that level of coaching and support to ensure people are adhering to the operating principles that have been agreed."*		2. At my company we take the initiative to learn and own new

"But some of it is still coaches on the ground.."	processes or tools in order to drive adoption in the organization.
3. Act as change agent, demonstrating ownership of new processes or tools and work to move those things forward. *"…you have the change agent of the person who says I own this and I'm going to work on towards moving it forward…"* *"they now are taking a leadership role and they think it's theirs versus mine."*	
4. Embrace a change and promote it to others by using the new language associated with a change. *"In this particular case you could hear it in the language. There's the exception to the rule, but generally the people that start using the new language."*	
5. Evangelize new methods with others. *"Evangelizing the methods…"*	
6. Demonstrate willingness to learn and adopt new processes. *"It's a big learning. [People need to be willing to learn and adopt the new processes]."*	

Category	Category Description	# of Employee Behaviors by Leader
Execute Effectively	**Support effective execution of decisions by holding others and ourselves accountable for completing tasks and actions needed for successful decision implementation.**	L4(1), L7(4)
Employee Behaviors		**Survey Question(s)**
1. Take a unique approach that allows for testing and validating of ideas so that they can be successfully scaled and ultimately implemented. *"they didn't follow company protocol.. worked through in a way we can test the validity of the idea and ultimately start working on what's the process of scaling it"*		1. At my company we hold ourselves accountable for completing assigned tasks on time and as required when implementing projects or initiatives.
2. Hold people accountable to timelines and decisions. *" …At when the third [project manager] came in and really took charge and kind of held people accountable to timelines, decisions"*		
3. Manage initiatives to ensure appropriate support of all tasks required for successful implementation. *"And yet we are trying to get our support, our tiny little piece. And her management of all of that was amazing."*		
4. Accurately define and document processes to ensure they meet requirements. *		

"… your process has to be better defined and documented. So when we went to scale it up, I don't think we were prepared to do that"	
5. Review results prior to approving them in order to ensure results meet requirements. * *"And so they were signing off on them, but they weren't good"*	

Roberto: Quality of Decision Outcomes (Timeliness) + Quality of Decision Processes

Category	Category Description	# of Employee Behaviors by Leader
Put in extra effort to make things happen.	**Put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.**	**L1(1), L3(1), L7(1)**
		Survey Question(s)
1. Work hard to support decision-making. *"hard working."*		1. At my company we put in extra effort or set aside other priorities when needed to drive decision-making or implementation of key decisions.
2. Demonstrate extraordinary effort on an individual basis to make things happen." *" very dependent on sort of heroics of certain individuals in the group to make it happen"*		
3. Make sure a decision-making process is completed successfully, for example put in extra hours and set aside other priorities, or do the work in addition to your regular responsibilities. *"And that group of people had to come together to really make [the decision process] happen. The process requires a lot of work…[including putting in extra hours and setting aside other priorities]. It's doing your job plus making sure this gets done."*		

Employee participation in decision-making is a function of trust between employees and leaders; organizational goals are fulfilled when employees and leaders trust and work together (Aboyassin, 2008).

Category	Category Description	# of Employee Behaviors by Leader
Maintaining Effective Relationships & Influencing Others	**Maintain effective relationships and influence others in order to successfully make and implement decisions.**	**L1(4), L3(1), L5(3), L6(4)**
		Survey Question(s)
1. Create and maintain good relationships with others. *"having good relationships with people"*		1. At my company we understand how to deliver messages to

2. Work well with others in the organization by understanding the overall culture, understanding their audience and what they respond to, knowing how to best deliver messages, knowing how to manage the politics, and understanding what works best with the person they are working with. *"[Work well with others in the organization by] understanding the culture, and them understanding the audience and what they respond best to, how to best deliver messages, how to manage the politics, etc… And that individual needs to know what works best with the person they are working with. ."*
3. Understand the perspectives of others. *"You know how they, you know their criteria, you know how they look at things."*
4. Have a good attitude. "good attitude."
5. Empathize with others, for example, recognize and attempt to relieve the stress and pressure on others. *"So they also saw the stress and pressure that was coming on to me and they wanted to relieve that."*
6. Work well and provide support for individuals in higher levels of the organization. *"They worked very well with higher levels to be able to articulate what was the risk but not necessarily in the meetings themselves. These were people in the agree role, made sure they had the information they needed."*
7. Influence others by determining the best way to add value, such as helping others with tasks, helping to drive things forward on their behalf, and adding value in a way that is not intrusive. *"…So a lot of times our hardest part is identifying where we can add value without being intrusive. We don't have authority over these folks, right, so you are really coming in purely on influence. And you are trying to influence them to do a better job, you are trying to influence the way the carry something out, that's all you have. say alright, what can I take out of your hands, how can I help this move forward. can identify how to add value quickly.."*
8. Understand and be able to manage multiple agendas. *"I think it's a fine line or a fine balance between representing the department you are in, and the department you are working with. And that's always a fine line, and managing two agendas and making sure that they're both met."*
9. Collaborate with others in order to work together to meet shared goals. *"we are all in this together, linking arms, collaborative team."*
10. Work with others in order to achieve a successful outcome. *"they all had to work together to make sure it was going to be successful."*

different audiences and manage internal politics.

2. At my company we effectively collaborate with leaders and other areas to successfully make and implement decisions.

11. Work with others as one team rather than as a set of fragmented individuals or groups. *they're actually working at it together instead of being as fragmented as we historically had been.*
12. Maintain good relationships and keep the lines of communication open in order to effectively work through issues.* *"They stopped talking to each other.. they all sit together, they all if issues come up they talk to each other, they don't process map it out. So when the relationship broke down, they stopped sitting together, they went to their own space. No one was talking to each other, there was not process to then [go back to]".*

*Behavior was originally described by leader in terms of what was not supportive
** Leader totals reflect behaviors that were described by more than one leader

Appendix H: Frequency Tables of Survey Respondent Optional Background Variables

Geographic Regions of Respondents

Region	Frequency	%
(No Response)	2	2.0
Midwest	71	70.3
Northeast	25	24.8
Southeast	3	3.0
Total	101	100.0

Company Industry Classification of Respondents

Industry	Frequency	%
(No response)	3	3.0
Agriculture, forestry, fishing, and hunting	1	1.0
Construction	1	1.0
Educational services	5	5.0
Financial activities	48	47.5
Government	1	1.0
Health care and social assistance	10	9.9
Information services	9	8.9
Leisure and hospitality	1	1.0
Manufacturing	4	4.0
Other	4	4.0
Professional and business services	6	5.9
Retail trade	4	4.0
Transportation and warehousing	4	4.0
Total	101	100.0

Survey Respondents' Job Classification

Job Classification	Frequency	%
(No response)	2	2.0
Architecture and Engineering	1	1.0
Arts, Design, Entertainment, Sports and Media	1	1.0
Business and Financial Operations	24	23.8
Community and Social Services	1	1.0

Computer and Mathematical	21	20.8
Education, Training and Library	4	4.0
Farming, Fishing and Forestry	1	1.0
Healthcare Practitioners and Technical	2	2.0
Healthcare Support	1	1.0
Legal	2	2.0
Management	32	31.7
Office and Administrative Support	1	1.0
Production	1	1.0
Protective Service	1	1.0
Sales and Related	6	5.9
Total	101	100.0