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Exploring Leadership Behaviors Exhibited by Evaluation Team Leads during Innovation

Chithra Adams
University of Kentucky, chithra.adams@uky.edu
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EXPLORING LEADERSHIP BEHAVIORS EXHIBITED BY EVALUATION TEAM LEADS DURING INNOVATION

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of the Doctor of Philosophy in the College of Education at the University of Kentucky

By
Chithra Adams

Lexington, KY

Director: Dr. John Nash, Professor of Educational Leadership Studies

Lexington, KY

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ABSTRACT OF DISSERTATION

EXPLORING LEADERSHIP BEHAVIORS EXHIBITED BY EVALUATION TEAM LEADS DURING INNOVATION

Leading innovation is a difficult process because it is replete with tensions and paradoxes. Innovations require leaders to switch leadership styles depending on the context and the phase of innovation. This study used two leadership theoretical frameworks, transformational and transactional leaderships, to understand the leadership behaviors used to promote and manage the process of innovation.

The purpose of this study was to explore leadership behaviors exhibited by evaluation team leaders during the process of innovation. The focus of the study was on leadership behaviors and study participants are individuals who identify as evaluators who led a team of two or more evaluators. This study used Critical Incident Technique (CIT) to better understand the leadership behaviors exhibited during the process of innovation. Through semi-structured interviews, participants described a specific innovation that he/she led during the past 24 months, the actions they took to lead and support their team, outcomes and their perspectives about the process.

Contradictory behaviors were exhibited at all three key stages of innovation—insight, prototype, and adoption. Leaders described both transformational and transactional leadership behaviors at all the major innovation phases. Leaders were both people and task oriented in their leadership style.

KEYWORDS: Program Evaluation Teams, Innovation, Leadership Behaviors, Leadership Paradoxes

Chithra Adams

Student's Signature

April 26th 2017

Date

EXPLORING LEADERSHIP BEHAVIORS EXHIBITED BY EVALUATION TEAM LEADS DURING INNOVATION

By

Chithra Adams

Dr. John Nash
Director of Dissertation

Dr. Robert Shapiro
Director of Graduate Studies

April 26th 2017
Date

DEDICATION PAGE

To my mom, for teaching me how to persist.

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CHAPTER 1: INTRODUCTION

Innovation is critical for organizations to not only thrive but also exist in a rapidly changing economy and market (Amabile, 1988; Bettis & Hitt, 1995; Boisot, 1998; Oldham & Cummings, 1996). Dubberly (2008) argued innovation cannot be tamed and organizations who fail to innovate often cannot thrive. Similar to other service and product organizations, Research and Development teams innovate in the way they produce, deliver, and generate knowledge. One form of research and development is program evaluation, a process which results in knowledge generation for program improvement and decision-making. Program evaluators are a type of knowledge workers (Baizerman, 2009). While there is a large literature base on various aspects of designing and implementing evaluations, there is very little literature on managing and leading evaluation teams (Baizerman and Compton, 2009). Little is known about how evaluation team leaders innovate within their teams and how they manage the challenges that the process of innovation presents. And yet, evaluation team leaders, like other leaders of teams, have to innovate for growth and survival. This study will examine the leadership behaviors exhibited by evaluation team leaders during the different phases of innovation.

Problem Statement

Leading innovation is a difficult process because the innovation process is replete with tensions and paradoxes (Quin, 1985; Bujis, 2007; Bledow, Frese, Anderson, Erez, and Farr, 2009). Innovations require leaders to switch leadership styles depending on the context and the phase of innovation (Hohn, 2007; Hunter, Thoroughgood, Tyler, and Ligon, 2011; Rosing, Frese and Bausch, 2011). Bujis (2007) described innovative

leaders as ‘controlled schizophrenics.' Innovative leaders exhibit contrasting behaviors. For example, innovative teams are champions of innovation to external stakeholders and at the same time provide critical feedback within their teams (Hunter et al., 2011). They support a culture that embraces failure but can produce profitable outcomes. Innovative leaders promote the pursuit of divergent ideas but keep the costs of innovation low. They motivate their employees to pursue single projects, while also making sure that their followers are committed to the overall goals and strategic directions of the organization (Hunter et al., 2011).

In short, innovative leaders maintain a ‘dynamic equilibrium’ exhibiting contrasting behaviors at times to embrace the paradoxes of the innovation process (Smith, Lewis, and Tushman, 2016). How leaders address these paradoxes is relatively unexamined (Smith, 2014). Furthermore, there is no literature on how evaluation team leaders embraced the paradoxes presented by the process of innovation. This study’s purpose and research question aimed to fill this gap in literature. The purpose of the study was to understand the types of leadership behaviors exhibited by evaluation team leads during the innovation process. The study explored leadership behaviors and innovation in evaluation teams. The leadership behaviors were examined using two leadership theoretical frameworks.

These theoretical frameworks, transformational leadership, and transactional leadership, have been used commonly to explain and explore the contrasting leadership behaviors required to lead innovation (Mumford, Scott, Gaddis, & Strange, 2002; Hohn, 2007; Rosing et al., 2011; Stenmark, Shipman, and Mumford, 2011). A theoretical framework is “a structure that guides research by relying on a formal theory-- the

framework is constructed by using an established, coherent explanation of certain phenomena and relationships" (Eisenhart, 1991, p. 205). A theoretical framework provides a lens to view a problem and analyze data (Grant, & Osanloo, 2014; Dinh, Lord, Gardner, Meuser, Liden, & Hu, 2014). Transformational and transactional leaders have contrasting leadership styles. However, these stark contrasting leadership styles align well with the paradoxical activities inherent to the innovation process.

The concept of transformational and transactional leadership was first introduced by James MacGregor Burns (1978). It should be noted that Burns used 'transforming' rather than 'transformational' in his seminal paper (Burns, 1978). Burns (1978) described transforming leadership with the phrase "leaders and followers help each other to advance to a higher level of morale and motivation." He used transforming leadership to describe the differences between management and leadership. According to Burns (1978) transactional leadership was often used by managers and was a give and take process. On the other hand, transforming leadership was based on the leader's ability to motivate and influence followers to share a common vision. According to Burns (1978), transforming and transactional leadership styles were mutually exclusive.

Transformational leadership. Burns' (1978) concepts of leadership were further expanded by Bass (1985) who used the term 'transformational' instead of 'transforming.' Bass (1985) argued that transformational leaders were able to influence followers to work for something more than self-gain. Unlike Burns (1978), Bass (1985) argued that transformational and transactional leadership were not mutually exclusive but rather a part of a continuum. Bass and Avolio (1994) theorized that transformational leaders were able to influence followers through idealized influence (charisma),

individualized consideration, inspirational motivation, and intellectual stimulation. According to Bass and Avolio's (1994) transformational leadership theory, idealized influence related to instilling a sense of mission, individualized consideration related to providing support to followers, inspirational motivation related to elevating group/team member goals and needs, and intellectual stimulation related to the questioning of assumptions and exploring new ideas and concepts. All these behaviors were critical for the innovation process which included reframing and redefining the problems, generating new ideas, testing different solutions, and adopting new solutions.

According to Avolio (1999), transformational leaders stimulated intellectual thinking by fostering divergent thinking and allowing followers to challenge the status quo. Followers were encouraged to question assumptions, reframe problems, and find new approaches to existing problems. Followers were not penalized or ridiculed for making mistakes. In fact, transformational leaders allowed for errors. Shin and Zhou (2003) argued transformative leadership behaviors were closely aligned with the factors that determine creativity and idea generation. Gumusluoglu and Ilsev (2007) agreed that transformational leadership influenced creativity at both team and individual levels. Jung (2001) conducted a random assignment study to explore the influence of leadership on idea generation and found that participants led by a transformational leader generated more ideas than participants who were assigned to a group led by a transactional leader. Teams led by transformational leaders not only self-reported being creative (Reuvers, Van Engen, Vinkenburg, & Wilson-Evered, 2008) but also had high team performance (Keller, 1992). Transformational leaders empowered their followers (Jung and Sosik, 2002) and created climates conducive for creativity (Jung, Chow, & Wu, 2003).

Transformational leaders were able to effectively influence followers to work towards an idealized vision (Bass & Avolio, 1994). In such cases, followers valued the outcome of vision and thereby were committed to the team's goals (West, 1990), particularly when the vision was clear, attainable and shared across the team (West, 1990). At the same time, transformational leaders took the time to learn about the individual needs of their employees (Avolio et al., 1999). Employees were provided with opportunities to learn and grow. Transformational leaders inspired and motivated their employees to work and aspired to a new or better future state.

Transactional leadership. As defined by Burns (1978), " transactional leaders approach followers with an eye to exchanging one thing for another: jobs for votes, or subsidies for campaign contributions" (p. 4). Bass (1985) expanded on Burn's leadership model and described a transactional leadership style in which the leaders communicated specific expectations and offered rewards if the expectations were met. Transactional leadership included two critical components—contingent rewards and management by exception. Contingent rewards referred to the process where leaders rewarded followers for completing a task. The task requirement and role of the employee were made clear. The leader and the follower negotiated a reward to be provided at task completion, and employees received the promised reward. It should be noted that the reward could be tangible or intangible. The leader set standards for performance and monitored deviations from these standards. This was referred to as management by exception (Bass, 1985).

Transactional leadership was shown to be critical for innovation (Deichmann & Stam, 2015). Vaccaro, Jansen, Van Den Bosch, and Volberda (2012) argued that the

transactional leaders enhanced extrinsic motivation in followers by providing rewards upon task completion. This type of leadership might help reduce ambiguity by setting clear goals and targets. Transactional leaders could also promote ideation by highlighting the tangible rewards and directly communicating the value in achieving the goals (Vaccaro et al., 2014), thereby promoting organizational learning of new practices and processes (Vera & Crossan, 2004; Deichmann & Stam, 2015). Vaccaro et al. (2012) argued that active management by exception helped leaders monitor the degree to which an idea had been implemented. Innovation not only involved idea generation but also idea implementation. Transactional leadership helped in the routinization of innovations and making them more efficient (Vera & Crossan, 2004).

While transformational and transactional leadership behaviors have been described as discrete styles, it is important to note they have also been viewed as a part of a continuum. Innovative leaders often switched between the two leadership behaviors to perform contradictory activities (Bledlow et al., 2009). They switched their behavior based on the needs of the situation (Gibson & Birkinshaw, 2004). They were contextually ambidextrous and exhibited temporal flexibility in changing from one mindset to another (Rosing et al, 2011). Therefore, it is critical to study the leadership behavior within the context in which they occurred. The current study used Critical Incident Technique (CIT) to explore the types of leadership behaviors exhibited during different phases of an innovation as the context within which the innovation occurred. CIT allows for the exploration of behaviors within a specific incident (Flanagan, 1954).

Purpose and Significance of the study

This study looked at behaviors exhibited by evaluation team leaders during the process of innovation. The focus of the study was on leadership behaviors. Study participants were individuals who identified as evaluators who led a team of two or more evaluators. While the research study focused on evaluation team leaders, the findings from the study have broader implications. Baizerman (2009) posited that evaluation teams are 'knowledge workers' and as such literature related to managing knowledge workers applies to managing evaluation teams. In a similar vein, it could be argued that research related to managing and leading evaluation teams contributes to the larger literature of management of knowledge workers. For Davenport (2005), knowledge workers were professionals whose major job responsibility included the creation, distribution, or application of knowledge. Professionals working in higher education institutions, research organizations are considered knowledge workers. Therefore, findings from the study could also contribute to the larger body of higher education leadership literature.

Research Question

The main research questions was "What are the leadership behaviors exhibited during the process of innovation by evaluation team leaders?" To answer this question, CIT was used to explore and understand the antecedents to an innovation incident, a description of the innovation incident, the leadership behaviors exhibited during the incident, and the outcome of the incident. In CIT, participants describe a specific critical incident, their behaviors, as well as those of others, during the incident, and their perspectives on their reactions to the incident (Flanagan, 1954). In this study, the

incidents sought were team innovations, and the aim of the study was to examine the leadership behaviors exhibited by evaluation team leads during the innovation process. The research sample included evaluation team leaders, specifically evaluation team leaders who oversaw the work of at least two or more team members. The evaluation team leader had the official responsibility to manage the team's work. The leader was the team lead for at least a year and self-identified as a program evaluator. The primary service provided by the team was program evaluation, and the team provided evaluation services for at least one or more years. To minimize the influence of socio-cultural norms on leadership styles and processes, only teams located in the United States were included in the study. Both teams who provide internal and external evaluation services were included in the sample.

Delimitations

One of the delimitations of the study was to include only people whose primary job responsibility was program evaluation and self-identified as a professional evaluator. The study looked at evaluation team leaders who currently managed teams within the United States and had led an innovation within the last 24 months. Evaluators who had led innovations in the past or were not residing in the United States were excluded from the study. The focus of the study was on leadership behaviors exhibited by team leads to manage innovations at the team level. Solo evaluation practitioners/consultants who had implemented innovative methods within their evaluations were excluded from the study.

Limitations

CIT has been widely used by various disciplines as a qualitative tool, ranging from medicine to education, to understand behavioral descriptions of an event (Butterfield, Borgen, Amundson, & Maglio, 2005). Like any other methodological tool, CIT has its limitations. Recall bias is a major limitation of the CIT procedure (Michel, 2001). One approach to limit recall bias is to focus on recent incidents. Participants were asked to recall an incident that had occurred in the last 24 months. It should be noted that the study focused on the most recent innovation incident versus the most 'innovative' incident led by the study participant. This approach relies on the participant's ability to recall and reflective of the incident. Probes were used to help participants recall information about the incidents. However, not all participants provided a detailed account. Some of the participants were not reflective in nature. A couple of participants did not feel comfortable providing a detailed information as it would identify who they were evaluating. Because the researcher wanted to collect detailed information on leadership behaviors within the innovation process, the interview focused on one incident. This may influence the type of incident the participant chose to describe during the interview.

Another limitation is the subjectivity of the analysis (Chell, 1998) which can be minimized by using reliability methods. Trustworthiness checks were used to ensure reliability. As with any qualitative research, it is important to provide a detailed description of the process followed and a rich description of the findings (Kain, 2004). The findings of the study are based on non-random small sample of fifteen evaluation team leaders and this poses limits to generalizability. In other words, participant's

description of leadership behaviors during the management of innovation, may not hold true for all evaluation team leaders. Furthermore, participants who expressed interest in study may be different from those who did not respond to the study advertisement. The study participants might have predisposition to team work and being innovative. As such the self-section bias may influence the findings of the study and its generalizability.

An in-depth review of the literature and the theoretical frameworks used in the study is presented in Chapter 2 (Literature review), a careful explanation of the process followed is described in Chapter 3 (Methodology), a rich description of the findings is included in Chapter 4 (Results), Chapter 5 discusses the study findings and situates it within the research literature related to leadership and innovation. This provides the reader with enough information on the theoretical lens used by the researcher to frame the research question, the process followed to answer the questions, and on the findings.

CHAPTER 2: LITERATURE REVIEW

The purpose of this study was to explore the leadership behaviors exhibited by evaluation team leaders during the process of innovation. As such, the researcher examined the literature behind innovation, leadership, and managing evaluation teams. The purpose of the literature review was to gain an understanding of the strengths and gaps of the research literature, relating ideas and theory, and the context of the topic. The review was also used to delimit the research question, and identifying methodological approaches to answering it. (Gall, Borg, and Gall, 1996; Hart 1998). The research question guided the research literature review. University of Kentucky's 'InfoKat Discovery' and 'Google Scholar' were used to search various databases for books, journal articles, and dissertations. The following keywords were used: phases of innovation, team innovation, leadership and innovation, leadership and teams, and managing evaluations. The results of the literature review are presented in three sections. The first section provides an overview of the research on innovation and includes the phases of innovation. The research on leadership and innovation is presented in the second section. Finally, section three includes the research on evaluation teams.

Innovation and the phases of innovation

The definition of innovation depends on the level at which innovation is studied (Bantel & Jackson, 1989; Janssen, van de Vliert, & West, 2004). Innovation can occur at four levels-- individual (Amabile, 1996), team (West & Anderson 1996), organizational (Angle & Ven de Ven, 2000), or industry (Schumpeter, 1934). Because this study focused on team leadership and innovation, innovation defined at the team level was used. West and Wallace (1991, p.103) defined team innovation as "the intentional

introduction and application of ideas, processes, products or procedures new to the team, designed to significantly benefit the individual, the team, the organization, or wider society." Furthermore, innovation has also been examined from three other perspectives-- input (individual, organizational structure), process, and outcomes (the end product or results of an innovation) (Harden, 2009). This study's primary focus was on the innovation process and the leadership behaviors exhibited by evaluation team leads during the innovation process. This section provides a historical perspective of the innovation process, innovation model as described by the Dubberly design office and leadership behaviors exhibited during these phases of innovation.

Historical perspectives on innovation. Research and publications on innovation can be traced back to the early 1950s (Fagerberg, and Verspagen, 2009). Very few studies were conducted in the early half of the twentieth century. The early theories of the innovation process can be broadly categorized into two worldviews-- 'transcendentalist' and 'mechanistic' (Robertson, 1967). The 'transcendentalist' world view, held mostly by economists, prescribed to the notion that innovation was a result of a creative genius and was unpredictable. In contrast, the mechanist theory, held mostly by sociologists, prescribed to the notion that innovation was built upon the work of many individuals over a long period and did not occur in a vacuum (Robertson, 1967).

One of the early theories of innovation combined both the 'transcendentalist' and 'mechanistic' worldviews. Economist Abbott Usher's (1954) theory of innovation process included four key steps: 1. Perception of the problem: In this phase, an existing problem was recognized and felt. 2. Setting the stage: In this phase, a sequence of events made it prime for unique solution finding. According to Usher (1954), these series could

not be predicted but rather could only be analyzed post innovation. He also believed that these series of events leading up to an innovation were different from previous events and created a climate for solution finding rather than accepting status quo. 3. The act of insight: In this phase, the innovator "saw" the solution to the problem and organized information to a pattern that solved the problem. 4. The critical revision: In this phase, the identified solution was tested for practical use. Problem recognition, insight, testing of an idea continue to be key components of current innovation models.

Another key researcher who influenced the understanding of the innovation process was the economist, Joseph Schumpeter. Schumpeter (1934) argued that innovations did not have to be new discoveries. He argued that innovations could be new combinations and applications of existing technologies. Schumpeter (1934) also posited that innovations had to be creative as well as profitable products. These concepts have been widely accepted by researchers. Current definitions of innovation include not only profitable/useful novel solutions but also new applications/combinations of existing technologies.

Theoretical models have evolved since Usher's (1954) theory of innovation. In his historical review of the innovation process, Rothwell (1994) identified five models to capture the perspectives of the innovation process between mid-1950 to the mid-1990s. The five models were centered on innovation as it relates to product and technology development e.g. hardware and software information technology development, manufacturing etc. Rothwell's (1994) models were based on research and scholarly articles about innovation in manufacturing and for- profit companies. These models were more applicable to product innovation in the private sector.

The first generation, Technology Push Model, described the innovation models of the 1950s and early 1960s. It was a linear model where innovation occurred in research labs and the products of innovation were sold in markets. The perspective held by researchers was that more research in labs resulted in more new products. Scant attention was paid to the innovation process itself (Rothwell, 1994). According to the Technology Push model, innovation was a result of advances in the supply side of the market. In the mid-1960s and mid-1970s, private markets faced stiff competition and there was a pressure to diversify to meet consumer needs. As a result, the Market Pull model emerged; scholars (Clark, 1979; Mensch, Kaash, Kleinknecht, & Schnapps, 1980) argued that technological advancements were a result of companies trying to expand and diversify. According to the Market Pull model, innovation was a result of pressure from the demand side of the market. Mowery and Rosenberg (1978) posited that innovation was a result of both market demands and technological demands. Rothwell (1994) referred to this as the third generation of the innovation process model. While fairly linear or sequential, the third-generation models included feedback loops. During the mid-1980s-90s, the innovation process was no longer viewed as a linear process, in part because of empirical studies conducted on Japanese firms which identified two critical processes used by these firms for product development--integration and parallel development. While departments worked on various aspects of a project simultaneously (parallel development), they also integrated suppliers in the early stages of the development process (Imai, Nonaka, & Fakeuchi, 1985). These studies showed the value gained by having functional overlap during the innovation process. In summary, the latter half of the century saw an increase in research on the innovation process

(Fagerberg, and Verspagen, 2009). The innovation process models progressed from linear non-overlapping models to nonlinear and functionally overlapping models.

The late 1990s and early 2000s not only saw a jump in innovation process research studies (Fagerberg, and Verspagen, 2009) but also a shift in paradigms. Innovation was no longer viewed under the profit model lens but was viewed as a social process (Gallouj 2002; Nystrom 2002; Sundbo and Fuglsang 2002). While there were slight variations in these theories of the innovation process, some of the common elements across these models were as follows-- idea generation, idea scoping, prototyping, demonstration, development, and launch/commercialization (Cooper, 2014). The Dubberly (2007) innovation model was used to explore the phases of innovation in more detail for the study. In addition to capturing the nonlinear and iterative nature of innovation very well, the Dubberly (2007) model could be broadly applied to any field.

Innovation process. The Dubberly (2007) model of innovation was created by staff in the Dubberly Design Office in the Institute for the Creative Process at the Alberta College of Art and Design. The design staff examined innovation models and processes prescribed by organizations and individuals to identify the context of innovation, that is, the how, who, what, when, where and why. More than 50 models were examined to identify the circumstances of innovation. The design team used concept mapping to synthesize and visualize the results of their research. Concept maps graphically represented the key concepts and the relationships between the key concepts. The DDO concept map "was built on the idea that innovation is about the evolution of paradigms" (Dubberly, 2007, p. 4). Accordingly, to Dubberly (2007), innovation could rarely be observed while it happened and was most often recognized after a change had occurred.

The DDO model graphically displayed how innovation results in a change from one process to another.

The DDO model displayed the factors influencing innovation on a horizontal and vertical axis with interconnected loops. The innovation cycle has eight elements displayed on the vertical axis. The elements of innovation included-- change, misfit, recognition, insight, articulation, demonstration, and adoption. The horizontal axis reflected the elements that drive innovation at the individual level. The horizontal and vertical axis converged at 'insight.' The following paragraphs describe the elements on the horizontal and vertical axis and the influence of the external environment (community, context, and community) on the innovation cycle elements. This link contains a visualization of the Dubberly model (2007), http://www.dubberly.com/wp-content/uploads/2008/06/ddo_innovation.pdf . One of the limitations of the DDO model is that it does not describe in detail the adoption phase. To address this limitation, the study borrowed from other innovation research.

Innovation and the external environment. While the Dubberly (2007) innovation model was nonlinear, for the sake of simplicity a sequential approach is used to describe the elements in the model. On the left side of the Dubberly (2007) model, three external factors were identified—community, convention, and context. $Community_1$, $convention_1$, $context_1$ were placed above the horizontal axis. $Community_2$, $convention_2$, $context_2$ were placed below the horizontal axis. The subscript 1 and 2 referred to the community, convention, and context before and after the innovation process. The Dubberly model (2007) posited that communities, convention, context were changed because of an innovation. Innovations caused paradigm shifts (Dubberly, 2007).

*Community***.** According to the Dubberly model (2007), a community was is system of people bound either by a common location or common interest. Individuals within a community might be related through family connections, social or business interests. The individuals within the community relied on each for their survival. Community members shared ideas and perspectives. Members of a community might change over time with individuals leaving or entering the community over time (Dubberly, 2007).

Convention. Convention referred to the way in which community members behaved in particular situations (Dubberly, 2007). Convention also influenced the way community members thought and responded to the environment (context). Conventions were the connectors between community and context.

*Context***.** Context was the environment in which the community members lived. The Dubberly model (2007) argued that there must be a stable relationship between the community and the context. Conventions helped communities establish that stability. After a successful innovation, change occurred in all three elements-- convention, community, and context (Dubberly, 2007). Therefore, innovation could be considered the transformational process of one set of conventions to another.

***The innovation process*.** The innovation process was displayed on the vertical axis. The elements of the innovation process included-- change, misfit, recognition, insight, articulation, demonstration, and adoption.

External pressure. According to the Dubberly model (2007), innovation was a result of some external pressure and as such 'external pressure' was placed on top of the

vertical axis. Community members might fail to recognize the external pressure which could lead to 'decay' (internal pressure). The authors noted that resisting change required energy and was not a passive process. Both external pressure and decay disturbed the balance between the community and the context. This disturbance kick- started the need for innovation or change.

Change was the second element on the vertical axis. Change caused a misfit wherein current conventions were no longer able to maintain the stable relationship between community and context.

Misfit entailed a cost on the community and could be a physical, mental, social, or financial cost (Dubberly, 2007). When a misfit was large enough, the community recognized it. Community members identified a misfit through observation and experience, leading to problem recognition.

Recognition required community members to define the problem. According to Dubberly (2007) problem definition was a political act and influenced by power. By defining the problem, community members saw possible opportunities for change or insight.

Insight was the process to restore fit. While insight was the most unknown part of the innovation process, immersion within the context was critical to gaining insight during the process. According to the Dubberly model (2007), evolution could be considered as an insight process where the poorly performing elements were removed. Furthermore, the Dubberly model (2007) posited the design process was an artificial evolution process that aimed to restore fit.

Prototyping, or articulation, gave insights a physical form. The physical form could be a hypothesis, model, diagram, story, physical mock-up, sketch etc. Prototypes were neither perfect nor complete.

Demonstration allowed for the testing of prototypes. While articulation provided a way of sharing an insight, demonstration proved or disproved the value of an insight. The demonstration phase involved repeated testing to identify errors, areas of improvement, and even increased understanding of the idea. A demonstration might lead to more prototyping. Failed demonstrations might also create new insights or further define the problem. Demonstration reduced risk and led to a model that could be adopted.

Adoption involved the initiation and implementation of innovation. Initiation involved problem definition, information gathering, resource assessment, evaluation, and decision to adopt (Duncan, 1976; Rogers, 1983). The implementation stage of the innovation process could be defined as all the events and actions related to the initial utilization and continued use of the innovation until it became a routine feature of the organization (Damanpour, 1991). Damanpour (1991) argued that the implementation phase could be further broken down into two phases-- initial utilization and continued use (routinization). Greenhalgh et al. (2004) conducted an extensive literature review of innovation implementation research that included an in-depth review of 213 empirical and 282 non-empirical studies. Greenhalgh et al. (2004) found that evidence related to implementation of innovations was complex and hard to disentangle from change management

Regardless of the scale and level of adoption, adoption creates change. The scale of change can vary from creating a new domain of invention or change in a process. Adoption of an innovation creates a change in action and sometimes leads to unplanned consequences. At times, innovation spurs further innovation. Joseph Schumpeter (1934) described this as creative destruction, "the process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one."

Fit and Variety. In the Dubberly model, successful adoption created a new fit between the community and the context. The Dubberly model (2007) argued that fit led to variety. In communities, variety was a range of tools they had to adopt due to a disturbance-- change in perspective, new language, and expansion of a new domain.

Individual and organizational factors. The horizontal axis reflected the elements that drove innovation at the individual level. The horizontal and vertical axis converged at 'insight'. On the right side the horizontal started off with innovation.

Preparation. At the individual level, preparation for an innovation required immersion and bit of luck (Dubberly model, 2007). Organizational culture also helped in preparing an individual to innovate. The preparation phase aided in the individual gaining an insight into a problem.

Individual drive. At the same time, individual drive also influenced gaining an insight. Individual who had the drive to innovate were usually optimistic, open to change, confident and passionate. They also had experience, talent, skill, specific domain expertise, and understanding of the tools, techniques, and process. Individuals benefitted

from sharing the skills with a community, and this created an efficiency in the innovation process (Dubberly model, 2007).

In summary, a disturbance created in the external environment caused a misfit in the community. This drives the need for innovation and created a context for recognizing the problem. The process of recognizing the problem also created new opportunities (insight). Concurrently, individuals who were prepared and had the drive, gained an insight. The insight sharing phase was followed by articulation, demonstration, adoption, and fit. However, this was not necessarily a sequential process. For example, demonstration might lead to more prototyping. Failed demonstrations might also create new insights or further define the problem. The non-linear nature and the uncertainty of the innovation process made leading innovation difficult. The next section reviews the literature on leadership and innovation.

Leadership within the context of innovation

"Leadership is an influence relationship between leaders and followers who intend real changes that reflect mutual purposes" (Rost, 1993, p.102). Rost's characterization of leadership had four essential components-- leaders and followers, influence relationships, real changes, and mutual purposes (Rost, 1993). According to Rost (1993), followers must be active and there must be more than one follower. The relationship between the leader and the follower was multidirectional and non-coercive. The leader and followers desired certain changes. They did not have to produce a change for leadership to occur but they should have had the intention to create change. The intended change reflected their mutual purpose. Because it was a non-coercive relationship, mutuality was forged by the leader and the follower (Rost, 1993).

There are different models and frameworks which classify leadership styles. Bass' (1985) Full Range Leadership model has been used to study leadership within the context of innovation. The Full Range Leadership model identified three leadership styles-- transformational, transactional, and laissez-faire (Bass, 1985). In particular, transformational and transactional leadership styles have been used to examine the leadership style/behavior and innovation process. Bass (1985) called the laissez-faire leadership style non-leadership or avoidance of leadership duties. Most leadership studies have focused on active leadership styles. The next few paragraphs describe transactional leadership, transformational leadership, the leadership paradox in innovation (specifically using the Dubberly model of innovation).

Transactional leadership. Burns (1978, p.4) defined transactional leaders as "Leaders who approach followers with an eye to exchanging one thing for another: jobs for votes, or subsidies for campaign contributions." Leaders and followers negotiated resources that would be exchanged to complete a set of objectives (Sergiovanni, 1990). The relationship between the leadership and the follower was one of mutual dependency where contributions made by both were acknowledged and rewarded (Kellerman, 1984). Transactional leadership had two critical dimensions (Bass, 1985). First, the leaders should be able to clarify the role and task requirements and at the same time provide the tangible or intangible rewards upon completion of the task. This was referred to as contingent reward leadership behaviors. Second, the leaders should set standards for performance and monitor deviations from these standards. This was referred to as management by exception (Bass, 1985).

Effective transactional leaders regularly met the expectation of their followers. Furthermore, the effectiveness of transactional leadership was dependent on the leader's ability to anticipate, respond, and meet the changing expectation of their followers (Kellerman, 1984). It should be noted that there were varying levels of transactions and not all transactions were equal (Kuhnert and Lewis, 1987). Graen, Liden, and Hoel (1982) found that high-quality exchanges were related to the leader providing emotional resources and support to employees. Low-quality exchanges involved fulling contractual obligations like working a particular set of hours (Graen et al., 1982). High-quality transactions were based on the interpersonal relationship between the leader and follower. Some of the high-end transactions were based on the exchange of trust and respect (Bass, 1978). Low-quality transactions were based on the exchange of resources (Graen et al., 1982). Low-quality transactions depended on the leader's ability to bargain and obtain resources. Goodwin, Wofford, and Whittington (2001) found that high-quality transactions were more positively related to organizational citizenship and commitment among followers than low-quality transactional behaviors. High-quality transactions were also positively associated with followers' satisfaction and performance (Bycio, Hackett, & Allen, 1995; Hunt & Schuler, 1976; Podsakoff, Todor, Grover, & Huber, 1984). If the promised resources were not under the direct control of the leader, then this diminished his/her bargaining power (Kunhert and Lewis, 1982). On the other hand, high-quality transactions did not depend upon leaders' bargaining power, since intangible rewards were exchanged.

Johnston (1996) argued that stable environments were conducive for transactional leadership. In stable environments, there was low uncertainty, agreed upon goals,

established relationships. These environments were ideal for transactional leadership, so much so that the exchange of benefits were taken for granted and were seldom subjected to serious examination (Johnston, 1996). Furthermore, in stable environments, the norms had been established. The standards of performance for both leaders and followers were not only recognized but also adhered to. Leaders and followers had the necessary skills and expertise to perform their organizational duties (Johnston, 1996). The major limitation of transactional leadership was the lack of ability to intrinsically motivate and influence followers to visualize something different than what was currently in place. Transformational leadership was needed when leaders had to motivate followers to conduct a new practice that was not commonly pursued (Kuhnert and Lewis, 1987). The essential dimensions of the transformational leadership style are described in the following paragraphs.

Transformational leadership. Transformational leadership is the ability of the leader to "influence the values, attitudes, beliefs, and behaviors in others by working with and through them in order to accomplish the organization's mission and purpose" (Rouche, Baker, and Rose, 1989). Burns (1978) made a clear distinction between transformational and transactional leaders. He argued that the transformational leader engaged with followers in such a manner that it increased their motivation. In contrast, the transactional leader exchanged something of value to the follower to get a job completed. It should be noted that transactional and transformational leadership are part of a leadership continuum and are not distinct categories (Bass, 1985).

Avolio, Bass, and Jung (1999) and Antonakis (2001) identified four transformational leadership behaviors-- idealized influence, inspirational motivation,

intellectual stimulation and individualized consideration. Idealized influence referred to leadership behaviors that instilled pride and faith and sense of mission. The leaders were held in high regard and engendered loyalty from the followers. Leaders also shared risks with followers. Inspirational motivations referred to the leader's vision for the future based on his/her values. It also included the leader's ability to inspire followers to aspire to his/her vision by stimulating enthusiasm and building confidence. The leaders also encouraged followers to envision attractive future states. Inspirational motivation and idealized influence were highly correlated behaviors and were sometimes collectively referred to as 'charisma' in the literature (Bass, 1998).

Intellectual stimulation referred to leadership behaviors which fostered divergent thinking, creativity, challenging status quo. Leaders encouraged followers to question assumptions, reframe problems, and find new approaches to existing problems. Leaders did not penalize or ridicule for making mistakes. Individualized considerations referred to leadership behaviors that identified the unique needs of the followers and provided support based on their unique needs (Avolio et al., 1999). Leaders created new learning opportunities for employees to learn and grow.

Transformative leadership behaviors were found to be closely aligned with the factors determining creativity (Shin and Zhou, 2003). Transformational leadership influenced creativity at both the team and individual levels (Gumusluoglu and Ilsev, 2007). Jung (2001) conducted a random assignment study to explore the influence of leadership on idea generation and found that participants led by a transformational leader generated more ideas than participants who were assigned to a group led by a transactional leader. Teams led by transformational leaders not only self-reported being

creative (Reuvers, Van Engen, Vinkenburg, & Wilson-Evered, 2008) but also had a high team performance (Keller, 1992). Transformational leaders empowered their followers (Jung and Sosik, 2002) and created climates conducive for creativity (Jung, Chow, & Wu, 2003). Elkins and Keller (2003) posited that the core transformational leadership behaviors were aligned with the determinants of workplace creativity including vision, support for innovation, autonomy, encouragement, recognition, and challenge. Tierney, Farmer, and Graen (1999) found that a leader's inspirational motivation was related to employees' intrinsic motivation and was an important source of creativity.

While transformational leadership behaviors have been strongly associated with individual and group creativity, transformational leadership behaviors alone are not sufficient for innovation. For Amabile (1998), innovation involved an iterative cycle of development and implementation of ideas. As such, it required leadership behavior that would stimulate idea generation and at the same time facilitate systematic implementation of an idea. Innovative leaders had to have both transformational and transactional leadership qualities. Transformational leadership strongly correlated to the initial idea generation/exploration phase (Rosing, Frese and Bausch, 2011). Transactional leadership correlated with the later stages of innovation (Rosing, et al. 2011). Hunter, Thoroughgood, Tyler, and Ligon (2011) described this as the 'paradox of leading innovative endeavors.'

Paradoxes of leading innovation. "Paradox in an organizational context was an observation in which two contradictory elements were present or operating at the same time" (Yip, 2009, p. 171). The innovation process had several paradoxes. Innovation involved both the idea generation and implementation of successful ideas. Furthermore,

innovation occurred side by side along with other tasks that needed to be performed for the organization's survival. A meta-analysis of over 125 studies showed that individuals who engaged in creative or scientific research showed strong trait tendencies toward autonomy and independence (Feist, 1998). At the same time, establishing efficiency and effectively managing resources were necessary for an organization to be profitable (Coase, 1937; Leana & Barry, 2000). In their review of innovation literature, Bledow, Frese, Anderson, Erez, and Farr (2009) identified conflicting demands and activities created by innovation at the organizational, team and individual levels. These conflicting demands and activities were also seen at the leadership level (Hill, Brandeau, Truelove & Lineback, 2014). Hill et al. (2014) argued that leaders must constantly manage a tension between supporting people to generate and share ideas and allowing confrontation to improve ideas and processes. The next few paragraphs will explore the conflicting leadership behaviors required to manage the innovation process, specifically at the team level. The Dubberly (2007) innovation model will be used to frame the individual steps within the innovation process.

As mentioned in the previous section, the Dubberly (2007) innovation cycle has eight elements displayed on a vertical axis. The elements of innovation include-- change, misfit, recognition, insight, articulation, demonstration, and adoption. The horizontal axis reflects the elements that drive innovation at the individual level. The horizontal and vertical axis converge at 'insight.' The following paragraphs describe the elements on the horizontal and vertical axis and the influence of the external environment (community, context, and community) on the innovation cycle elements and leadership. Leadership paradoxes are described within each element of the Dubberly (2007) model.

Innovation and the external environment. While the Dubberly (2007) innovation model was nonlinear, for the sake of simplicity a sequential approach is used to describe the leadership behaviors required to successfully manage each element in the model.

Community. According to the Dubberly model (2007), community was a system of people bound by either a common location or common interest. Individuals within a community were related through family connections, social or business interests. Within the context of team innovation, teams were groups of individuals performing tasks in an organization or a system (Hackman and Wageman, 2005). As such these teams could be considered as social systems with boundaries (Alderfer, 1977). While members had differentiated roles within teams, there was an interdependence among members to complete tasks (Alderfer, 1977).

Innovation presented a paradox at the team level. Individuals needed to be able to work with other members to perform their duties effectively. At the same time, they needed to be able to do divergent thinking and tasks which required them to think--to question current methods and try new options (Bledow et. al, 2009). Innovative teams were both functionally (Somech, 2006) and meta-cognitively heterogeneous (Spektor, Erez, & Naveh, 2011). Functional heterogeneous teams reflected diverse experiences, information, expertise and perspectives (Drach-Zahavy & Somech, 2001). Spektor, Erez, and Naveh (2011) found that innovative teams were composed of both creative people and conformists. Creative people were often risk takers, tolerant of mistakes, and willing to explore new options. Conformists were people who applied an idea within the accepted channels and integrated it within organizational processes (Spektor et al, 2011). Since innovation required both generation and application of ideas, it demanded

paradoxical thinking styles (out of the box thinking as well as conformity to context). Team leaders needed to be able to manage and promote the growth of both the creative and conformists.

Team leaders were individuals “primarily responsible for defining team goals and for developing and structuring the team to accomplish these missions” (Zaccaro, Rittman & Marks, 2002). Innovative team leaders should have technical expertise in the domain in which he or she was working as in as well as leadership skills to lead the team (Hunter et. al, 2011). The team leader should be able to evaluate options critically and pick the most viable options (O’Connor, 1998; Kitchell, 1995). At the same time, team leaders should be divergent thinkers (Bilton, 2007; Mumford, Connelly, & Gaddis, 2003). Divergent thinking allowed team leaders to explore alternative solutions to problems.

Convention. Within the Dubberly model (2007), convention referred to the way in which community members behaved based on a situation. Within the context of teams, team processes could be considered as conventions. Team process was defined as the "members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral activities directed toward organizing taskwork to achieve collective goals" (Marks, Mathieu & Zaccaro, 2001). Team vision, support for new and improved ways of work, communication, and task orientation were factors that influenced innovativeness among teams. Innovation required leaders to exhibit paradoxical behaviors within these key factors (Luscher & Lewis, 2008; Smith &Tushman, 2005). Innovative leaders motivated and inspired team members to be autonomous. At the same time, team members should be committed to the overall vision set by leaders.

Leaders stimulated innovation by establishing clear internal and external communication strategies. According to the theory of team, internal communication strategies promoted teamwork and were important for team learning (Burke, Stagl, Salas, Pierce, & Kendall, 2006). External communication pathways allowed teams to interact with agents outside their industry, thereby expanding social networks and providing opportunities to learn new knowledge content (Perry-Smith and Shalley, 2003). Innovative leaders created a climate where dissident ideas were welcomed and tested. Team climates where members were not afraid to challenge prevailing ideas and explore new venues were conducive for innovation (King, Anderson & West, 1991; West & Wallace, 1991). However, innovative leaders also focused on task orientation through monitoring, feedback and coaching (McIntyre & Salas, 1995). Studies have shown that teams in which each shares a commitment to quality are innovative (Amabile, 1996; Patterson, 2002; Shalley & Perry-Smith, 2001; Shalley et al., 2004). It should be noted that a transactional leadership style promoted task orientation. A transformational leadership style also promoted vision and support for new ways of practice. Leadership paradoxes within the innovation process are discussed in the section, elements of the vertical axis.

Context. Context was the environment in which the community members lived (Dubberly, 2007). Teams existed within a larger social system. The larger social system included other teams within the same organization, competitors, clients, and suppliers. Team processes helped teams integrate successfully into the larger system (Zaccaro et al., 2002). Innovation presented a paradox for how team leaders interacted with the external environment. Team leaders needed to be open to collaborating with other teams and

external organizations to get new perspectives and also identify new opportunities (Scott & Bruce, 1974; Nystrom, 1979). At the same time, team leaders needed to protect emerging ideas from their competitors (Gander, Haberberg & Rieple, 2007).

Another leadership paradox at the contextual level was the feedback rigidity paradox (Hunter et. al, 2011). By actively seeking insights and feedback from clients and consumers, leaders gained valuable information on how to further improve current services/products as well as identify ways to meet emerging needs (Kao, 2007). However, Gilson and Madjar (2011) noted that the individuals who led disruptive innovations often received no input from consumers and had to deal with criticisms early on.

The innovation process. The innovation cycle had eight elements which were displayed on the vertical axis. The elements of innovation included-- change, misfit, recognition, insight, articulation, demonstration, and adoption.

External pressure. According to the Dubberly model (2007), innovation was a result of some external pressure and therefore 'external pressure' was placed on top of the vertical axis. Firms often innovated to remain competitive, and the challenge for leadership was to ensure that the organization was able to innovate regularly (Hill et al, 2014). "The rhetoric of innovation is often about fun and creativity, but the reality is that innovation is hard work and can be a very taxing, uncomfortable process, both emotionally and intellectually" (Hill et al., 2014, p. 96). Stenmark, Shipman, and Mumford (2011) argued that leaders should plan for innovation because innovations are uncertain, time-consuming, and resource intensive.

Change. Change caused a misfit wherein current conventions were no longer able to maintain the stable relationship between community and context. Stenmark et al. (2011) posited that leaders should scan the internal and external environment to identify opportunities for change. Scanning the external environment included looking at competitors, market research, customer experience/feedback (Souitaris, 2001). Internal scanning included looking at current processes within an organization (O'Connor, 1998).

Usually, scanning involved observing general trends (Simon, 1993). Leaders should have the technical expertise to scan the environment as well as identify promising opportunities. It should be noted that scanning did not have to happen at the leadership level and could be done at the team level. However, team members should share the leader's vision. "Vision is an idea of a valued outcome which represents a higher order goal and a motivating force at work" (West, 1990, p. 310). Vision had four components: clarity (degree to which the vision is understandable), visionary nature (engenders group goals), attainability, and sharedness (acceptance among members) (West, 1990). A transformational leadership behavior style was linked to clear group vision (Elkins & Keller, 2003).

Misfit. Misfit had a cost on the community and could be a physical, mental, social or financial cost (Dubberly, 2007). Misfits happened within or outside of an organization. Within the context of innovation, misfits within an organization that occurred were a result of unexpected occurrences, incongruities, process needs, and industry/market changes (Drucker, 1998). Misfits outside an organization occurred as a result of demographic change, changes in perception, and new knowledge (Drucker, 1998).

Recognition. Recognition required problem definitions constructed by community members. Problem definition was a political act and influenced by power (Dubberly, 2007). Within the context of innovation, this step involved team member engaging, learning, and exploring multiple venues to frame the problem, identify the parameters, and study the technology (Kidder, 1981). Transformative leadership behaviors were linked to active learning among teams.

Insight and prototyping. The goal of the insight process was to restore fit. While insight is the most unknown part of the innovation process, immersion within the context was critical to gaining insight process. Prototyping (articulation) gave insights a physical form. The physical form could be a hypothesis, model, diagram, story, physical mock-up, sketch, etc. Prototypes were neither perfect nor complete.

Within the context of innovation, prototyping involved fostering learning, experimentation, and improvisation. The leader should define the broad goals of the project but not define the direction (Hunter et. al, 2011). While leaders should allow members to think creatively, they should also ensure that members were managing current tasks and performance was maintained (Hunter et. al, 2011). Transformative leadership styles were linked to idea generation, while transactional leadership styles were associated with task orientation and performance. Hill et al. (2014) found that innovative leaders promoted a culture of creative abrasion--a culture where ideas were generated not only through discourse but also through debate. Hill et al. (2014) found that innovative leaders at times even proposed conflicting ideas in a discourse to stimulate intellectual diversity. At the same time, innovative leaders were capable of

creative resolution wherein they were able to take seemingly different or even opposing ideas and integrate them into one idea (Hill et al, 2014).

Nohira and Gulati (1996) found that scarce resources limited innovation and an overabundance of resources limited the originality of ideas. Leaders often resolved this paradox by setting timelines and creating a sense of urgency (Hunter et al., 2011). Leaders also showed patience when a team explored solutions within a timeline. Concurrently, they also set a standard of performance and quality (Anderson & West, 1998; West, 1990).

Demonstration. The next step in the innovation model was demonstration (testing). While articulation provided a way of sharing an insight, demonstration proved or disproved the value of an insight. The demonstration phase involved repeated testing to identify errors, areas of improvement, and even increased understanding of the idea. Innovative leaders often encouraged testing through quick experimentation followed by reflection and adaptation (Hill et al., 2014). This was sometimes referred to as creative agility. Quick experimentation not only allowed for rapid testing and faster team learning but it also kept costs low. Lengthy testing of ideas could be costly and resource intensive. Mumford, Bedell, and Hunter (2008) argued that leaders should pursue multiple projects at any given time to limit the costs of innovation. Leaders should be transformational and empower team members to test assumptions and learn from their experiments (Bledlow et al., 2009). At the same time, leaders should be transactional and ensure that the testing process was a structured activity (Bledlow et al., 2009).

Adoption. Regardless of the type of innovation, studies have shown that innovations that were simple to use, more advantageous than current practice, required minimal expertise, and were aligned with organization norms and values were easily adopted (Backer, Liberman, Kuehnel, 1986; Glasgow 2003; Glasgow, Lichtenstein, Marcus, 2003; Graham and Logan, 2004; Greenhalgh et al. 2004; Oldenburg & Glanz 2008; Rogers 2003; Simpson 2002). However, Greenhalgh et al. (2004) found that visibility of the advantages of an innovation did not have any influence on the adoption of an innovation. Cost effective innovations were more easily adopted (Damanpour & Schneider 2006,2009). Innovations that were adapted to the local context were more likely to be routinized (Rogers, 1995). External policies that aligned with an innovation also enhanced its implementation (Kundsen & Abraham, 2012). Organizations that were a part of a centralized network were associated with an increased adoption of substance abuse prevention programs (Fujimoto, Valente, and Pentz, 2009). Organizations which had a high absorptive capacity for knowledge utilization and research were found to be associated with increased adoption of innovation (Knudsen & Roman, 2004). Absorptive capacity was measured by the number of projects and patents, number of staff with advanced degrees, investment in research, use of client feedback data (Knudsen & Roman, 2004; Cohen & Levinthal, 1990).

Feedback data was critical for both initial and full implementation (Wisdom, Chor., Hoagwood, & Horwitz, 2014). Cheung, Hattie, and Ng (2001) found that providing specific feedback data identifying areas that needed further improvement helped teacher implement innovations. Allocating dedicated time and resources was found to have a moderate effect in initial implementation and routinization (Rogers,

1995; Gustafson, Sainfort, Eichler, Adams, Bisognano, & Steudel, 2003). Internal communication and external networks were positively associated with innovation. Effective communication increased the chance of routinization and thereby enhanced the success of implementation (Meyers, Sivakumar, and Nakata 1999). Communication allowed for a shared and emergent story about the innovation and was critical for routinization of innovation (Gabriel, 2000; Bate, 2004).

There have been very few empirical studies that have explored leadership behaviors which were exhibited specifically during specific phases of implementation (initiation versus routinization). Damanpour and Schneider (2006) examined the managerial traits during the initiation and routinization of innovation in 1200 public organizations in the United States. Results of the study showed that age, gender, and education did not influence the initiation or the routinization of the innovation. Previous studies have also shown that there were no differences between male and female leaders in task oriented and employee oriented behaviors (Bass, 1990; Dobbins & Platz, 1986). Tenure as manager was found to be positively associated with both initiation and routinization (Damanpour & Schneider, 2006). Managers' attitude towards innovation and entrepreneurship was found to be positively associated with the decision to adopt but also with initiation and routinization (Damanpour & Schneider, 2006). Other leadership behaviors that were found to be positively associated with implementation were champion behaviors, self-efficacy, prior experience in leading innovation (Graham & Logan, 2004; Greenhalgh et al., 2004; Berta, Teare, Gilbart, Ginsburg, Lemieux-Charles, Davis, 2005).

The implementation phase involved both rational and political negotiation to invest resources, to accommodate change and support to address problems (Sharma & Rai, 2003). Leaders should be champion of the innovation as well as provide critical feedback and should be able to judge the implementation process. This was referred to as the champion evaluator paradox (Hunter et al. 2011). Opening leadership behaviors like motivating to take risks and encouragement to learn (Rosing et al., 2011) aligned well with the initial utilization phase of innovation. Closing leadership behaviors like establishing a routine, adherence to protocol and paying attention to uniform task implementation (Rosing et al, 2011) were critical for successful routinization of an innovation. Switching from one mindset to another required cognitive and behavioral complexity (Buijs, 2007; Denison, Hooijberg, & Quinn, 1995). Implementation was a critical part of innovation. Often teams and organizations adopted a practice but failed to fully make the practice routine (Knight & Klein, 2005).

Individual and organizational factors. The horizontal axis reflected the elements that drove innovation at the individual level. Dubberly (2007) identified two elements: preparation (organizational culture within which an individual worked) and drive (individual's passion to find a solution). As discussed in previous paragraphs, leaders promoted innovativeness among members of a team by sharing their vision, promoting autonomy, providing the right balance of resources, providing structure, and setting standards of performance and quality. Additionally, for teams to be innovative the overall climate needed to be non-threatening. Members should trust and support one another. West (1990) argued that teams where members participated in decision making through influence, interaction, and information sharing were not only more likely to

invest in those decisions but also be open to new and improved ways of working. Since offering feedback to ideas and prototypes was a critical feature, team members should feel safe to propose new ideas and offer critiques (Rogers, 1983). Shalley, Gilson and Blum (2000) found that it was more important that team members feel supported in their everyday activities than being supported at the organizational level to stimulate creativity.

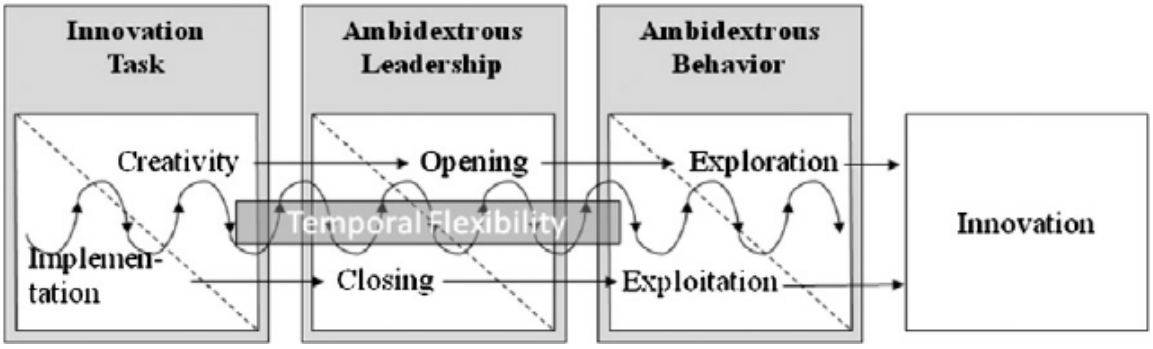
In addition to promoting safety among team members, innovative leaders needed to also champion the team to individuals outside the team. Leaders should be able to pitch the innovation and make it appealing to stakeholders (Howell & Higgins, 2008). Hunter et al. (2011) described this as the champion evaluator paradox. Innovative leaders should be evaluative of the solutions pursued by the team and needed to be critical to a majority of creative ideas. At the same time, they should be a champion of the team and be able to 'pitch' ideas to shareholders (Hunter et al., 2011). Furthermore, while leaders should support team learning and allow for mistakes, the overall outcomes for the team should be successful (Hunter et al., 2011). Team members learned valuable lessons from failing. However, successful outcomes were needed for long-term viability. Leaders should promote a learning culture but also motivate team members not to be comfortable with failure (Hunter et al., 2011). To achieve this balance, Mumford and Hunter (2005) suggested that leaders should reward attempts to improve quality.

In summary, the innovation process at the team and organizational level presented several leadership paradoxes. These paradoxes required opposing leadership behaviors. For example, leaders should allow members to think creatively, but they should also ensure that members were managing current tasks and performance was maintained (Hunter et. al, 2011). Transformative leadership styles were linked to idea generation,

while transactional leadership styles were linked to task orientation and performance. Leaders who only exhibited transactional leadership style might never capitalize on the creativity of their team. Leaders who only exhibited transformational leadership style would not be able to apply creative ideas because of the lack of structure. Hill et al. (2014) found that innovative leaders continually adapted their behaviors to context. Continuous adaptations were difficult and required leaders to deal with conflict, be willing to change their mindset, and even give up control (Hill et al., 2014). In response to these challenges, innovative leaders exhibited ambidextrous leadership (Rosing et. al, 2011; Hunter et al., 2011; Stemark et.al, 2011; Hill et al., 2014). They performed contradictory activities and switched between different mindsets and action sets (Bledlow et al., 2009). Rosing et. al. (2011) argued that the key to ambidextrous behavior was the temporal flexibility to change from set of behaviors to another (Figure 1.1).

Figure 1.1

Ambidextrous leadership and temporal flexibility



Rosing et. al. (2011)

Rosing et al. (2011) posited that transformational leadership or opening behaviors were suited for situations which called for a break in routines, thinking differently, challenging

the status quo, while transactional leadership behaviors or closing behaviors were required for efficiency and task completion. Innovative leaders were not just ambidextrous but were contextually ambidextrous. They changed their behavior to adapt to a situation or align with a business process (Gibson & Birkinshaw, 2004). Because of the contextual nature of leadership, Rosing et al. (2011) argued that research should take into the considerations the context within which innovation occurs. Since the current study explored leading innovations within evaluation teams, it was important to examine the literature on the practice of evaluation and managing evaluation teams. The next section focuses on this element of the literature.

Leading and managing evaluation teams

The difference between leadership and management was not clear; often leaders were also managers and vice versa. The research literature was divided when it came to differentiating management and leadership. Certain scholars argued that there was a clear difference between leadership and management (Kotter, 1982, 1990, 2006; Bennis, 1989, Macooby, 2000, Perloff, 2004). According to these scholars, leadership was a relationship between the leader and a follower, and management was a function that must happen in any business enterprise. Conversely, some scholars believed that there was significant overlap land that leadership and management were interrelated (Bass, 1990; Conger and Kanungo, 1992; Zaleznik, 1998; Bateman and Snell, 1999; Yukl 1999; Hay and Hodgkinson 2006). According to these scholars, both leadership and management could be explained by the same processes and models. Leadership was an aspect of management and not an entirely different function. Rost (1998) argued that while leadership and management were based on relationship, management had a formal

authority component. Leadership was an influence based relationship and could be bi-directional. Leaders could be followers and vice versa. Management was unidirectional with a manager having authority over subordinates (Rost, 1998). Rost (1998) believed that managers became leaders when they were able to influence the subordinates to work towards a mutually agreed purpose. Within the innovation research literature, a distinction between managers and leaders was often not made. Team leaders were individuals "primarily responsible for defining team goals and for developing and structuring the team to accomplish these missions" (Zaccaro, Rittman & Marks, 2002). Since the proposed study examined leadership behaviors exhibited by evaluation team leads who were responsible for leading and managing teams, the study adopted the worldview that the management and leadership were interrelated. The study participants included individuals with the formal authority to supervise the work of the team who also served as a lead on projects. Understanding the general responsibilities of an evaluation team as well as team leads was essential for exploring how these leaders innovated while continuing to manage the day-to-day enterprise of an evaluation team.

There was very little literature on managing evaluation teams (St. Pierre, 1982; Compton, 2009). Baizerman and Compton (2009) defined management of evaluation as "the practical, every day, professional expertise necessary to bring about the implementation and use of quality studies, the development of productive workers, and the sustaining of a well-run, ongoing, and influential evaluation unit." While the activities of evaluation teams varied based on the organization within which these units resided, certain activities were common and similar across organizations. These broad activities included, 1) identifying the goals, objectives, and activities of the program and

how they related to each other, 2) developing measures and outcomes to determine if the program was meeting its goals and achieving its intended impact, 3) developing and implementing an evaluation plan to collect data related to outcomes and measures, and 4) presenting findings and providing recommendations based on findings. Evaluation teams could innovate how they conducted and carried out these activities within their units (process innovation). Innovation could also occur in the manner these activities were delivered to the client (product or service innovation).

In addition to leading and managing these broad activities, evaluation managers had additional responsibilities related to managing evaluation teams. Stevahn, King, Ghere, and Minnema (2005, pp. 49–51) identified 12 major tasks as it relates to managing evaluations within teams:

1. Responds to requests for proposals
2. Negotiates with clients before the evaluation begins
3. Writes formal agreements
4. Communicates with clients throughout the evaluation process
5. Budgets an evaluation
6. Justifies cost given information needs
7. Identifies needed resources for evaluation, such as information, expertise, personnel, instruments
8. Uses appropriate technology
9. Supervises others involved in conducting the evaluation
10. Trains others involved in conducting the evaluation
11. Conducts the evaluation nondisruptively

12. Presents work in a timely manner

Managing evaluation teams was similar to managing other knowledge enterprises (Baizerman, 2009). Evaluation team leaders faced similar leadership challenges to promoting and implementing team innovation. On the one-hand evaluation team leads needed to provide the time and resources for teams to innovate, and on the other they should also keep the organization cost low. Evaluation team lead should embrace a culture of prototyping and embrace failure. At the same time, evaluation teams should continue to deliver products and services as contracted. This research study explored how evaluation team leads managed these challenges and continued to run a knowledge enterprise. The research methodology allowed for collecting data on the context within which the innovation occurred, the types of behavior exhibited during the innovation process, and how the leaders managed the process of innovation amidst everyday evaluation practice. A detailed research methodology including how the research study was conducted, participant recruitment, method, instrument protocol, and data analysis procedures are included in the next chapter.

CHAPTER 3: METHODOLOGY

Manning (2013) claimed that, in order to be effective, leaders needed to change their behavior based on the situation at hand. The innovation process is very dynamic, containing elements which require different mindsets to manage innovation. As such, the innovation process requires leaders to move amongst contrasting leadership behaviors. The main research question for this study was "What leadership behaviors are exhibited during an innovation by evaluation team leads?" Given the exploratory nature of the question, a qualitative methodology was used to answer the research question.

Qualitative approaches allow for the integration of context into the study of leadership (Bryman, Stephens, & à Campo 1996). Conger (1998) argued that leadership was a complex phenomenon influenced the interplays of behavioral, interpersonal, organizational, and environmental factors. As such, a qualitative approach lends itself to understanding how the various contextual factors shape and influence a phenomenon (Conger, 1998). Ospina (2004) identified seven instances where qualitative methods were appropriate for leadership research. This study met three of the seven instances identified by Ospina (2004)—a) studying a phenomenon from the perspectives of the individuals involved in it; b) studying a phenomenon in its complexity; and c) exploring a phenomenon that has not been previously explored. The study aimed to explore the phenomenon of leading innovations from the perspectives of evaluation team leaders. As mentioned previously, leading innovation is complex and requires switching behaviors according to the context. The purpose of the study was to understand the phenomenon of leadership ambidexterity in relation to the context within which it occurred. There is very little literature on leading and managing evaluation teams (St. Pierre, 1982;

Compton, 2009). Furthermore, leading innovation within evaluation teams have not been previously explored. A qualitative methodology allowed for the exploration of this phenomenon.

Because leadership is a relational phenomenon, Alvesson (1996) argued that it was important to consider a situational focus when studying leadership. This is because by focusing on a specific an event the researcher can study the behavioral patterns or attitudes towards an event that is delimited in time and space (Alvesson, 1996). Since leadership behaviors exhibited during the innovation process are contextually dependent, it was important to use a research method that was situationally focused. Critical Incident Technique (CIT) is a qualitative methodology that collects functional or behavioral descriptions in relation to an activity or event (Flanagan, 1954). CIT allows a researcher to fully explore a phenomenon, via interviews, by situating the phenomenon within a specific incident. This study used CIT to collect data on antecedents to a specific innovation incident, descriptions of the innovation incident, the leadership behaviors exhibited during the incident, and the outcome of the incident. The next few pages describe the origins of CIT, the steps of the technique, its appropriateness and use to study innovation, limitations of CIT and how the five steps of CIT were followed in this study.

Origins of CIT

CIT was a procedure developed by John Flanagan (1954) to collect, content analyze, and classify observations of human behavior. According to Flanagan (1954), CIT was the outgrowth of research conducted by the Aviation Psychology Program of the US Army Air Force (USAAF) to develop a program for selecting pilots. Researchers at

USAAF, which included Flanagan, conducted a large-scale study to identify effective and ineffective combat leadership behavior during a critical incident. Subsequently, Flanagan used this technique as part of his research at the American Institutes of Research to systematically study human behavior. During his time at the American Institutes of research, Flanagan (1954) formally developed the CIT procedure for gathering data about behaviors in defined situations.

Rather than being governed by a set of specific rules, the CIT procedure includes an adaptable set of principles which can be used for a specific 'incident'. Flanagan defined an incident as "any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act" (1954, p. 327). Critical incidents are specific situations which are bounded by a set of significant criteria. In the CIT process, participants describe the critical incident, their behaviors as well as of others during the incident, and their perspectives on their reactions to the incident (Flanagan, 1954). While Flanagan (1954) did not rule out self-report, his seminal work described the data collection in terms of trained observers making behavioral observations. Indeed, the CIT procedure has been extensively adapted to include self-report and most recent studies utilizing CIT have used only self-reports (Butterfield et. al., 2005). Overall, the CIT procedure can be described in five steps: 1. Determination of the general aim or activity, 2. Development of a specific plan for collecting critical incidents, 3. Collection of data per the specified procedure, 4. Data analysis and classification, 5. Interpretation and reporting (Flanagan, 1954).

Use of CIT to study innovation and leadership

CIT has been extensively used in several fields. According to Butterfield et. al. (2005), "CIT has become a widely used qualitative research method and today is recognized as an effective exploratory and investigative tool" (p. 475). It has been used in several disciplines including leadership. Furthermore, critical incident technique has been used to examine leadership and innovation. Highlighted are three prior research studies that are relevant to this research. These studies have used CIT to examine leadership within the context of innovation and creativity.

Kaulio and Uppavall (2009) used CIT to examine leadership behaviors exhibited by research and development leaders in forming alliances. A total of 16 managers were interviewed. Prior to the interviews, respondents were asked to think about an R&D alliance they led. During the interview, respondents were asked to describe the alliance timeline, scope, partners, resources use, and their role in forging the alliance.

Amabile (1988) conducted a comprehensive study to examine creativity in organizations. Study participants included 120 R&D scientists, and 41 marketing and development professionals. Respondents were asked to describe a highly creative incident including the persons involved and the work environment. Respondents were also asked to describe an incident that exemplified a low creative incident. The data was analyzed to examine the interactions between individual and organizational factors related to creativity.

Berkshire (1995) used critical incident technique to identify creative problem solving behaviors among groups working in hospitals. Twenty-one hospital administrators who led groups were interviewed about their team's problem solving

behaviors. Thirteen behaviors promoting and fourteen behaviors hindering problem solving were identified as part of the analysis. It should be noted that all the above studies used self-reports of the critical incident. A semi-structured interview process was employed to collect data in all these cases. In some cases, respondents described more than one incident, wherein each incident was treated separately with corresponding behaviors also analyzed separately.

Appropriateness of CIT

There are several advantages to using CIT to examine leadership behaviors and innovation. CIT lends well to studies that focus on collecting activities, behaviors, and their significance (Hilary, Williamson, & Lloyd, 2007). Since the research study question focused on evaluation team leadership behavior exhibited during the implementation of innovation, CIT allowed for context-rich data on the types of leadership behavior shown by team leads during the innovation process. Furthermore, Chell (1998) argued that the focus on real life experiences within CIT assists in the broader understanding of patterns and linkage between context, strategy, and outcomes for a specific experience. Thus, CIT allowed for a broader understanding of the patterns of leadership behavior shown during the innovation process within evaluation teams.

Innovation is a commonly used term and is often construed as something novel. For the purposes of this study, team innovation was defined much more specifically. It was defined as "the intentional introduction and application within a team, of ideas, processes, products or procedures new to the team, designed to significantly benefit the individual, the team, the organization, or wider society" (West and Wallace,1991, p.103). Hilary et al. (2007) described CIT as a powerful research tool which helps the researcher

define the aims and boundaries of the study as well as linking to specific real life experiences. A CIT procedure was useful to this study because it helped study participants in identifying and describing specific incidents of innovation (as defined by West and Wallace) that have occurred within evaluation teams.

Limitations of CIT

One of the major limitations of CIT is recall bias (Michel, 2001), and the possibility for a lack of accuracy concerning any given critical incident. One strategy to limit recall bias is to focus subjects on recent incidents. This research study asked participants to recall incidents within the last 24 months. Another limitation is the subjectivity of the analysis (Chell, 1998). To address this limitation, trustworthiness checks were conducted with another qualitative researcher.

The five steps in the CIT

CIT is a procedure used to collect data on behaviors shown in specific students (Flanagan, 1954). There are five major steps in CIT ((Butterfield et al., 2005; Flanagan, 1954; Woolsey, 1986). The following paragraphs will describe how the five steps were followed as a part of the research study.

Step one: General aims of the activity. The purpose of this step is to identify the objective the activity and who completes the activity (Butterfield et. al., 2005). The activity that will be studied is the process of innovation within evaluation teams. The individuals of interest to the study were evaluation team leaders. Specifically, the individuals who were included in the study met the following criteria:

- They were evaluation team leaders, specifically, evaluation team leaders who oversaw the work of at least two or more team members.
- The evaluation team leader had an official responsibility to manage the team's work.
- The evaluation team leader had been the evaluation team lead for at least a year and self-identified as a program evaluator.
- The primary service provided by the team was program evaluation (both internal and external program evaluation).
- The team had provided evaluation services for at least one year.
- To minimize the influence of socio-cultural norms on leadership styles and processes, the teams had to be located in the United States

Step two: Settings plans and specifications. The aim of this step is to develop plans to help the researcher focus on the activity to be studied; and also maintain objectivity and consistency in data collection (Butterfield, 2005). Innovation was the activity of focus for this study. For the research study, an innovation incident led by evaluation team leaders in the last 24 months were explored. This study defined innovation incidents as events when the team leader and the team had to come up with ideas and implementing a new practice or approach.

As previously noted, a majority of the recent CIT studies have used interviews and self-reports of incidents (Butterfield et al. 2005). Rous (2015) recommends that the questions should be structured in way to elicit a detailed description of the situation, actions taken during the situation, outcome of the situation. As such the interview protocol, should be open-ended and semi-structured. The interview protocol used in this

study had the following major sections—background questions, the innovation incident, outcomes and reflections.

At the start of the interview, the interviewer informed the interviewee that participation in the interview is purely voluntary and they can stop participating in the interview at any given time. The researcher also informed how the data collected through the interview will be kept confidential. The researcher asked the participant permission to record the interview. The researcher started recording the interview after the participant granted permission to record the interview. All interview participants granted permission to record the interview.

The first two interview questions were related to understanding the participant professional experience as an evaluator and a team leader. After the participants described their professional and leadership experience, participants were asked to recall a specific experience within the last 24 months when he/she had to brainstorm through ideas and implement something new to the team. Participants were asked to describe the problem that they were trying to solve, how the idea was formed and implemented, and the outcomes of adopting the idea. Participants were informed that the idea implemented did not have to absolutely novel but something that was new to them and their teams. Participant were given time to recollect of a specific experience. Probes were used to help the interviewees provide additional information on the innovation incident as well as to help the interviewer clarify any questions she had about the incident. The final interview question asked how the respondent felt about the innovation process and in general how they would describe their leadership style. It should be noted that the question about leadership style was added after completing the interview with second

study participant. A preliminary analysis of the second interview data revealed that understanding the participant's perspective of their leadership will help further understand the behavior they described. Appendix B includes the interview protocol used in the study. The researcher sent a $30 online gift card to the interview participants soon after the interview was completed.

The University of Kentucky's Institutional Review Board approved the study protocol (Exemption Certification for Protocol No. 16-0891-X4B). The study met the federal criteria to qualify as an exempt study. The researcher was also trained on the University of Kentucky's Institutional Review Board guidelines and ethics as it relates to conducting non-medical human subject research. The researcher's advisor and doctoral committee reviewed and provided feedback on the study design.

Step three: Data collection. Because the study participants had to meet set of requirements as noted in step 1, criterion sampling was used in the study. Criterion sampling is a type of purposeful sampling where all the study participants must meet a certain predetermined criterion (Patton, 1990). The study used the above criteria for sample selection. Online recruitment has been found to be particularly helpful when recruiting specific populations groups (Cohen-Mansfield, 2003; Im & Chee, 2004). Since the research question was aimed towards a specific population that had to meet several criteria, internet recruitment strategies were used. Snowball sampling (Patton, 2002) was used to recruit study participants. A description of the study was sent to the researcher's professional contacts, requesting them to disseminate the description among their colleagues and evaluator networks. A study description was also posted on the researcher's Twitter account. The study description contained the purpose of the study,

requirements to participate in the study, the estimated length of the interview, contact information for the researcher and advisor, and information about a participant incentive. Appendix A includes a copy of the study description. Respondents who expressed interest and met the study criteria were sent a follow up message with possible dates and times to schedule the phone interview. One respondent expressed interest but did not meet the study criteria was sent a follow up message thanking her for their interest and notifying her that she did not meet study criteria.

Participants who completed the phone interview were offered a $30 gift card to an online retailer. Guyll, Spoth, and Redmond (2003) found that monetary incentives could be useful in increasing study participant rates and also incentivizing people who were less likely to participate in the study. A multi-phase study conducted by Fahimi, Whitmore, Chromy, Siegel, Cahalan, and Zimbler (2004) found that offering incentives greatly increased response rates. As most of the potential respondents were busy professionals who were less likely to participate, offering a promised incentive was thought necessary to increase study participation rates. The gift cards were sent via email to the study participant after the interview was completed. It should be noted that two participants stated they did not want the gift cards.

The phone interviews were conducted over a two month period, January 5th 2017 to March 7th 2017. Eleven of the fifteen interviews were conducted in January, three phone interviews were conducted in February and one interview was conducted in March. The interview lengths ranged from 17-42 minutes, with the average interview length of 33 minutes and a median length being 31 minutes. For the most part, the length of the interview was associated with the reflective nature of the participants. All

interviews were digitally recorded. Immediately after the interview, the researcher downloaded the data on her computer and saved it on a password protected site. The audio recording in the recorder was deleted as soon as the file was downloaded on the computer. The audio files were saved as .mp3 files. Additionally, the researcher took down notes during each interview. Note taking is useful in identifying which ideas to follow or not to follow (Muswazi, and Nhamo, 2013). In the case of this study, researcher notes helped identify follow-up probes during the interview. The notes had also comments about the interview.

Flanagan (1954) did not specify a particular sample size. Butterfield et al. (2005) noted, "There is no set rule for how many incidents are sufficient. The crucial thing was to ensure the entire content domain of the activity in question has been captured and described" (p. 479). One of the guiding principles in qualitative research is saturation and refers to the point when collection of new data will not shed new insights. The following yardsticks were used to decide if data saturation has been reached in qualitative research: when there was enough information to replicate the study (O'Reilly & Parker, 2012; Walker, 2012), when the ability to obtain additional new information had been reached (Guest, Bunce, & Johnson, 2006), and when further coding was not possible (Guest et al., 2006). The researcher followed these guidelines for data collection.

Step four: Data analysis. Flanagan (1954) prescribed "the inductive development of a set of major area and subarea headings" to identify categories and themes from the data. Inductive analysis of the interview data was conducted. "An inductive approach allows research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured

methodologies" (Thomas, 2003, p. 2). The following paragraphs describe how the data was organized and analyzed.

Organizing the raw data. The researcher used a professional to transcribe the interviews. The digital interviews were transcribed verbatim and saved as a Microsoft Word file. As much as possible, the interviews were transcribed within a few days after the interview were completed. The transcripts were checked against the audio files for accuracy. The Microsoft Word files were used for data analysis. The researcher also took notes during and after the interview. These notes were also used in the coding process. It should be noted all the raw data, including audio files and transcripts, were stored in a password protected site.

Open Coding. The open coding process allows the researcher to keep an open mind and approach the data without predetermined categories and themes (Ezzy, 2002). The textual data was read multiple times. As a part of the initial reading, the researcher wrote headings within the textual data. Headings were written in the text to describe and broadly sort the textual data (Burnard 1991, 1996, Hsieh & Shannon 2005). The headings sorted the textual data into antecedent to the innovation, incident, perspective of the incident and leadership style. Within the textual data describing the incident, the data were further sorted by the phases of innovation—insight, prototype, and adoption. Behaviors were coded within each phase of the innovation process.

After the initial reading, each interview was read line by line to understand events leading to the incident, the incident, the actions of team leader during the various phases of incident. Categories were developed. The categories were labeled and properties of the categories were identified. The categories were then again merged to create broader

categories. For example, upon review of categories developed to categorize the reasons for innovation, the researcher created two broader categories—internal and external--to reflect the events that led to the innovation. This way categories and subcategories were developed to understand participant behaviors during the incident.

The process of categorization does not simply involve bringing together observations (Dey, 2003). The researcher compared the categorization of data from one interview to another. This comparison helped the researcher to ensure that the observations fit into each category as well as identify observations that did not fit into a category (Dey, 2003). In instances where the observation did not any category, new categories were created.

Credibility check. An important part of the coding process in a qualitative study is the conducting of credibility checks. Butterfield et al. (2005) suggested that researchers should randomly choose a sample of the critical incidents yielded in the data collection phase and send the sample, along with the formulated categories to another researcher. For this study, three transcribed interviews and an Excel code sheet were sent to another qualitative researcher. The outside qualitative researcher was also well versed in leadership research. The outside researcher was asked to place the 3 sample of incident data into categories she thought were the best fit. The outside researcher was given a week to read and code the transcribed interviews. The outside researcher and researcher met virtually to discuss categorization of the textual data. During the meeting, the researchers reviewed how they categorized the antecedent, the innovation incident, the behavior exhibited during the three major phases of innovation. The researcher and the outside researcher agreed upon how the data was coded. According to Shenton (2004)

one of the advantages of discussing qualitative data analysis with either a peer researcher is that individuals outside the research will bring fresh perspective and help the researcher further refine the study. Through the discussion process, the researcher identified additional categories for leadership behaviors. The initial coding framing for leadership behaviors comprised of 14 categories. The final coding frame for leadership behaviors included 20 categories. The following categories were added after discussion with the outside researcher—awareness of best practices, drawing inspiration from other experiences, attention to resources, investing resources, ongoing communication, and working extra hours.

Step five: Reporting the results. The final step of the analysis was writing up the results. In order to provide a sufficient background to understanding the leadership behaviors, the researcher organized the results into the following sections—participant description, antecedent to innovation, innovation incident, leadership behaviors, outcomes, reflections, and leadership styles. The researcher used pseudonyms to protect the participant identity. Additionally, the location and any specific information about the organization where the participant worked were not included in the study. Specific programs that the participants evaluated were not included in the description. Where appropriate, the researcher included tables to provide a general summary of the analysis. Additionally, illustrative quotes were used to exemplify the findings.

Role of the Researcher

In qualitative studies, the researcher is the instrument (Denzin & Lincoln, 2003). The researcher is the medium through which data is collected. Therefore, it is important for the reader to understand the researcher's experiences, biases, and assumptions. I

currently am the Director of Evaluation at the Human Development Institute, University of Kentucky. I have served in this role for approximately five years. I manage a team of four evaluators and five data analysts. My team currently provides evaluation services to fifteen projects. I have been an evaluator for more than a decade. My professional experience in leading innovations within my team sparked my research interest. When I joined graduate school, I was leading my team for about two years and was in the process of expanding my team. While I was encouraging my team members to think creatively, I was also creating boundaries and structures within which they could operate. The contradictory demands of my daily workflow activities made me reflect on my role as a leader. Additionally, my independent research work in design thinking and creativity introduced me to practices that promoted creativity as well as the research literature on innovation. Therefore, I consider myself an 'insider' to the field of evaluation and leading evaluation teams. At the same time, I consider myself to be 'outsider' to the interviewee's team experiences and the contexts within which they operate. As an evaluator and team lead, my experience may have influenced the way I categorized and interpreted the data. Throughout my research journey, I kept a journal and wrote my thoughts, hunches, and impressions of the research study. This writing exercise helped me think through and reflect on the decisions I made through the entirety of the study.

This chapter began with a reasoning for using qualitative research methodology and the appropriateness of using CIT to answer the research questions. The five steps that were followed to perform CIT were then provided. Included within the five steps were also details of the study participant criteria, recruitment, data collection, and analysis. The next chapter will present the findings of the study.

CHAPTER 4: FINDINGS

This research study explores evaluation team leadership behaviors during the innovation process. Fifteen evaluation team leaders were interviewed using the critical incident technique. The leaders recalled specific incidents of innovation they had led within the last 24 months. The interview questions and probes were designed to explore the antecedents, actions, outcomes, and perspectives about the innovation process. This section is organized into six sections: participant backgrounds, antecedents to innovation, innovation incidents, outcomes, reflections, and leadership styles.

Participants' Backgrounds

This section describes the participants' evaluation and leadership experience. All interviewees had conducted evaluation in some capacity before they became leaders and continue to perform evaluation. Pseudonyms have been used instead of their real names to protect participant's confidentiality. Two of the participants are co-leads of the same evaluation team. Since they described two vastly different innovation incidents and had different leadership styles, both of their interviews were included in the study and analyzed independently. Participants' evaluation and leadership experience ranged widely. Participants also differed widely in the types of programs they evaluated. Participants were either leaders of evaluation teams situated within a large organization (higher education, non-profit organizations, government agencies) or evaluation consulting firms. Four of the fifteen participants were male and the rest were female. Table 4.1 describes the years of experiences participants had in conducting, leading program evaluations, and where the participant was working (at an evaluation firm or in an evaluation division within an organization). Some of the interviewees recalled the

precise years of experience and leading, while others provided approximate number of years. Interviewees are described in the order that they were interviewed.

Table 4.1

Description of interview participants

Participant	Evaluation (years of experience)	Leadership (years of experience)	Type of work setting
Eric	4 years	2.5 years	Evaluation lead within an organization
Tammy	4 years	4 years	Evaluation lead within an organization
Nancy	13 years	3 years	Evaluation lead within an organization
Rhonda	18 years	19 years	Lead within an evaluation consulting firm
Olivia	5 years	4 years	Evaluation lead within an organization
Carol	15 years	2-3 years	Evaluation lead within an organization
Pamela	32 years	11 years	Evaluation lead within an organization
Oliver	14 years	11-12 years	Evaluation lead within an organization
Frank	About 17 years	About 15 years	Lead within an evaluation consulting firm
Daniel	16 years	10 years	Lead within an evaluation consulting firm
Victoria	10 years	6-7 years	Lead within an evaluation consulting firm

Table 4.1 (Continued)

Description of interview participants

Participant	Evaluation (years of experience)	Leadership (years of experience)	Type of work setting
Mona	14 years	Almost 4 years	Lead within an evaluation consulting firm
Maria	30 years	Led more than six teams over the years	Evaluation lead within an organization
Diane	13 years	10-11 years	Lead within an evaluation consulting firm
Pearl	12 years	10 years	Lead within an evaluation consulting firm

Eric. Eric joined his organization as a research associate and moved up to various positions within his organization. He started out supervising 7-10 research assistants and was later promoted to a managerial position. In his current position as a manager, he currently oversees the work of two full-time Associates. His team evaluates educational experiences, in particular, STEM (Science, Education, Technology, and Math) educational experience.

Tammy. Tammy was hired as Director of an evaluation by her organization. She has been the director for three years. Her team currently includes two people. Additionally, she oversees interns and a graduate fellow students. Before becoming the director, she worked in the research department of a non-profit sector. Her areas of expertise are research and evaluation of learning in informal settings.

Nancy. Nancy started as a part-time evaluation assistant at her organization and got promoted over the years. She is currently manages an evaluation team. She has been

the manager for the past three years. She currently oversees two full-time staff, five part-time staff, volunteers, and interns. Her team evaluates educational experiences.

Rhonda. Prior to becoming an evaluator, Rhonda worked in the public-school system. She started as an internal evaluator for an organization. After participating and taking a few workshops at the American Evaluation Association (AEA), she became increasingly interested in program evaluation. She then started to expand her portfolio and started her firm. Her firm has two full-time employees and 8-10 consultants. Her firm primarily evaluates educational programs.

Olivia. Olivia slowly transitioned from researcher to evaluator of mental health programs. She liked doing evaluation and said "I like it more than research. I do what I enjoy." She has been working as an evaluator for the last five years. She started out as coordinator for a project and slowly transitioned to the lead of the evaluation team within her organization. She currently oversees six staff members, although in the past she had overseen up to ten members when field work had intensified.

Carol. Carol has been evaluating programs for more than a decade. She has been an evaluation team leader for 2-3 years. She co-leads a team with another evaluator, and together they oversee two full-time staff. Her team primarily evaluates educational programs. She works at an institute of higher education.

Pamela. Pamela's evaluation career spanned over several decades and worked in teams who were integral in advancing evaluation at the federal policy level. She spent most her career working at a government agency. She has been leading evaluation teams for 11 years. She currently oversees a five-member evaluation team. Pamela was

enthusiastic about program evaluation. She talked about how evaluation is a "discovery process, and people will get enthused and challenged by it."

Oliver. Oliver sort of "fell into" evaluation. He started as a research professional and then applied for a program evaluation job at a research and evaluation non-profit organization in 2003. He has been doing program evaluation ever since. He has led evaluation teams for the past 11-12 years. He has evaluated diverse programs from substance abuse prevention to education and workforce development. His team size depends on the scope and complexity of the projects. He oversees 14-17 individuals depending upon the project scope.

Frank. Frank was a chief financial officer at a private firm before he became an evaluator. His background was in management and statistics. He was asked to co-lead an evaluation firm. His initial responsibility was related to finance and accounting. He spent a couple of years studying evaluation theory and methodology. He started to help in the review of evaluation methodologies of projects and "slowly morphed into getting involved" directly with evaluation of projects.

Daniel. Daniel was introduced to evaluation at graduate school. While he was doing his doctoral work, he was able to further hone on his interest and evaluation related skills. Right now, he has four to five people who are a part of his team. He evaluated professional development grants.

Victoria. Victoria's background was in public health and moved from programming public health initiatives to evaluating public health programs. She has been an evaluator for about ten years. The number of people she oversaw has grown over the

years. She currently manages "six or seven evaluation projects and within those project there are multiple people." The team size varies across projects.

Mona. Mona "got into program evaluation as an accidental evaluator." She worked as a research scientist and was asked to consult on a program evaluation. She "loved the real-world application of skills" and the "real-time feedback" to clients. She left research and worked as an evaluator for a small consultancy. She later became a solo consultant. About 3-4 years ago, she started her evaluation firm. She co-leads a team of four evaluators.

Maria. Maria worked in evaluation on and off for 30 years. She started her career working in human service programs. Maria "became frustrated with the decision-making process" within these programs. She felt that practitioners "lacked solid information" to make decisions around policy and funding and spurred her interest in evaluation. She wanted to be involved in the generation of data "that is usable, actionable and used by decisions makers." She has gone back and forth between the academic and policy/public sector worlds. She is currently responsible for about dozen evaluators.

Diane. Diane has been with her evaluation consulting firm for thirteen years. Before joining the evaluation firm, Diane worked at a nonprofit. She has been leading evaluation teams for ten-eleven years. Diane currently oversees three evaluation teams and each of these evaluation teams has five members. She evaluates diverse program areas with varying scopes from conducting a needs assessment to impact measurement.

Pearl. Pearl was originally a high school teacher and then a manager at a non-profit. She became interested in evaluation when her non-profit program was evaluated.

She left her job to pursue graduate school. While she was in graduate school, she started doing evaluation part-time. She later became a full-time evaluator. She leads six project and manages about fifteen employees.

The participants in this study represent individuals who are evaluating various programs, from public health to special education. It includes individuals who are in different leadership positions—people who are owners of their evaluation firms, individuals who are leading teams in an evaluation firm, people who are leading evaluation teams in large organizations like a university. Participant had several years of experience as an evaluator, with the professional experience ranging from 4 to several decades. The team size varied across participants, ranging from 2 to more than a dozen staff. Participants' leadership experience ranged from 2 years to 19 years. Interviews differed in length, ranging from 17 minutes to 42 minutes. On an average, the interviews lasted for 37 minutes. For most of the part, the interview length corresponded to the degree to which the participants were reflective of their leadership. Open coding was used to analyze and categorize the data, as described in Chapter 3. The following paragraphs describe the results of the qualitative analysis.

Antecedents to innovation

Innovation is a result of an external environmental outside of the firm (Dubberly, 2007) or internal pressure within the firm (Hill et. al., 2014). A critical part of understanding an innovation incident is knowing the antecedent to innovation (what led to the innovation incident). Consistent with current research findings, the precursors to the innovation incidents described by the participants were broadly categorized into two categories—internal and external. Internal antecedents within an evaluation are instances

wherein the evaluation team leader or the team decided to innovate to improve the evaluation design; there were no external influences. Examples of internal antecedents include an evaluation team leader noticing a unique opportunity to improve current evaluation processes, evaluation team leads who are unhappy with their current evaluation approach, or leaders electing to adopt a new practice based on developments in the field. External antecedents are instances wherein a decision to innovate within an evaluation did not originate from the team leader or team. In cases such as these, the team had to explore new ideas and implement new strategies because they were forced to respond to client request or behavior. Table 4.2 describes the antecedents to innovation uncovered in the interviews.

Table 4.2

Antecedents to innovation

Type	Frequency
Internal	
Unique organizational opportunity	1
Dissatisfaction with evaluation process	7
Challenge in implementing the evaluation design	1
Developments in the field	3
External	
Client behavior	1
Request for change from client or another person outside the team	2

The following paragraphs describe the internal and external antecedents that led the participant teams to innovate.

Internal antecedents. Five of the fifteen respondents innovated because they wanted to improve their evaluation. They did not face any pressure from the client or any other outside source. The internal antecedents to the innovation incidents fell into the following three categories: a unique opportunity to improve services, dissatisfaction with the current process, and developments in the field of evaluation.

Unique opportunity to improve services. Eric saw a unique chance to improve evaluation process. His organization was developing a new five-year strategic plan, which included a plan to better understand organizational impact. Eric capitalized this unique opportunity to get the support to create a centralized data system for one of their key data collection efforts.

Team lead's dissatisfaction with the current process. Seven of the fifteen respondents decided to innovate because they were not completely satisfied with the current evaluation process. For example, Nancy, an evaluator team lead who worked within an organization, talked about how "we often get stuck in doing these similar types of evaluation." Nancy was dissatisfied with the depth of data the current evaluation approach provided and used her background in qualitative research to develop a new approach to explore the informal education learning experiences. Carol, who had more than a decade of evaluation experience, wanted her evaluation to be more "utilization-focused" and provide usable data to the stakeholders at the local level. The program she evaluated involved school districts across the state, she found that they were "a lot of data was collected and were just sent to the evaluation team. And then eventually something may come back to the people who can actually use the data." In a similar vein, Olivia who conducted an evaluation of a statewide program was frustrated with the pace of

reporting and time lag at which data were sent back to the "hands of people who were collecting it." Olivia and her team were not happy with the pace and the format of the reporting. She said, "we were putting everybody's effort into something we weren't really happy with."

Oliver noticed that the communities in which the program "work takes place were simply not ready to for evidence-based approach" and saw a need for streamlining community readiness. Maria and her team were frustrated "with everybody continually reinventing the wheel" and wanted an opportunity to capitalize on the lessons learned from doing program evaluation for many years. Mona's team was "struggling" to the find the right approach to evaluating a program and were "trying to figure out" the best way to examine program impact.

While her client was satisfied with the format of the year-end reports, Pearl was bored and found it uninspiring. She said,

> I was giving the end of the year PowerPoint presentation and I was just bored. And I thought "Man, I've kind of given this presentation three years in a row. I mean there is different data and its different findings, but it feels like the same old thing." And the client was satisfied, but I just thought this could be better...I feel that evaluations that I do should be inspiring for me and the people that I am working with. So, I thought, "Gosh, how could this be more inspiring"

Challenge in implementing the evaluation approach. Diane's firm had developed a customized approach to engaging clients in the evaluation process. The purpose behind this process was to be responsive to the community in their work, "and

bring the differing – the multiple perspectives that are in the community of people affected by an evaluation or the stakeholders—bring those multiple perspectives to the table during evaluation." However, for one particular project, the timing was not conducive to engage stakeholders.

> It was September and October…which was an absolute crunch time when all the projects are trying to essentially finish because the weather could turn at any time and they won't be able to finish or it will be a lot harder. So, it was a busy time and we also recognized that these are folks who are not used to coming to focus groups or they are not sitting at program sites.

Diane and her team were faced with a challenge in implementing their approach with the stakeholders for this particular project. She recalled:

> So, we were trying to think about how to engage them best and we also recognized that the times of day that people were working were all varied quite a bit. There would be times when people were working in the evenings or during the day. So, the challenge was how to engage different stakeholders at this time.

Developments in the field. A recent development in evaluation is the emphasis on data visualization and reporting. Three evaluators identified this development as an impetus to innovate, regarding their reporting. For example, Tammy wanted to change the style of reports based on reading on online blogs as well as "attending different sessions at AEA that talked about usability and best practices." Daniel attend the two-day data visualization preconference sessions at AEA and it changed how he viewed data

visualization. He said "Both of them [the presenters at the pre-conference session] have a way of really getting your mind to shift and looking at different ways of doing things."

Frank talked about how he and his co-lead decided that they "needed to formalize the what and how of data visualization and the reporting of it." While initially this interest was more related to marketing and branding, it morphed into adopting not only the best practices but also most recent trends in data visualization and reporting.

> What we did at first is made a decision about the templates that we would use to report [evaluation reports for clients]. So that was part marketing in the sense that we had to take a look at our logo and redo the colors and redo the format. We did that for single sheet documents; we did that PowerPoints, we did that for written presentations. As we were doing that we realized that they were not just resources through AEA and through other resources that I was familiar with, I wanted to get ahead of the curve and I wanted to take a look at sort of new things that were coming down the pike.

External antecedents. The external antecedents cited by respondents were external events which emanated from outside of the evaluation team, e.g. a client request or change in client behavior. Three of the fifteen respondents innovated as a result of events such as these. For example, Nancy was forced to change the internal policy of her firm because a client had modified an evaluation report without her approval. Prior to this her firm did not have an internal system in place to deal with such issues. Pamela's team was asked to develop evaluation capacity-building activities at a major event by a

member outside of her team. Victoria, who evaluated public health initiatives, was requested by her client to create a "different" format of their data report.

This section described the events which led to the innovation incidents. Most of the incidents were not because of an external influence. In most instances, the evaluation team decided to innovate because they were not satisfied with their current services or learned about a new practice that could improve their evaluation. The pressure leading to innovation was mostly internal pressure faced by leaders to provide better services and remain competitive. While the reasons to innovate might be vastly different, the innovation could be the same. For example, Tammy decided to innovate because she wanted to adopt data visualization techniques in her practice (internal antecedent). Victoria had to innovate because the client requested for a different report (external antecedent). However, their innovations were the same; both changed their reporting formats. The next section will describe the innovation incidents recalled by the participants.

Innovation incidents

Innovation results in a new or different process, product, or strategy. Rogers (1995) defined innovation as

> an idea, practice, or object that is perceived as new by an individual or other unit of adoption … and it matters little, so far as human behavior is concerned, whether or not an idea is objectively new … the perceived newness of the idea for the individual determines his or her reaction to it. If the idea is new to the individual, it is an innovation (p. 11).

Twelve of the fifteen participants described innovation incidents that directly impacted the evaluation process e.g. data collection, design, reporting, stakeholder engagement. One participant described an innovation that did not impact the evaluation process directly. She described a change in the firm's internal policy; this was a more of change in internal managment. Table 4.3 displays the categories of innovation incidents described by the participants.

Table 4.3

Types of innovation

Type	Frequency
Data warehouse	1
Reporting and visualization	7
Evaluation design	4
Capacity building	2
Internal policy	1

The following paragraphs describe the types of innovations embarked upon by study participants.

Data warehouse. One interviewee, Eric, described the creation of a centralized data repository as the innovation incident. Before this change, data (for one of the initiatives) were stored in multiple places, and a centralized system did not exist. Eric and his team built a centralized data warehouse system that housed data for in a single location. It took about 8-12 months to build the centralized data system. Eric had to advocate for additional funding to help in the maintenance of the database. At the time of the interview, the system had been in place for about seven months.

Reporting and visualization. Seven of the fifteen participants changed the way they presented and reported evaluation findings to clients. The complexity of the innovation varied across the participants, ranging from altering how data were visualized to drastic changes in the reporting platform (from paper to online platforms). Both Olivia and Carol were quite dissatisfied with the time it took from data collection to reporting the findings. They wanted their clients to be able to access their data faster. So, they changed their reporting style from traditional paper reports to customized interactive online dashboard. Their teams worked with database programmers to build the dashboard. Olivia convinced a client to provide additional resources to create a dashboard. Olivia and Pearl's teams worked on statewide programs, and the dashboard was way to provide actionable data to local stakeholder groups.

While Olivia and Carol's team drastically changed the platform on which the data were reported, Victoria, Frank, Daniel, and Tammy's teams changed data visualiations in their reports. These teams continued to use more traditional platforms like paper, Microsoft PowerPoint, and Microsoft Word. However, they changed how data were visualized and reported via these mediums. Tammy encouraged her team member to create 'a slide deck report' in place of the lengthy 30-50-page report. Tammy wanted to adopt some of the data visualization technique that she learned at AEA and through various blogs. A client asked Victoria to provide "something different." Victoria's team also invested considerable resources to create a customized client report. Victoria's team "had to bring in print layout designer and bring in graphic designer, different data analyst to give us a different design and concept of the report." Frank's team started including an infographic that highlighted the evaluation findings. Daniel and his team set some

guideline in terms of how "we want to present data and how we don't want to present data."

While Pearl's innovation was related to reporting, it was very different from the other innovation incidents described by the study participants. Pearl decided that the findings from the year-end report would in a "verbatim theater" format. She reported,

> So my colleague, the writer, he and I came up with this process where we took different excerpts of qualitative data. We did data exports around each of these guiding principles and we gave each set of the data grouped around one principle to spoken word artists. In total we worked with four spoken word artists, I think. And we said "craft a poem or performance that represents this data."

Evaluation design. Three of the fifteen interviewees described how they changed the evaluation plan or approach. Two of the three respondents changed their approach because they were dissatisfied with the current evaluation approach. Nancy used her qualitative research experience and training "to better understand" stakeholder experience. She switched from using "an exit survey" at the end of their experience to "using audio and video" to track their entire experience. Nancy's team had never undertaken an ethnographic approach, and this was very much new to the team.

Similarly, Mona's team adopted an evaluation approach that they had not previously implemented. Mona decided to use principle-focused evaluation to study the collective program impact. Mona and her team were struggling to "determine what the collective effect" of different communities "working in very different ways" but towards the same goal. Mona attended a presentation on principle-focused evaluation a couple of

years ago, and she thought "That's what we need, something like that." Mona had to convince her team and then her clients to try this approach.

Maria and her team wanted to capitalize their collective years of experience evaluating programs in the field. Maria felt that her team had the "ability to draw on our lessons learned from similar types of evaluation that we've done over the last 15 years." She wanted to put the lessons learned from these experiences in the hands of the decision makers. Maria proposed a new approach to her client wherein they will reflect on their years of experience and provide "succinct lessons learned" on collaboration, training, funding, and partnership.

Because of the timing constraints, Diane and her team were not able to do focus group with the stakeholders to understand their perspectives. They were looking for alternate options where the stakeholders "would go on their own volition when they were done with work or before they headed off to work?" They did "world café speed dating kind of workshop set and we did it at happy hour at a bar." She said:

> We didn't give people drinks, we did give them food and we tried to time it at time between when some people had just finished and other people would be heading out to worksites. So they could get something to eat before they left or when they came in and we would try to think about how to get their insights through this kind of modified world café.

Capacity building. Oliver and his team noticed that the communities participating in intervention programs were not ready to implement evidence-based practices. So, he and his team created "learning communities" to "streamline community readiness." It was a "novel solution" to his team as well as for his client. This innovation

not only required bringing different communities but also "working across five different organizations." Funding was pooled to create this change. Though the antecedent was external (a request made by an individual outside of the team), Pamela and her team also developed and coordinated training activities related "evaluation capacity building" for her agency's stakeholder groups. This task involved bringing in "practitioners from a variety of departments" who had very little or minimal knowledge of evaluation.

Internal policy. Rhonda was the only participant who described a change in team policy. Because the client had modified a report without her approval, Rhonda had to add verbiage in contracts about reports and policies related to manipulation of findings. Rhonda made sure that her team knew of the change in policy and asked her team to be "mindful and careful moving forward" about data and reporting.

In summary, most of the innovation incidents involved changing some aspect of evaluation (design/approach, collection, reporting) and were technical in nature. It is plausible that since the study participants were technical leaders, they thought of innovation within the evaluation process rather than innovation in management or team processes. It is also likely that if study participants were asked to recall multiple incidents they could have shared incidents related to change in internal team processes. The resources required to make the change happen varied vastly from team members' learning new skills to bringing in additional staff to the team. For example, Frank's team decided to bring in a person to their team because "she had really incredible Excel knowledge and experience." Some of the innovations did not require financial resources and others required procuring additional funds. The next section describes the leadership behaviors exhibited by the team leads during the innovation process.

Leadership behaviors

The incidents were analyzed for behaviors exhibited during three major phases of innovation—insight, prototyping and adoption (Dubberly, 2007; Cooper, 2014). Table 4.4 displays the categories of leadership behaviors exhibited during the process of innovation.

Table 4.4

Leadership behaviors exhibited during the process of innovation

Innovation stage	Leadership behaviors
Insight	Fostering divergent thinking
	Drawing inspiration from previous experiences and other sources
	Awareness of best practices
	Envisioning future states
	Attention to resources and process
	Setting appropriate and clarifying expectations
Prototyping	Receptive to feedback
	Experimentation
	Investing resources (time and money)
Adoption	Managing uncertainty and risk
	Ongoing communication
	Persuading stakeholders
	Refining and reflection

Table 4.4 (continued)

Leadership behaviors exhibited during the process of innovation

Innovation stage	Leadership behaviors
Adoption	Providing opportunities for skill development
	Working extra hours
	Establishing and adherence to routine
	Embedding the innovation within the client's program plan
	Deviation from protocol
	Setting boundaries
	Task accomplishment and reorganization

The following paragraphs describe the behaviors exhibited at each of the major stages of innovation.

Leadership Behaviors exhibited during insight phase of innovation. Insight is the process where problems are reframed, and solutions are sought (Dubberly, 2007). The behaviors exhibited during the insight phase of innovation were fostering divergent thinking, drawing inspiration from previous experiences and resources, awareness of best practices, envisioning future states, attention to resources and process, and setting appropriate expectations.

Fostering divergent thinking. Interview respondents used divergent thinking practices to address challenges or leverage unique opportunities. Respondents described how the initial conversations about problem solving involved generating as many ideas as possible. Often, the respondents encouraged open discussions so team members could

explore all possible solutions. Eric's team, who built a centralized data system, had multiple conversations around "what options could we provide." As Eric was leading an internal evaluation unit with the conversation, he also had brainstorming discussions with other stakeholders.

Pamela's team was asked to come up with evaluation capacity-building activities for a stakeholder who had very little knowledge about evaluation. Her team "came together and thought about what we could offer." They also recruited "champions, people who were interested in evaluation from other programs" and worked closely with them to identify potential ideas." Similar to Pamela's team, Oliver's team came up with the idea of learning community while having discussions with stakeholders about the need to support communities before evidence based practices are implemented. The idea evolved over a series of meetings and discussions.

Maria and her team collectively came up with the idea to adopt a new evaluation approach. She and her team members had several years of experiences evaluating human service program and were looking for an opportunity to leverage "the whole variety" of evaluation experience to do a comprehensive evaluation. When they saw a request for proposal from the state, her team took up this opportunity "to do something creative and genuinely helpful."

Because of the timing of the project, Diane's team could not implement their traditional methods of stakeholder engagement. Diane's team brainstormed ways to implement a community responsive approach given the program constraints. As a part of the brainstorming sessions, Diane's team tried to empathize with the stakeholders and

identify their likes and dislikes. They started the brainstorming conversation by examining the problem from the stakeholders' perspectives. Diane elaborated,

> I think we were kind of coming from "where would they go?"…and thought where they might likely go or be, want to go, before they leave for work or come back from work? You know so that was if we really dig into like where would you want to go when you get off work …go home or eat.

Diane also described as leader it was important to make the brainstorming process "fun and engaging". She said,

> Maybe sometimes modeling and just throwing wacky ideas out just try to get some ideas out and more than one…just to show that there is going to be multiple ideas that come forward here and not just one.

Carol's team had an "utilization focused evaluation" philosophy and it "drove the way a lot of the data was collected." They were not satisfied with time it took to give the data to the decision makers and were searching for options which would allow for "decision makers to have these data in their hands in their time."

Drawing inspiration from previous experience or other sources. A majority of the participants were either dissatisfied with some aspect of their current evaluation process or were looking for ways to improve their practice. So, the catalyst for insight was not a unique challenge, but often the evaluation team leader wanting to do something different.

Nancy borrowed her idea from her previous experience conducting ethnographic research. Nancy felt that her team members trusted her judgement to do best for the

team. This trust helped her introduce new ideas. Nancy mentioned how her manager's trust helped her introduced ethnographic methods to collect data. She said,

> I mean I feel really lucky because my manager, you know, she really kind of trusted me to do what was best for the team and for the [organization]. And so, I'm kind of able to introduce lot of these things with ease.

Olivia was looking for solutions to get the data back to her clients faster and she got her idea from another state program whose client outcomes were accessible on an online dashboard. Olivia said

> They [Program X] were excited about the program that they bought and wanted to show us. I invited myself and my database administrator up to see it live. We drove up and took a day at this dashboard program and decided that it would be perfect for our use, you know…We bought back the idea back.

Olivia had a salesman from a dashboard software company do a demonstration for her team. The team was really "excited about the solution and felt that it was a solution" they had been looking for. Pearl found her year-end reports to be very boring and uninspiring. She felt that "evaluation can make people feel uplifted and ready to do even more." Pearl wanted to design a report that "made people want to keep reading it."

Awareness of a best practice. Often, these participants wanted their team to adopt a best practice or a different approach. Few participants described how they wanted to change their reporting formats based on what they learned or read from AEA. Tammy described that "the idea for going to the slide deck report was just influenced by other things" that she had seen at AEA and other online resources. Daniel and Frank wanted to

adopt better data visualization practices after they became familiar with some of the resource, including AEA. While Mona's innovation was different from Daniel and Frank, she also got the idea for her innovation from a conference presentation on principle-focused evaluation at AEA. Mona immediately felt that the approach would meet her project needs.

After the team leaders had decided to test and adopt a novel practice, they had discussions with their team members to buy into the idea. Tammy recalled how she talked about the idea with her team member "a couple of times so I didn't just give her a directive." She further added,

> I don't know if it was convincing her so much but just my willingness to talk about it as opposed to maybe just saying this your assignment, now go and do it.

Envisioning future states. Eric talked about how stakeholders "know they want something, but they don't know exactly what it is they want." Eric's organizational leaders wanted to better understand the impact of their organization's efforts. Eric wanted his team not only to devise a solution to centralize the data collection process but envision states how the organization would interact with the solution. Eric mentioned,

> So, our task then was to give them some sense of what this system that didn't exist yet could look like and how it could involve us and how it could involve them. We initially began just brainstorming what our process and our oversight structure and management structure might look like on this project if we created a system.

Setting appropriate expectations. Eric led an internal evaluation team within an organization which had multiple divisions and departments. Since the centralized data system would impact most of these departments, leaders from these departments were involved in decision making process. Therefore, Eric described how it was important to set clear expectations before brainstorming ideas and letting people know factors like resources, challenges, organizational support, etc. would be taken into considerations in making the final decision in choosing a solution. Eric commented how setting expectations was a major leadership role. He said,

> I see as my charge, and the charge of any leader who would approach something like this [brainstorming], whether related to evaluation or not, is to set those expectations up front (so) that not everything that people suggest, regardless of how wonderful it may be, will make it all the way through, will make the cut.

While Diane worked in evaluation firm and her team had the final say in choosing a solution, Diane felt that her role as a leader was to be clear on the implementation challenges and communicate them during the brainstorming sessions.

> Recognizing that you have some challenges and so trying to be clear about what those challenges are and why they are challenges and kind of hold those throughout the conversation. So if ideas start to come up, being able to sort of tie it back, "Oh! That would be a great solution for this challenge. We are still facing this one." Just being clear about what the challenges are and especially with ones like this that have multiple dimensions to them.

Diane also talked about the delicate balance between encouraging people to offer ideas and being cognizant of the implementation constraints they faced. She added,

> You want to try for more than one idea, encourage, try to see something positive in a lot of contributions that are offered so that people feel like they have can continue to offer them. You know so it is responding to that challenge and kind of recognizing to see if there's something that we can build of there without just kind of dismissing the whole notion.

Attention to resources and process. Eric ensured that his team members understood the impact of potential solutions to the centralized data system had on resources (funding, staffing). Eric said,

> All of these options [related to a centralized data system] had different ramifications for us from a staffing standpoint, from a management standpoint and had different ramifications in terms of budgeting, obviously. So we had to come up with what each of these would look like, if they were feasible given our staffing and our structure, and then bring them to other leaders who were responsible for managing the budgeting and ensuring that we carved an appropriate amount of funding.

Like Eric, Olivia had to strategically think about resources once she decided an online dashboard would be good solution to the reporting challenges her team faced. It was very a time-consuming process and she had ongoing conversations with her clients. She remarked,

> The idea had a price tag and so then we had to continue to reach out to stakeholders, like people who funded our grants. We basically tried to

> reach out to lot of different people to see where could get the funding for it over the course of about nine or ten months.

As a part of brainstorming ways to change communities of practice, Oliver and his team discussed funding to support the change. Oliver and other stakeholders discussed how they could pool funding from various sources to provide communities the resources to implement this idea.

Attention to process was critical especially when the introduced idea was a radical departure from current process. Nancy's idea was to switch from using surveys to using intensive ethnographic methods to collect data on participant experiences. This was a radical departure in data collection for Nancy's team. She emphasized that it was important to not only introduce the idea but also share a plan of how the idea will be implemented. She commented,

> I think it takes a little bit more convincing to the team who has to do the data collection in the first place…you just have to put the protocols in place. I can't take too much credit for those things as I have a manager on my team. She is incredible at that and is able to use her organizational skills to plan stuff out. I think you have to be really thoughtful in the front end before you implement any of that stuff. You have to have a really good plan in place.

Summary. Six categories emerged from the data analysis--fostering divergent thinking, drawing from previous experience and other sources, awareness of a best practice, envision future states, setting expectations, and attention to resources and process. A leadership paradox which emerged from the analysis: while leaders fostered

divergent thinking and encouraged team members to share ideas, they also reminded the team of the constraints. While a majority of the leaders constantly wanted to improve, and challenge the status quo, they were very cognizant of the resources needed to make the improvements to current practice. It is plausible that resource and organizational constraints were responsible for the leadership paradoxes observed at this phase. Team leaders persuaded people within and outside their teams to buy-into the idea because the leaders needed stakeholder support to fund their idea.

Leadership behaviors exhibited during prototyping phase of innovation. An essential part of the innovation process is to give ideas a physical form and testing the concept for improvement and feasibility (Dubberly, 2007). This is referred to as prototyping. While some of the participants prototyped, other participants were not able to prototype because of various reasons. Eric said that while he discussed with his stakeholders and team the "pros and cons, the tradeoffs, (and the) thinking about what was actually feasible" regarding the centralized data system, he did not have the "luxury of testing" ideas. Maria had used "bits and pieces" of her idea of a new evaluative approach in "different ways with different projects." Thus, she felt confident in pulling off the idea. Oliver's team also did not have the time to test the idea of implementing learning communities. He said,

> It is something that we were essentially inventing bikes as we were riding down the street. And it is necessarily not best practice, although it is somewhat kind of what happens in practice.

Some of the participants were able to prototype their ideas extensively while other were able to test at smaller scale. The following paragraphs described the behaviors during the prototype phase.

Experimentation. Because of limited resources, some of the leaders tested their ideas on a smaller scale within their organization. Nancy did a small-scale testing of the ethnographic research protocol, she mentioned,

> Prior to the full study, we have obviously done some test with mikes. You know just going down in one exhibit and test it out. Thinking how that would work, checking it for sound and testing it out. Checking it for sounds and things like because of so much background noise.

Other interview participants tested prototypes with their clients and were able to get stakeholder input on how the final product. For example, Oliva and her team worked with program partners across the state to test out the dashboard. She remarked,

> The stakeholder group and the partners across the state gave us a whole lot of direction. They tested our ideas and helped us hone in exactly code in how they wanted to display the information and what made sense to different audiences. We rolled it out, with a whole lot of stakeholder input.

Like Olivia, Carol's team also developed a reporting dashboard. While Olivia's team purchased a dashboarding software, Carol's team developed a customized dashboard. The decision to develop their dashboard was a result of testing several software. Carol said,

> We tried SurveyMonkey; we tried Qualtrics. We looked for other programs that are out there that aren't expensive…that in the end, having that confidential not easy to be hacked but available to the right people at the right moment that's not everyone. We ended up hard programming it, working with a programmer to ensure that it was password protected that we could control and get into. A password was necessary for an individual at the school in order for them to access the data.

Frank's team tested out different software for reporting like Plot.ly, Tableau, Piktochart, etc. to see which software would help them visualize data better. Frank asked the evaluators on his team to review the products developed from the software and providing feedback. Daniel and his team start using some of the data visualization strategies within the team. He later tested the new visualizations with his clients. Through some back and forth, he developed templates of reports "that were a blend might be considered best practice in reporting and feedback from a client."

As a part of the dashboard development process, Carol's team prototyped the dashboard within their team and with their clients. They piloted the dashboard with a few clients and conducted followed interviews to get feedback on various aspects of the dashboard. The dashboard had undergone multiple revisions (10-15) before it was officially rolled out. Carol described the prototyping process as follows,

> We tested internally and then released it to a few districts to try. Some of them were very responsive and more willing to try something new or the ones who had really asked us for data in the past. We asked them for feedback after they used it. We did some interviews to determine how well

> it was working for them, whether they found the data to be valuable, was the site usable, etc.

Pearl felt that her partners were open to taking "risks" and they had a "lot of latitude to try things out." She and her team tested the idea of using spoken artists to report the qualitative data.

Experimenting ideas with clients had the potential risk of the client not liking the idea and losing buy-in. While Mona strongly felt that the principle based evaluation was a good fit, the initial trial run did not go well. Mona had to abandon the idea for year or so. She recalled,

> We had an in-person meeting with all the grantees …we thought we would try to have them develop or identify some of these common implementation principles of their programs. And the first meeting flopped. It was a two-day meeting, and people were completely confused as to what we were doing. We do end of the day evaluations, and they didn't see how this related to them. They didn't know what we were asking them to do. It did not go well.

While the initial experiment of the new approach did not go well, Mona did not give up. The next year she talked with her client and decided the idea "was still worth pursuing because there was another good model." In the second try, Mona brought in a consultant to facilitate the meeting. It was much more successful on the second attempt. The stakeholders understood the purpose of the activities and the evaluation approach and fully participated in the event. Upon reflection, Mona said, "I would say it really took us being willing to take a chance of failing and we failed the first time."

Team leaders not only supported testing ideas among their team members as well as encouraged them to talk with their clients about the experimentation. For example, Tammy said

> Just encouraged her [team member] to be open with program staff so that they would know it's kind of an experiment and that they were welcome to give feedback on the reporting experiment.

Receptive to feedback. Leaders described how they very open to feedback as a part of creating a culture where feedback was an integral part of the workflow. While Nancy had conducted ethnographic research studies before, she was open to feedback from the part-time staff who were currently doing the research protocol. The inclusion of the part-time staff not only improved the study protocol but also gave them ownership of the process. She commented,

> I think it is important that they [part-time staff] are able to communicate that we need to change that or this isn't working. I am open to all their feedback…My thinking is that their expertise, being there on the front line is more important than me saying this is how it is done. Allowing them that kind of agency and allow them to say "Oh! This isn't working and maybe we can do it this way." Being flexible and open in trusting as kept them on board.

Similarly, Frank talked about how getting feedback from the team not only help him decide which software to use but also get their buy-in to change. He reported,

> The other part of that [getting feedback] is that in being transparent and inviting people in you're empowering them; you are making them a part of the team. So, though there is hierarchy and there are definitely decisions that are top down, by being open and being inviting and transparent, you build a much stronger team.

Even though Victoria's client wanted a report 'something different' and was not satisfied with the initial drafts, most her team members were still receptive to getting feedback from the client and figuring out their expectations. She recalled,

> We presented that [earlier versions of the report] to them [client] and they still didn't like it. So, what we did is we brought in the client and said "Okay, look. This what you previously had. What do you define as innovative? Because our definition of innovative is obviously something different than yours" So we gathered some information and then we went back and kind of went back to square one, the drawing board…we bought in additional team members… that would help create what they were looking for.

Team leaders described how establishing a culture where feedback was a part of the standard workflow was important. Carol, whose team developed a homegrown dashboard which had gone through multiple revisions, talked about every product goes through a feedback process. She said, "There isn't anything that we introduced that doesn't go through at least three reviews with three different edits with three different

people within our office." Similarly, Victoria described how her firm's internal workflow integrated the review process. She reported,

> So we have a process in place for all of our documents that we kind of go through, you know, this the first draft, second draft, and we have a project management tool that we use, and we set deadlines. The lead evaluator needs to sign off after the data analyst finishes it…So we have a step by step process until it reaches the project manager to approve it before it is sent off to the client.

Establishing a culture where feedback was a part of the workflow was not an easy process. Carol remarked, "Many people who come to work for us say it's hard not be an the expert….so it takes people a while to adjust to the fact that they didn't introduce something and call it done." Pamela also echoed Carol's sentiment and described that "focus is on the work, not on the individual." She added that it was important to have trust among team members and shared commitment to making the product better. She mentioned,

> Our willingness to put the work to the benefit of making this product better. I think that's the pride that we all feel something that we are really proud of and we all know that we all contributed to it and we all acknowledge that.

Investing resources (time and money). A few interview participants reported how prototyping was resource intensive in terms of time and money. Frank found it was "very stressful" to make the time to experiment different software and doing other evaluation tasks. He reported,

> Sometimes I feel I just want a chunk of time so I am not disturbed or distracted. The problem is I have the day to day constraints of running the business that probably takes me on average two to three hours a day. Then I have the sort of management of projects, which is probably another two or three hours a day.

Victoria's team developed four different versions of the report before the client was satisfied with a version that they liked. Because the client was not satisfied with the data visualization in the first two drafts, she hired experts to produce the other two drafts.

Summary. Three categories emerged from the analysis of behaviors exhibited during the prototyping phase—experimentation, receptive to feedback, investing in resources. Experimentation and receptive to feedback are transformational behaviors. Team leaders prototyped products and processes within their team and with their stakeholders. Respondents talked about having a culture of feedback and how providing feedback was an integral part of their daily workflow. Team leaders talked about how experimentation can be time-consuming and resource intensive. It is interesting to note the resource influenced not only the leader's decision to prototype but also the extent to which they were willing to prototype.

Leadership behaviors exhibited during adoption phase of innovation. The adoption phase included all the activities and events related to the initial utilization and continued used of the innovation till it becomes a routine feature (Damanpour, 1991). Since some of the innovations were very specific to an evaluation project, they could not be necessarily incorporated into the general evaluation workflow e.g. building learning communities. Innovations related to reporting and data visualization were incorporated

into the evaluation workflow. Participants described the following behaviors during this phase.

Ongoing communication. Because of the complexity of the innovation and the involvement of stakeholders from five different organizations, Oliver mentioned that ongoing communication was critical in implementing the change. He said,

> We support our team through regular meetings and virtual collaboration. It really is sort of on-going work and figuring out which way to communicate, how best to communicate, kind of what works the best.

Persuading stakeholders. Interview respondents described persuading stakeholders for various purposes from getting their buy-in to the solution, funding the innovation, participating in the practice, etc. Eric had ongoing conversations with other division heads in his organization to not only to get their buy into the centralized data system but also help them continue to see the value in investing in the system. He said,

> There is persuasion that is necessary for other stakeholder groups and that was involved in those months and months of conversation both before, during, and after the menu scoping period with [various division heads] and determining what we could do to make sure that they see the immediate value and hopefully continue to see that value in the work.

Similarly Mona talked about how she spent a lot of time persuading the client to buy into implementing principle based evaluation. It was especially hard for Mona because the first testing of the plan did not go well. She recalled,

> That [persuading the client] was hard and it took a lot of conversation. Honest conversation and kind of putting the ball back in her court. It's just

> that there isn't a perfect evaluation solution, right? It [current evaluation approach] doesn't fit the program model…We had to give up a fair bit of control…She [client] really wanted to manage the process in ways that we weren't used to. It was incredibly collaborative and incredibly time-consuming.

Managing uncertainty and risk. Mona, whose initial trial of a new evaluation approach was a failure, described that managing risk and uncertainty was a part of doing something new. As a leader and partner of her firm, she felt was able to embrace risk emotionally and financially more than her team members. She reflected,

> We've done this for a long time, so while it hurts and it stings if something doesn't go like you want, it's not the end of the world and we can also take the risk financially ….everyone else gets paid regardless.

Diane, whose team tried the world café approach to engage stakeholders, felt that it was important to acknowledge the risk of doing something new. She said,

> I guess as a leader that the role is slightly acknowledging that this a challenge, there is a risk in whatever solution we take, just trying something that we haven't tried before is a risk, it might not go well. But also, reminding all of us that proceeding the same old way of just requesting interviews, also has a risk because of the challenges we are facing.

Because of this was one of the most comprehensive evaluation approach that her team would have done, Maria talked about how "there are going to be a multitude of things that don't go as planned." She further added, "we will need to be flexible, creative, and

innovative every single day of this evaluation and we are going to stop, pivot, and change a lot."

Autonomy. Interview participants felt that it was important to give autonomy to the team members so they could carry out delegated tasks. Nancy stressed that by giving autonomy to team members, she was able to get their support in implementing the ethnographic data collection protocol. Nancy elaborated,

> Letting them [part-time staff] take ownership of it and helping write protocols and obviously knowing that they are on the ground with the people doing stuff.

Similarly, Pamela stressed the importance of giving team members a choice in terms of tasks. She said,

> In evaluation, you have so many ways to do things and so much work that can get done. If you let people pick some of their priorities and let them pick something that they are really into and is fun, it pays off

Pearl also described giving team members autonomy to expand and scale the idea of using artists to report evaluation findings. One of her team members expanded on the idea of using a spoken artist to report the findings to including partners in poetry writing workshop where they can write poems using smaller data sets. She stated,

> So lot of times things happen organically and my team members have autonomy because we've been working together long enough to know sort of what might be considered within the boundaries of our evaluation versus outside the bounds of our evaluation. So they have a lot of

autonomy within the bounds of our evaluation to create the right kinds of opportunities with our partners

Refining and reflection. Team leaders, especially those whose teams' innovation involved adopting new reporting or data collection system, described how they were refining the product periodically. Eric whose team implemented a centralized an information system mentioned: "once a system is established there remains a period of time where it goes live and you find things that work well require fine-tuning." Tammy also voiced a similar statement of how her team member fine tunes the slide deck report. Tammy mentioned, "She [team member] goes back year to year and takes the slide deck from the previous year and adds and subtracts from there."

Similarly, Diane described how her team refined the second world café event based on their experiences with the first one. She said, "You know after we did the first one we did some retooling of the next one." Additionally, Diane's team reflected after each project was completed. She added, "At the end of the project we regularly reflect on our projects…So what worked? What would we try again? What didn't work?"

Providing opportunities for skill development. Certain innovations, especially those related to data visualization and reporting, required some of the team members to learn a new skill. Team leaders talked about how they supported new team members acquiring skills by sending staff to professional development workshops. Tammy's team decided to create slide decks instead of submitting the traditional long form to make the reports more user-friendly. She supported her team member to attend professional development workshops. Frank sent his research assistant to participate in a workshop on "Developing infographics using Microsoft software." He wanted to an in-house person

trained in infographics. Mona paid for her team members to attend a workshop on principle-based evaluation.

Recognizing success and contributions. Pamela and Diane described how it was critical to celebrate achievements. Pamela felt that team leaders should "celebrate success" and apply the principles of Appreciative Inquiry in all facets of their work. As a part of completing a project, Diane recognized the contributions made by individuals and the team. She felt that it was a balancing act to recognize the team's contribution as well as individual contributions. She mentioned,

> As a manager is also knowing your people well enough to know what recognition is important to them and so you are looking for both individual and team recognition. I think maybe being careful to acknowledge the multiple contributions from multiple people. I think it is a struggle that we have. I think for some staff it is more—it is not satisfying that the team would get recognition as opposed to them individually.

Deviation in protocol. There was only one interview participant who adopted a change because there was a deviation in the protocol. Rhonda had changed her firm's policy to include specific language about reporting in the client contracts. She had to institute this change after a client manipulated their report. This was a very tough decision for Rhonda; she remarked "Trust me, there were a whole lot of sleepless nights around this…The biggest challenge in the business is managing challenging clients."

Setting boundaries. While Eric and his team were willing to make refinements to the centralized data system, Eric also noted it was important to set boundaries and maintain the rigor of the data system. He said,

> We have been very willing to modify our approach as needed while still attending very carefully to the rigor and setting appropriate boundaries around how data should be used and how much weight should be placed on certain findings.

Working extra hours. A majority of the interview participants reported that they and their team members' spent extra hours in the early phases of adoption. Eric worked "more than the typical number of hours per week" to get the centralized data system in place. Oliver and his team were putting a lot of hours in implementing learning communities; he said, "we are paying for this work by doing extra time essentially, extra time at our desk in our office." Olivia echoed a similar statement with regards to setting up the online dashboard. She mentioned "the reality is that people work extra hours, they work longer." While Mona also described spending more time on implementing the new evaluation approach, she saw it as a long-term investment because she learned a new way of evaluating. She elaborated,

> We worked a lot hours that we were not paid for in our contract to make this happen. And we did that because we felt like it was a learning experience for us and that it would be not only good fit for the program, but just from a business perspective we saw this as an innovation and a contribution, as something that we could learn to do well and offer to clients in the future.

Task accomplishment and reorganization. Interview participants were cognizant that innovations took away resources otherwise used to perform other tasks. As such, they had processes in place to help the team accomplish the additional workload that

were related to the innovation as well as routine evaluation tasks. Eric's team used assistants to help deal with the additional workload. He said,

> Thanks to the assistants, we have the ability to kind of flex our workload and keep things from getting too overwhelming from our salaried, regular staff by pushing some of the overflows to the on-call staff, the assistants. So that has been helpful, and it's something that has allowed us to be responsive not just this, both other kinds of emergent needs

Since Nancy's team innovation involved intensive ethnographic data collection, a lot of thoughtful planning went into how task organization. She mentioned,

> We plan everyone's day accordingly, knowing that data collection like this essentially takes your entire day. We don't plan for them to do anything else. So, we are thoughtful in how we are planning our team's day when we are planning to do something like this, something that is physically and mentally exhausting.

Olivia's had to make changes in job responsibilities among her team members to streamline the dashboard reporting as part of their standard scope of service. She commented,

> We moved some duties around. We have streamlined, process like data-entry. We now have one person who is tracking all the data that is coming in, whether or not they are uploaded, whether it comes in the mail. And then she is distributing the work to the other data entry staff.

Additionally, Carol, whose team developed a homegrown dashboard, described how she uses lists to manage short term tasks and long term strategies. She said, "I kind

of keep two task [lists] one being urgent and one being the thinking on the horizon and spend time exploring in peace. I try to make sure that both get addressed on an ongoing basis."

Pamela also noted that while she encourages her team to prioritize their work and anticipate needs, there are times when implementing something new that they "have to go in reactive mode and just fight fires." While Daniel and his team started visualizing charts and figures differently, he admitted that creating good data visualizations does "take away time from producing reports, and doing analysis, and creating surveys, and all the other [stuff] that we have to do."

Establishing and adherence to routine within the team. Team leaders developed new routines that incorporated the new changes. Daniel made the new reporting templates as standard part of their practice and it was easy for him to do so because his team "saw value in it." Frank described his team's process in developing infographics with the standard written reports as follows,

> The steps are sort of to get the data, filter the data, to review with client what's important, what's actionable and then the evaluation team will put the written reports together, whereas the design team will put together some concepts on how to display them, and ultimately they come together and make some decisions.

Team leaders described how having existing protocols in place helped managing tasks and problem solve emerging issues. Mona described how her firm had a process in place to allow for providing feedback, brainstorming, and managing tasks. She reported,

> We have a design meeting for every project we do. And we bring everyone together, how sometimes someone can't make it, but we have an hour of two where we just brainstorm the design or problems in the design, or a different sort of we call them touchpoints of a project.

Diane and Pearl described how their firms had protocols in place which allowed for information sharing, reflection, feedback, and updating on project status. Pearl's team used an online project management tool, Basecamp, for reassessing tasks and also for updating the team on task accomplishment. Additionally, Pearl's team met for two hours every week so that team members update each other on their projects. They also met every six months to check in with each other. Diane's team used a project management software to help with workplans. They also had weekly meetings, brown bags, closing meetings (where team members reflect on the lessons learned from projects). Diane added,

> I would say that the opportunities for creativity hopefully get layered in a few different ways. One is when I mentioned that we have this way of breaking down tasks from beginning to being client ready. The first phase of that we call sketch where more than one person kind of comes together to think about context, to bat around ideas, and so we are trying to hold a place there at the beginning ….to really think what is front of me, what are the challenges, there are multiple ways to approach this and how I am going to approach this, and doing that with somebody else so there's an opportunity for bouncing around ideas. We have these closing meeting or

reflecting on projects. I think it's also an important time to reinforce that message of what did we learn together.

Embedding the innovation within the client's program plan. Carol and her team embedded data-use as an exercise within the client's program implementation plan. Her team worked with program stakeholders (trainers, school personnel) at every level on how to access the customized dashboard and use the data. She mentioned,

> There is usually a piece in the training period where they [trainers] say "OK, everyone, pull up your data here"…We taught them [trainers] how to use the dashboard, how to find information but also make sure we facilitated for full reflection of the data, what does it mean, how does this help me prioritize…any information that would help them see the use and then collect the data.

Scanning the environment for long-term sustainability. Participants described their efforts to procure resources to fund the utilization of the change in the long term. Olivia's organizational initially supported a staff member who helped in the dashboard development. She persuaded her organization to see the dashboard as an investment that will help draw in more evaluation contracts. She said, "We had this philosophy that if we had dashboards, then we would be able to get more business and grow our business if we had this product to share." Olivia knew that this was not long term viable solution and she was able to find other funding sources to support the staff person's salary.

> We are more self-sufficient [than before]. We are moving the person who was partially paid on the [organization's] resources back on the grants that we have contracts.

For the team to work on riskier and expensive projects, Mona's team managed their portfolio of contracts "in a way that allows us to have some cushion to take some of these more expensive, riskier projects."

Summary. The adoption phase includes both initial utilization and routinization of innovation (Damanpour and Schneider, 2006). Team leaders worked more hours than they anticipated, especially in in the initial utilization period. Several categories emerged from the data analysis. Managing uncertainty and risk, autonomy, refining and reflection, providing opportunities for growth, persuading stakeholders are transformational leadership behaviors. Adherence to protocol, task orientation and reorganization, establishing routines are transactional leadership behaviors. Additionally, team leaders looked for opportunities to make the innovation sustainable e.g. getting additional funding, embedding the change within existing infrastructures. The analysis revealed a leadership dichotomies wherein team leaders described being directive at times, managing workflow as a critical part of the innovation process, and they also provided autonomy for their staff to choose tasks. Another leadership paradox that emerged from the analysis was leaders promoted continuous refinement of products and process, while also ensuring timely task completion. Adoption of an idea is a difficult process and so it is not surprising that leaders described varied behaviors in this phase.

Outcomes

In addition to collecting data on the incident and actions taken during the incident, CIT also focuses on collecting data on the outcomes of the incident (Rous, 2015). The results of the innovation incidents are broadly categorized into two groups— positive

reactions from stakeholders and too early to tell. The following paragraphs describe these two broad categories.

Too early to tell. Interview participants were asked to recall incidents that they led within the last 24 months. For some of the innovation incidents, 24 months was too short of a time to see outcomes at the client level. For example, the central data system was in full implementation just two months before the interview, and Eric's team was in the process of analyzing the data collected. Eric felt that it was important to produce reports highlight the analysis for stakeholders "to see the value" of these data. Nancy, was at a similar stage as Eric, she and her team "were still looking at" the data collected through the intensive ethnographic research protocol. At the time of the interview, it was only two months after the launch of the dashboard, Olivia's team had just finished coaching program stakeholders on using the dashboard. While it was too early to tell about the outcomes of implementing the new evaluation approach, Maria said that she would change the approach if her clients were not happy and were not using the data. She remarked "if the client isn't happy, that will be a pivot point. I mean there's no point in doing it if they're not happy and aren't going to use the data."

Positive reactions from stakeholders. Other interview participants reported that some of the clients were quite pleased with changes produced as a result of the innovation. Tammy, whose team developed slide decks instead of traditional reports, said,

> It obviously worked for the clients because for two of the three projects that she [the team member] was evaluating, they were fine with the slide

> deck. The other client who actually read the report had said "Oh I really do like your reports."

Similarly, Pamela stated that she received "enthusiastic responses" from some of the individuals who participated in the capacity building activities. Daniel felt that his clients were happy with the changes in data visualization. Maria's clients "loved" her idea of the evaluation approach. Initially, Mona did not receive positive feedback for the new evaluation approach. However, program stakeholders were quite enthusiastic after the second meeting. She mentioned,

> They (the program stakeholders) were super excited by the end…And by the end I had come up to me saying—literally one quote "The most important and meaningful evaluation work we've done in years. It applies to our programs."

Mona also added that it energized her to see people who stayed after the event and wanted to keep working on the activities. Mona recalled one participant saying to her

> As busy as we are, I feel like this gives me justification to my boss as to why I make the decisions I make, as to why it's important that we do what we do in our programming

Diane's clients 'appreciated the extra thought' that her team put in place to engage their stakeholders. She said,

> They [the clients] appreciated the effort to try to be thoughtful about engaging their stakeholders and that what was offered in terms of engagement with their stakeholders did reflect stakeholder's needs…I

> think they felt overall pretty good about engagement that we got in the project.

At the beginning of the year event for the educators, Pearl used spoken artists to perform the qualitative data findings. Pearl described the performance as "incredibly powerful." The audience were moved and "people cried." Participants felt "really connected with the story of data told through the spoken word performance." The event was a success, and the school community adopted the idea of using art to represent other concepts. Pearl recalled,

> So, we're working with a school and the school community is co-creating a kinetic sculpture to represent the moving parts in everyone's lives, and the kinetic sculpture will be designed with a world-famous sculptor. It will live outside of the school building when it's done. So, it led to ideas like that which I could not foresee.

Most of the interview participants felt good about the outcomes of the innovation. Frank felt the data visualization helped "clients demonstrate their work and in some cases, promote their work." Carol remarked that the purpose of the dashboard was to give trainers and coaches the information they need to respond to schools, and in return, they are better able "to do something that is most supportive of schools."

There were a couple of team leaders who had mixed feelings about the outcomes of their innovation. Rhonda, who changed the firm's internal policy on reporting, said that she would be much more cautious when taking on a client. She mentioned how in the future she would ensure that the client understands evaluation and values it. While Victoria's client was happy with the data booklet, she was not satisfied with the product.

She said, “It was geared toward what the client wanted and not necessarily what we are used to doing or what we really prefer when it comes to translating data into report.”

In summary, it was too early to tell the outcomes for some of the innovations. Other team leaders reported client satisfaction and appreciation with the results of the innovations. One team leader described how the client was not only satisfied with the idea but also adapted the concept for other purposes.

Reflections

Interview participants were asked if there were things they would have done differently. Most of the participants reported that there was not much they could have changed. While they were very confident about the decisions they made, upon reflection, the interview participants identified things that they could have done to make the innovation process better. The following paragraphs describe the major categories that emerged from the data analysis.

Stakeholder and team involvement. Mona conducted a reflection exercise during the initial implementation of the new evaluation approach. One of the lessons learned was to prepare the grantees on what to expect. They wrote up a guide on how to implement the approach because they want to be “able to do this again with other clients.” Upon reflection, Eric felt the would have liked to get more people, outside his division, involved in the process of implementing the centralized data system. He said,

> I guess I might like to see a greater degree of involvement, not just in our division, but in other divisions who are at the table from those who aren’t necessarily at the director or VP level because much of this conversation was at that kind of senior leadership level. I think that I’d like to believe

> those folks in the other divisions and departments did represent the voices of those that report to them. I'd like to make sure that those voices are represented are well.

Pamela's team used evaluation 'champions' from other programs to inform them about how to design and implement the capacity building exercise. She felt that she would have liked to work with the 'champions' sooner and perhaps worked with them as group instead of working with them individually. Nancy felt that looking back she "would've worked more with" her team before implementing the ethnographic data collection protocol. Diane had reservations if the world cafés were the right fit for all stakeholder subgroups. She reflected,

> As the Monday morning quarterback, I feel like there's some of those subgroups it seemed more obvious that this wouldn't have worked well for them or wouldn't have worked as well for them as another solution.

More background research. Tammy said that she might have investigated for more examples of slide deck reports and provided them to her team member. Daniel would have liked to learn more data visualization techniques.

More resources. Olivia described how during the dashboard implementation process, she realized how much staff hours it took to get the dashboard in place. She remarked,

> I think that the one thing I would have differently in the last few years is to price the contract a higher rate. Like to gives us some more resources, I think we underestimated how much time it really takes.

Similar to Olivia, Oliver felt that he had underestimated the resources it took to create learning communities. Frank would have liked "more resources" to "get more licenses for software." Victoria would have like more time to develop the report, she commented,

> Unfortunately, sometimes expectations change within the middle of the project and if you don't work those into the timeline in the beginning it gets hard to meet the deadlines at the end.

Carol's team built a homegrown dashboard that was customized to the client needs. She felt that she had underestimated the time it takes to build a website with a full database. She reported,

> The process took longer than we originally anticipated. The number of iterations even before it went to testing with the districts went far more than we anticipated. We had ten to fifteen revisions before it went to districts.

Carol also learned that it was important to have a "programmer who understands your vision not just take your tasks and do it."

Given the constraints that the team leaders were working under, most of them felt that they would have changed very little of how the innovation process was implemented. It was interesting to note that while most of them reported stakeholder involvement in one more of the innovation phases, most of them would have liked to change some aspect of the stakeholder involvement. A few of the team leaders described how they underestimate the time and resources it took to implement change. These team leaders wished that they could have charged a higher price or budgeted for more time.

Leadership Styles

After the preliminary analysis of the first two interviews, a question about leadership style was added to the interview protocol to better understand the behaviors described during the critical incident. The following paragraphs describe the categories that emerged from the study.

Relationship focused. Nancy described her leadership as 'relationship focused' and the positive relationships made her feel comfortable to introduce new ideas. She described,

> I am very relationship focused so I think for me, it really important to form a good, strong positive, relationship with your team. I think from that comes trust and openness and they you can ask your team to do crazy stuff like go down to collect for us the data

Similarly, Pearl was also relationship focused. She reflected,

> I believe a lot in relationships and in showing up to work as a whole person. I don't expect people to check parts of who they are at the door and only bring the evaluator self into the meeting …I mean it is not just a way to work; it's not a way to live and actually like I send people out into the world to do these projects, and they show up as people.

While she wanted to give team opportunities to express themselves, Pearl also wanted them to understand the vision of her firm and follow it. She added,

> I allow people to create, but ultimately I am a boss. So I do say no. Like "No, we're not going to that." "No, it sounds like a good idea, but no." So I just try to be clear, I try to be kind. I try to make sure that they can see

> my vision. I try to make sure that they have the support they need to show up as a whole person and do the professional work that we're asking them.

Collaborative. Eight respondents described their leadership style as 'collaborative' or participatory. Carol explained her leaderships style as 'extremely collaborative' and she felt that being collaborative helped her establish a culture of feedback and continuous improvement. She added that here culture where they were "trying things in a few different ways and in the end we continually grow and learn and get better what we do." Rhonda described her leadership as participatory, and she trusted the expertise of her team members. Daniel described his leadership style as 'open' to ideas suggestions as well as 'prescriptive' when it came to task completion. Similarly, Pamela described her leadership as collaborative and she loved working in a team. She elaborated,

> I think having a team really, really, really helps. Because you know different people have different energies at different times and one person might be feeling that keep running into something ..and somebody else is more in a reflective mood and can come in and see something at a different angle and the ability to have a conversation at that point.

Olivia described herself as a team player who advocated for her team. She said,

> I think of myself as very much like a team player. I am very inclusive in decision making…It is very open. They can come and tell me when they need something; I'll fight to get it from our funders or pool resources we have. So very inclusive, I'm not kind of a closed-door leader. I'm very

much like I'll share the responsibilities like I'll roll my sleeves and do data-entry if I need to, whatever it takes kind of a thing.

Similarly, Mona described herself has a collaborative leader. She believed that being collaborative leader helps her tap into the potential of a diverse team. She said,

> I want to everything collaboratively to a fault. It's not that I can't make a call or move things forward. I just fundamentally believe that we bought together a team that has diverse, fabulous experience and expertise. I believe that our projects all benefit when we can really hear folks bring their experience to bear, their expertise to bear on these projects.

At the same time, Mona wanted her team members to adhere to the core values of the firm. To ensure that the values of the company are explicit and followed, Mona and her team have a written document that outlines the values of the company. The manual described when to have 'collaborative conversations' at various touchpoints of the project. As a leader, Mona was comfortable stepping in and ensuring that company's values were followed. She added,

> That's where I kind of step in and say "Nope, that's not the vision of the company. This how we do this." So for ideas like the conceptualization of plans it's highly collaborative but for some of the nuts and bolts—and we've written this out. We've written out our values as a company and we did this together and put a lot of time documenting and debriefing on what worked and what didn't and then making collective decisions to move forward.

Empowering. Diane described her leadership style as 'empowering.' She wanted her team members to be empowered and make decisions for themselves. She wanted her team members to know "that their ideas are driving the work and their individual talents and contributions are recognized and apparent." She also emphasized the importance of having structure,

> We have a lot of very talented, high performing people here and there may be different approaches they have to managing their individual tasks and so as company what we strive to do is to try to figure out where we need to put structure around some things and it's continually evolving.

Oliver felt that his leadership style is evolving. He wanted to be collaborative and empower his team members. At the same time, he wanted to ensure that tasks are completed.

> I think that is very much work in progress. I try to be collaborative. I try to be empowering, and at the same time I see my job to ensure that tasks move forward on schedule

Management by exception. The leadership styles for three interview participants were categorized as management by exception. These study participants trusted their team members to do the task and intervene only when there is a need. Frank described his leadership as follows,

> I tend to trust people, give people space. I often have expectations that maybe I don't always verbalize or articulate as well as I should and so I think often I give people space and then get frustrated when they don't deliver as quickly as I'd like them to

Maria and Victoria hated to 'micromanage.' According to Maria, her leadership style is to "give people the resource they need, then get out of their way, but also give them the opportunity to learn and experience things themselves." Victoria believed in communicating expectations and deadlines clearly. She was 'pretty hands off' and "being there if they had any questions."

In summary, team leaders trusted their team and valued team work. The team leaders who lead their teams by 'management by exception' wanted to provide space for their team members to complete the tasks. Those leaders who described their leadership style as collaborative/ relationship focused/empowering also described the importance of having structure, adherence to vision, and process. They were cognizant of their contrasting leadership styles. One team leader remarked that pursuing the 'vision' as well managing the details of the projects is cognitively demanding and it affects her personal life. She said.

> I think my brain handles it by not retaining enough information in my personal life. Like sometimes I feel like my hard disk is full and then I get in my personal life and I need to remember something and my brain just says "Sorry, there is no room for that." So I think there are things in my personal life related to brain capacity that suffer for sure. And timewise—I don't take enough time for myself, which is problematic for being a healthy mom and a healthy partner and just a healthy person.

This chapter presented in detail the findings of the study. The chapter included a description of the participants, antecedents to innovation, their innovation, leadership behaviors reporting during the major phases of innovation, innovation outcomes,

reflections on the innovation process, and overall leadership styles. The next chapter will discuss the findings of the study and situate it within the larger body of literature on leadership and innovation.

CHAPTER 5. CONCLUSION, DISCUSSION, AND IMPLICATIONS

The purpose of the study was to understand the types of leadership behaviors exhibited by evaluation team leads during the innovation process. The main research question was "What are the leadership behaviors exhibited during the process of innovation by evaluation team leaders?"

The study used Critical Incident Technique (CIT) to answer the research question. Phone interviews occurred with fifteen evaluation team leaders. Snowball sampling methods were used to recruit the interview participants. This chapter outlines a summary of the findings, conclusions and discussions based on the findings, implications for practice and policy, and future directions for research

Summary of findings

The interview participants varied regarding their evaluation experience (4 years - 32 years) and their leadership experience (2.5 years-19 years). The range of team size that the team leaders oversaw was from two individuals to more than a dozen professionals. Team leaders innovated primarily because of two reasons. Most team leaders decided to innovate because they wanted to improve their evaluation design, data collection, stakeholder engagement, and reporting. Two of the fifteen interview participants innovated because of a client request or behavior. A little less than half of the interview participants described innovations related to reporting and visualizations.

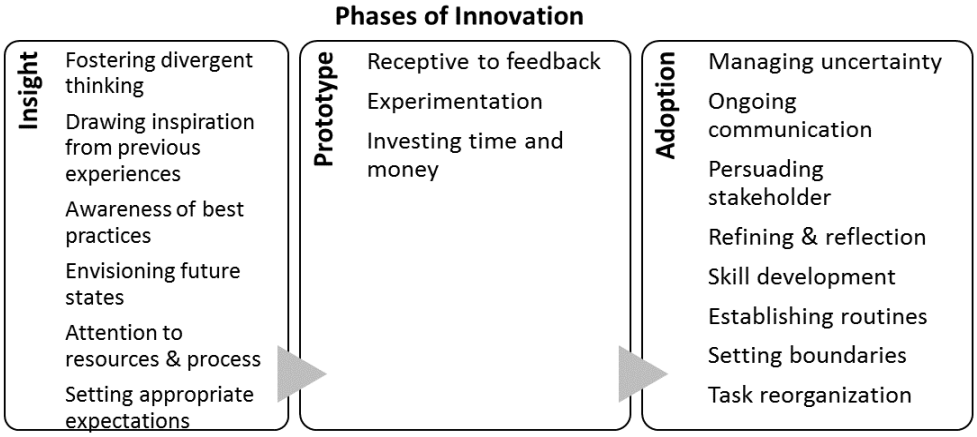
Participant leadership behaviors exhibited the following behaviors during the insight phase—fostering divergent thinking, encouraging awareness of new practices, envisioning future states, giving attention to resources and process, and setting expectations/boundaries. Not all team leaders prototyped their innovation. Team leaders

described primarily three behaviors during the prototype phase, namely, experimentation, receptiveness to feedback, and investing resources. Several behaviors were exhibited during the adoption phase of innovation. These actions include ongoing communication, managing uncertainty, persuading stakeholders, refining and reflection, providing opportunities for skill development, establishing and adherence to routine, recognizing success and contributions, working extra hours, deviation from protocol, setting boundaries, task accomplishment, and reorganization, and embedding the innovation within the client's program.

At the time of the interview, few of the participants were analyzing the data collected from the improved evaluation design and as such felt it was too early to tell the impact of the innovation on the client. Other participants described positive client reactions to the innovation incident. In general, team leaders felt very confident about the decisions they made during the reflection process. Upon reflection, team leaders said that more (and better) stakeholder involvement and research would have helped the innovation process. Three of the fifteen team leaders described their leadership style as 'laid back' and said that they intervened only when necessary. Other team leaders described their overall leadership style as collaborative or relationship focused. However, they also described contradictory behaviors, such as monitoring task completion, when they were describing their overall leadership style. Figure 5.1 highlights the major themes that emerged from the analysis.

Figure 5.1

Leadership behaviors exhibited during the innovation process



The next section presents the conclusions of the study based on the findings mentioned above. The research literature will be used to discuss the findings of the study.

Conclusions and Discussions

There were six conclusions based on the findings of the study: (a) innovation was a result of the team leader or team wanting to improve the evaluation design or process, (b) most of the innovations were technical in nature, (c) paradoxical leadership behaviors were exhibited at the insight phase, (d) contradictory leadership behaviors were reported in the prototyping phase, (e) several, including some paradoxical, leadership behaviors were described in the adoption phase, and (f) most of the study participants described both task and people oriented leadership styles.

Innovation was a result of the team leader or team wanting to improve the evaluation design or process. According to Dubberly (2007), firms are sometimes forced to innovate because of an external pressure outside their organization. Often firms have to respond to the pressure, or they face the risk of decay (Dubberly, 2007). Three of the fifteen interview participants had to innovate because of a client request or change in client behavior. However, a majority of the innovations described by leaders were a result of the team leader or the team wanting to improve the evaluation design or process. Firms often felt the need to create new processes or products to maintain a competitive edge (Basadur, 2004; Dess & Pickens, 2000). Eight interview participants were either dissatisfied with or faced a challenge to their current evaluation process. Dyer, Gregersen, and Christensen (2008) posited that innovative individuals were less prone to the status quo bias and often sought information to change the status quo. In this vein, one interview participant saw a unique organizational opportunity for innovation. Innovative individuals created opportunities to innovate even when there was no apparent demand for it (Miller, 2007; Sarasvathy, Dew, Velamuri, and Venkatarman, 2003). Leaders often saw innovation as way for the company growth and survival (Dubberly, 2007). Frank certainly viewed growth as critical part of his firm's survival, he said, "there is quote that she [his co-lead] has heard from countless times, which is 'If you are not growing, you're dying.'." Therefore, the decision to innovate could be the leader decision to adopt a strategy in order for their team to be competitive.

Quite often, adoption of practice is preceded by becoming aware of a new practice and being exposed to information related to the new practice (Greenhalgh, et. al., 2004). In the last few years, there has been emphasis on data visualization and reporting. In

2010, a topical interest group dedicated to data visualization and reporting within AEA was established. And, in 2013 the Fall and Winter issues of the *New Directions in Evaluation* (a prominent journal in the field of evaluation) were devoted to data visualization and reporting. More recently, AEA has offered trainings and other resources to help evaluators adopt best practices in data visualization and reporting. Therefore, it was not surprising that some of the reasons to innovate resulted from evaluators becoming aware of new data visualization techniques. Three interview participants decided to change how data was presented in their reports after they attended trainings and accesses to resources, related to data visualization and reporting.

Most of the innovations were technical in nature. Innovations can be broadly categorized into technical and administrative (Damanpour, 1998). Technical innovations were related to changes in products, processes, and services that were directly related to the basic offerings of the organizations. Fourteen respondents described incidents related to program evaluation. These included innovations in reporting and data visualization, data collection, stakeholder engagement, evaluation design, and building evaluation capacity. Administrative innovations were related to changes in administrative processes that were indirectly related to basic offerings of the organization and were directly related to the management of the organization. Only one interview participant described a change in internal policy. One plausible reason for why a majority participant chose to describe technical innovation could be due to the fact they saw themselves as technical leaders rather than managers. Additionally, the interview focused on one incident rather multiple incidents. It is plausible that participants would have described administrative innovations if they were asked to describe multiple incidents.

The findings related to the leadership behaviors and styles are consistent with other recent studies (Hunter et. al., 2011; Hill et. al., 2014; Smith et. al., 2016; Guerro, Padwa, Fennwick, Harris, and Aarons, 2016). The study findings show that evaluation team leaders exhibit behavior dichotomies or paradoxes to manage innovation. Paradoxical leadership behaviors are conflicting or contrdictory leadership behaviors (Smith and Tushman, 2005). Smith et. al. (2016, p. 65) posit that "paradoxes invite consideration of alternatives that are interdependent as well as contradictory" and as such paradoxical behaviors allow leaders to focus on multiple conflicitng demands. The following paragraphs discuss the leadership behaviors exhibited at the insight, prototyping and adoption phases. While the behaviors are described and presented in linear fashion, it is likely the behaviors within each phases influenced behaviors in other phases.

Paradoxical leadership behaviors were exhibited at the insight phase. Team leaders used both transformational and transactional leadership behaviors to lead and manage the insight process. The following paragraphs discuss six behaviors as they relates to the insight phase.

***Fostering divergent thinking*.** To generate ideas, six team leaders conducted brainstorming sessions to generate ideas. Fostering divergent thinking is transformational leadership behavior (Antonakis, 2001). Transformational leaders stimulated their followers' intellectual curiosity through promoting divergent thinking (Antonakis, 2001; Avolio et. al, 1999). Team leaders encouraged their team members to think of multiple ideas and to explore all possible options. Three team leaders also had brainstorming sessions with clients and stakeholders.

Envisioning future states. Encouraging followers to envision future states is a transformational leadership behavior (Antonakis, 2000; Avolio et. al,1999). Eric described how he asked his staff members to envision how a centralized data collection process would interact with other organizational processes. The organization did not have a centralized data system so, by encouraging his team to envision a system that bridged various structures, Eric helped his team members to think of long term sustainable solutions

***Setting expectations and boundaries*.** Interestingly, team leaders who implemented activities that fostered divergent thinking among their members also set expectations around the activities. 'Setting expectation' is a transactional leadership behavior (Bass, 1985). Transactional leaders set expectations to help followers understand the boundaries of activities. Diane and Eric reminded their teams of the constraints before and during brainstorming sessions.

Drawing inspiration from previous experiences and other sources. Not all ideas originated through discussions with team members. Some team leaders were seeking information and ways to improve current practices. Creative team leaders drew from their previous experience (Halberstam, 1986) or integrated features from multiple sources (Mumford et. al., 2003). One team leader drew upon her previous experience doing ethnographic research to redesign the evaluation approach. Another team leader adapted the idea for an online dashboard from another agency.

***Awareness of best practices*.** As team leaders became aware of and exposed to resources related to best practices, they decided to adopt the innovation. Greenhalgh et. al (2004) noted that awareness of innovation, access to information about the innovation,

and the adopter's commitment to adopt the decision are all a part of the process of implementing change. As noted earlier, few of the respondents described how they decided to change their reporting style after they became informed of current developments in data visualization and reporting.

Attention to resources and processes. While the interview participants and their teams brainstormed ideas, the team leaders were also thinking about the resources and processes that needed to be in place for the ideas to get implemented. Hunter et. al. (2011) described this as generation evaluation paradox. This is a paradox wherein the team leaders must encourage team members to generate multiple ideas and at the same time evaluate the idea based on feasibility (funding, organizational factors, etc.).

Paradoxical leadership behaviors were observed in the prototyping phase. Some of the participants reported that they did not have the time or resources to prototype their idea. This finding was consistent with the literature that time and costs were the common reasons why organizations did not prototype (Dow and Klemmer, 2011; Erdogmus, 2006). It should be noted that prototyping can be done rapidly and inexpensively (Brown, 2009).

The following paragraphs discuss the findings of the study as it relates to the behaviors exhibited during the prototyping phase.

Experimentation. Managers can be instrumental in creating an organizational context conducive for experimentation (Vaccaro et. al., 2010). This was certainly observed in Carol's case. Carol's team made 10 to 15 revisions to the customized dashboard before the final product was launched to the school districts. Carol described how experimentation was really a part of her team's culture. She said that we were

always “trying things in a few different ways and in the end…we get better at what we do.” Some of the participants tested their idea with their team members or clients. Carol, Daniel, and Tammy tested their idea both within their team and with the clients.

Receptivity to feedback. Most interview participants made improvements to their innovations based on the feedback. Participants were not only receptive to feedback but also supported a culture within their team. Leaders often encouraged team members to reflect and make appropriate adjustments after their experimentation process (Hill et. al., 2014). Hill et. al., (2014) describes this as creative agility wherein team leaders make quick adjustments based on experimentation and reflection. This was observed in teams that prototyped their ideas. Diane’s team “did a retooling after the initial” world café and made a few adjustments in “rolling with the next few” world cafés.

Not all team leaders received positive feedback from their experimentation. Mona continued to implement the idea, despite getting very negative client feedback after the first prototype. Hunter et. al. (2001) described this phenomenon as ‘feedback rigidity paradox,' wherein team leaders were open to feedback but were not necessarily tied to it.

***Investing resources*.** Team leaders also reported prototyping was time and resource intensive. They expressed that time and resource limitations placed constraints on how much they could experiment with ideas. For example, Frank found it was “very stressful” to make the time to experiment different software and doing other evaluation tasks. In the literature, this was identified as a ‘creativity cost paradox’ (Hunter et. al, 2001). The ‘creativity cost paradox’ is about how team leaders must encourage team members to pursue and test ideas while keeping organizational costs low.

Several, including some paradoxical, leadership behaviors were described in the adoption phase. The data suggest the adoption of innovation is a complex process and leaders exhibit several behaviors during this process. This finding is consistent with other recent studies. Guerro et. al. (2016) conducted a mixed method study to examine the leadership behaviors exhibited by leaders implementing best practices related substance use disorders. Leaders reported using transformational and transactional leadership behaviors to guide the implementation process and address ongoing barriers (Guerro, et.al., 2016). The following paragraphs discuss the study findings as it relates to the adoption phase.

Ongoing communication. Because the implementation of the idea required involvement from five different partner organizations, Oliver had ongoing communication with not only his team members but also with program partners. Constant communication was considered to be a critical strategy employed by champion innovators (Van de Ven, Polley, Graud and Venkataraman, 1999). Van de Ven et. al. (1999) argued that innovators had to encourage cross-functional communication among different teams. Communication also allowed for a common emergent story which was critical for routinization of innovation (Gabriel, 2000; Bate, 2004).

***Refinement and Reflection*.** While exploratory behaviors, like learning, were usually observed when generating ideas (Kraft and Bausch, 2016), the study findings suggest that team leaders support continuous refinement and reflection to facilitate the adoption of innovations. Team leaders described refining their products continually. Wisdom et. al. (2014) and Cheung et. al. (2001) found that feedback was critical for full implementation. Interviewed team leaders had processes in place for continuous

reflection and improvement. Weberg (2017) argued that reflection allowed followers to process the information they gained and integrate this information into the way they implemented new practices or process.

Setting boundaries. Eric said that while refining the centralized data system, he set boundaries to ensure data quality was maintained. This behavior is consistent with the feedback rigidity paradox described by Hunter et. al. (2011). It is interesting to note that the feedback rigidity paradox was observed in both prototyping and adoption phases. Eric used stakeholder feedback to design the type of reports that the centralized data system would be able to create but at the same used his technical experience to decide "how much weight should be placed on certain findings given the limitations of the data."

Persuading stakeholders. At the same time, leaders were convincing stakeholders to fund or buy into their innovation. This paradoxical leadership behavior was described as 'champion evaluator' paradox (Hunter et. al., 2011). Innovation required leaders to be critical of ideas (Mumford et. al., 2003), and at the same time leaders had to sell their ideas to stakeholders (Mumford & Hunter, 2005). Additionally, team leaders who were able to clearly communicate expected benefits were able to champion their ideas better (Mullins, Kozlowski, Schmitt, and Howell, 2008). This pattern was observed in Mona's case. While Mona's initial experimentation with her idea failed, she had discussions with her client to show her idea was the best approach to evaluate their program.

Managing risk and uncertainty. Interview participants described using transformational behaviors like managing risk and uncertainty (Shadraconis, 2013) as a part of innovation implementation. Three participants explained that managing risk and uncertainty was integral to adopting an innovation. This observation was similar to other

research studies. In systematic review of twenty- two articles, Boonstra and Broekhuis (2010) found that risk aversion was one of the major barriers to the slow adoption of electronic medical health records by health professionals. Smith et. al. (2016) theorized that innovative leaders tolerate uncertainity and embrace change. Diane acknowledged to her team that they were taking a risk by implementing something new (world café's at engage stakeholders) but she also told them that the change was necessary because of the challenges they were facing.

Providing opportunities for skill development. Fixen et. al. (2005) recommended providing training and coaching to organizational staff on skills and competencies to enhance the implementation process. Cantrell and Hughes (2008) found that teachers who participated in coaching and collaboration activities reported higher self-efficacy in implementation of new literacy content. Team leaders described sending their team members to workshops to accquire new skills and strategies. Team leaders felt that having a well trained staff was necessary for the long term adoption of the practice.

Working extra hours. Team leaders described working extra hours in the early phase of adoption. Olivia expressed that the implementation was a 'big strain' on staff time. Hill et. al. (2014) noted that while the commmon percepton of innovation was a fun process, the reality was that innovation was a taxing process. In a study of business leaders and entrepreneurs, Quin (1985) noted "They pour nights, weekends, and 'sweat capital' into their endeavors."

Establishing and adherence to routine. Rosing et al. (2011) posited that closing leadership behaviors like establishing a routine, adherence to protocol and paying attention to uniform task implementation were critical for successful routinization of an

innovation. Team leaders established routines to assist in the implementation of new processes and practices

Task accomplishment and reorganization. Team leaders reorganized tasks and workflow to facilitate implementation and accomplishment of tasks. This included tasks that were and were not related to the innovation. Interview participants used management software, like Basecamp, to monitor progress and task accomplishment. Team leaders felt these structures were necessary not only for implementation but also to provide a system to identify potential solutions. Daniel said, "through structure comes the ability to be flexible and pliable." This finding was consistent with other findings in the research. One of the paradoxical behaviors observed by Hill et. al. (2014) was that innovative team leaders promoted structure and improvisation.

Emebedding the inovation within the client's program plan. The Dubberly model (2007) posited that a successful innovation created a new 'fit' or a new way people thought and responded to the enviroment. Carol's team successfully implemented online dashboard systems which provided trainers and coaches access to data anytime they wanted. This allowed program staff to embed data use and reflection activities within training and coaching activities.

Deviation from protocol. Passive management by exception referred to instances when the leader intervened after mistakes had occurred (Avolio et. al., 1999). There was only one innovation that was implemented because a client misused the reporting protocol. Rhonda had to implement an internal policy about reporting after a client changed the report without her permission.

Most of the study participants described both task and people oriented leadership styles. While team leaders primarily described themselves as relations or people oriented leader (participatory decision making, concern for employees etc.), they also had structures in place to esnure goal accomplishment and were focused on ensuring that their vision was followed. Smith and Tushman (2005) argue that innovative leaders have 'paradoxical cognition' which allows them to maintain organiational perfomance while exploring new opporutnities. The leadership styles described by the interview participants were categorized into four categories. The following paragraphs discuss these leadership categories.

Relationship focused. Nancy and Pearl described their leadership style as relationship focused. Nancy explained how her positive relationship with staff was based on 'trust and openness.' A relationship focused leadership was based on trust, respect, and mutual obligation (Graen and Uhl-Bien, 1995). Additionally, Bass (1990) posited that trust was a core component of transformational leadership and was needed to build a relationship. Relationship-focused relationship allowed the leader to pay attention to the individual needs of the follower and provide directions based on an individual's strengths (Graen and Uhl-Bine, 1995). Pearl emphasized how by encouraging employees to bring their "whole person" instead of bringing "the evaluator self into the meeting," her team was able to immerse into projects.

While Pearl was relationship focused and wanted her employees to be creative, she also wanted to make sure that the staff 'can see her vision.' When activities were not aligned with her vision, Pearl said: "No, we're not going to that." A shared vision is one of the four main features of transformational leadership behavior. Transformational

leaders communicated a clear and consistent vision (Avolio and Bass, 2002). Research suggests a clear shared vision promotes innovation. In a study of product teams, Pearce and Ensley (2004) found that shared vision and innovation effectiveness were positively associated.

***Collaborrative*.** Most of the interview participants described their leadership as 'collaborative' and emphasized how much they valued teamwork. Collaborative leaders actively engage people in the decision-making at all levels (Glew, O'Leary-Kelley, Friggin, & Van Fleet, 1995). Mona believed involving her team in the decision-making process because she believed 'our projects all benefit when we can really hear folks bring their experience to bear, their expertise to bear on these projects.' Olivia echoed a similar statement how she involved her team in the decision-making process.

Collaborative leaders were also compassionate (Raelin, 2006). For example, Olivia described how she supported her team member decision to go back to school. She said,

> We have one of our team embers who was doing data-entry, she was working about half time. She decided to go back to school and so is on leave at the moment. We just gave her a leave of absence rather than resign because you know we care about her. The rest of us are working little harder in these three months, and she can determine if she wants to come back or not.

It is important to note that while respondents actively sought team participation, they also ensured that the vision of their team was followed. At times when she felt that direction of activities was not in line with the company's vision, Mona stepped in and

said “Nope, that’s not the vision of the company. This how we do this.” Ibarra and Hansen (2011) described this phenomenon as “loosening control without losing control’; where collaborative managers use the professional expertise to step in and make the final call.

Empowering. Diane and Oliver wanted to empower their team members to make decisions regarding the projects. Empowerment provided employees a sense of control (Mumford, 2002) and thereby was found to be an important determinant to organizational creativity (Amabile, 1996). Diane felt it was important to let her staff know that ‘their ideas were driving the work.’

Interestingly, both Diane and Oliver wanted to makes sure that tasks were completed and projects were moving forward. Diane talked at length about the processes her firm used to not only ensure that tasks were completed but at appropriate times during the project there were opportunities for brainstorming, group discussion, and reflection. Smith et. al. (2016) theorized that innovative leaders often embraced multiple strategies and identities to deal with short term realities and to identify future possiblities.

Mangement by exception. Daniel, Victoria, and Maria did not like to ‘micromanage.’ They trusted their team members to do their jobs and expected them to complete their jobs on time. Victoria told her staff “You are qualified. If you have questions I’m here. My door is open, but otherwise this is the deadline and I want it done.” They intervened only when the team member needed help or if team member’s task didn’t complete the task properly.

According to Burns (1978), this leadership behavior is critical feature of transactional leadership. Vaccaro et. al. (2012) argued that active management which

involves the leader actively monitors tasks and provides feedback when there is deviation from work can promote innovation. In contrast, passive management by exception which involves the leader intervening only when the staff made a mistake was not conducive for innovation. Daniel, Victoria, and Maria innovated for various reasons. Victoria introduced the change because the client requested 'something different' for the report. Daniel decided to adopt new visualization practices after became he attended workshops at AEA. Maria decided a new evaluation design because she saw an opportunity to implement a design that captiatalized her and her team's expereince of evaluating such programs. Therefore the study findings do not completely align with the exisitng theories. It should be noted that the study focused on one innovation incident rather than examining the overall team enviroment's to support innovation. It is plausible that these team leaders do not actively promote a culture of innovation.

Implications for practice and policy

There is very little literature on the management of evaluation teams (Baizerman and Compton, 2009). The findings of this study contribute to the literature on evaluation teams as well as provide practical strategies on how evaluation team leaders manage innovation. This study's findings could help in the development of resources and training materials related to supporting evaluation team leaders. Study findings are also applicable to professionals who are leading teams in the implementation of new practices and strategies. The leadership capacity of professionals and experts leading teams is quite varied (Broome, Knight, Edwards, and Flynn, 2009). This study's findings can be used in development of resources to help build the leadership capacity of professionals in other sectors.

Similar to the findings from management literature, the study findings show that the innovations are resources intensive both in terms of time and money. Policy makers should consider the time and resources when they formulate policies that require schools to implement new practices. Furthermore, the study findings are also applicable to implementing research agenda and policies in higher education institutions. Universities and other institutions of higher education are in the knowledge generating business (Goddard, 1998). Innovation is a critical part of knowledge generation (Rowley, 2000). As such, the study findings can be used to improve current policies related to promoting and supporting innovation. For example, universities can ensure that researchers have the necessary tools for quick and rapid prototyping as well as managing multiple projects.

Future directions for research

The purpose of the study was to explore the types of leadership behaviors exhibited during the various phases of innovation. Based on the findings of the study, the following are three recommendations for future research related to the topic.

This study used theoretical leadership frameworks to explore and understand the leadership behaviors shown during the innovation process. It is critical to examine the issue to explore the issue using other perspectives, like gender. In a meta-analysis of 45 studies, Eagly, Johannesen-Schmidet and Van Engen (2003) found that women leaders emphasized both interpersonal relations and task accomplishment more than men. Eagly et. al. (20003) argued that female leaders were more transformational leaders and used certain components of transactional leaders more than male leaders. The female interview participants described both transformational and transactional leadership

behaviors. Further research should be conducted using feminist theories of leadership, to understand the influence of gender leadership behaviors during the innovation process.

This study adds to the current literature on leadership and implementation of innovative practices. This study's findings show that evaluation team leaders exhibited contradictory behaviors when adopting a novel practice or process. It would be interesting to explore if these contradictory leadership behaviors extend to other service sectors like education, healthcare, etc.

By using CIT to examine leadership behavior, the researcher was able to study the behaviors exhibited to various stages of an incident and gain a deeper understanding of the context within which these behaviors occurred. Study findings showed that paradoxical behaviors were exhibited at every phase of the innovation. Future research is needed to delve deeper and identify how these paradoxical behaviors are manifested in real time during these critical incidents. Time use and allocation studies have been conducted in school leadership studies to understand how principals manage various leadership duties (Grissom, Loeb, and Master, 2013; Su, 2013). Similarly, time in motion technique (a technique which has generally been used in industrial engineering), has now been applied to study healthcare practitioners' behavior in implementing best practices (Cowell, Dowd, Landwehr, and Bray, 2013). By observing the manifestation of leadership behaviors and factoring in time, will not only provide further insight on the extent to which behaviors are switched but also provide insight on dominant behaviors exhibited within each phase of the innovation process.

Summary

This fifth chapter restated the research problem, provided an overview of the research method, summarized the research findings, discussed the study conclusions, identified policy and practical implications, and presented future directions for research. Following these five chapters are the references and appendices that were mentioned throughout the chapters.

Appendices

Appendix A

Recruiting Script

Hello, my name is Chithra Adams. I am a doctoral student at Educational Leadership department, University of Kentucky. I am conducting research on innovation within evaluation teams in the United States. Specifically, my study will explore team leadership perspectives and behaviors.

I would like to interview evaluator team leaders who

1. Currently have the official responsibility to oversee and manage the work of at least two or more evaluators.
2. Have led an evaluation team for at least for one or more years
3. Currently reside in the United States

If you meet the above criteria and are interested in participating in the study, please contact me at Chithra.adams@uky.edu (Ph: 859-218-0245)

The interview will last about 30-40 minutes. Participation is purely voluntary. There are no known risks from participating in the study. You will be provided $30 online gift card to an online retailer for participating in the study.

Thank you for your time and consideration.

Sincerely,
Chithra Adams

Chithra Adams
Doctoral Student
College of Education, University of Kentucky
Chithra.adams@uky.edu
Ph: 859.218.0245

John Nash, PhD
Associate Professor,
Education Leadership Studies, College of Education, University of Kentucky
John.Nash@uky.edu
Ph: 859.257.7845

Appendix B

CIT Interview Protocol

Hello! My name is Chithra Adams. I am currently a doctoral candidate at the Department of Educational Leadership, College of Education. This interview is a part of my doctoral degree Thank you for agreeing to participate in the interview. Before we start the interview, I would like to inform you that this interview will be digitally recorded for accuracy purposes. After transcription, the digital recording will be deleted. Information collected from the interview will be anonymous and confidential. No identifying information will be present when reporting.

The first set of questions are related to your experience as an evaluator and as a leader for an evaluation team.

Background Information

1. Could you please describe your evaluation experience?
2. Could you please describe your experience in leading evaluation teams? (Probes: How long have you been doing it? What are the types of programs that you evaluate?)

The next set of questions are going to focus on innovation. Innovation is process of coming up with an idea and implementing it successfully. The idea does not have to be totally novel. It has to be new to you and your team. The idea could have come from you or one of your team members. I would like you to recollect specific experience, within the last 24 months when you and your team had to brainstorm through ideas and successfully implement something new to your team. You do not have to name names; I

am only interested in what happened. I want to hear about specific experience—the problem you were trying to solve, how did the idea form, how did you implement the idea, what happened as a result of the implementation.

3. Can you describe an incident within the last 24 months, when your team had to innovate?

Prompts based on interviewee's response

4. Why did you and your team have to look for a new approach? (Probes: What was the problem you were trying to solve? What were the previous approaches? Why did the previous approaches not work?)
5. How did you and your team come up with the idea? (Probe: what did you do to help them look at various options?)
6. Was the idea tested? (Probe: What was your role?)
7. What happened when the idea was tested? (Probes: What was your role? How did you prepare for the team if the idea failed?)
8. How did you get others to try the idea out? (Probes: How did you deal with people who resisted change?)
9. How did you support others to make this idea as a routine habit?
10. While you were trying to problem solve and come up with a solution, you and your team still had to perform routine evaluation activities. How did you support them in accomplishing their tasks and at the same time allowing them to creatively problem solve?

Reflection question

11. Looking back, how do you feel about this experience? What would you have done differently?
12. How would you describe your leadership style?
13. Please let me know if there are other evaluators who meet the study requirements and might be interested in participating in the study.

Appendix C

Exemption Certification

University of Kentucky | Office of Research Integrity
IRB, RDRC

EXEMPTION CERTIFICATION

MEMO: Chithra Adams (Perumal), M.A.
Human Development Institute
126 Mineral Industries Bldg.
Campus 0051
PI phone #: (859) 257-6877

FROM: Institutional Review Board
c/o Office of Research Integrity

SUBJECT: Exemption Certification for Protocol No. 16-0891-X4B

DATE: November 10, 2016

On November 7, 2016, it was determined that your project entitled, *Exploring Leadership Behaviors Exhibited by Evaluation Team Leads During Innovation*, meets federal criteria to qualify as an exempt study.

Because the study has been certified as exempt, you will not be required to complete continuation or final review reports. However, it is your responsibility to notify the IRB prior to making any changes to the study. Please note that changes made to an exempt protocol may disqualify it from exempt status and may require an expedited or full review.

The Office of Research Integrity will hold your exemption application for six years. Before the end of the sixth year, you will be notified that your file will be closed and the application destroyed. If your project is still ongoing, you will need to contact the Office of Research Integrity upon receipt of that letter and follow the instructions for completing a new exemption application. It is, therefore, important that you keep your address current with the Office of Research Integrity.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office of Research Integrity's IRB Survival Handbook web page [http://www.research.uky.edu/ori/IRB-Survival-Handbook.html#PIresponsibilities]. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site [http://www.research.uke.edu/ori]. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

References

Aarons, G. A., & Sawitzky, A. C. (2006). Organizational Culture and Climate and Mental Health Provider Attitudes Toward Evidence-Based Practice. *Psychological Services*, *3*(1), 61–72. http://doi.org/10.1037/1541-1559.3.1.61

Aarons, G.A., Hurlburt, & M., Horwitz, S. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(1), 4–23. doi: 10.1007/s10488-010-0327-7.

Agrell, A., & Gustafson, R. (1996). Innovation and creativity in work groups. In M. A. West (Ed.), *Handbook of work group psychology* (pp. 314—343). London: Wiley

Alderfer, C. P. (1977). Group and intergroup relations. In J. R. Hackman & J. L. Suttle (Eds.), *Improving life at work.* (pp. 227-296). Santa Monica, CA: Goodyear.

Alvesson, M. (1996). Leadership Studies: From Procedure and abstraction to reflexivity and situation. *Leadership Quarterly, 7*(4), 455-485

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, *10*(1), 123–167.

Amabile, T. M. (1996). *Creativity in context.* New York: Westview Press.

Angle, H. L., & Van de Ven, A. H. (2000). Suggestions for managing the innovation journey. In H. L. A. H. Van de Ven, & M.S. Poole (Ed.), *Research on the Management of Innovation: The Minnesota Studies* (pp. 663-697). New York: Oxford University Press.

Antonakis, J. (2001). *The validity of the transformational, transactional, and laissez-faire leadership model as measured by the Multifactor Leadership Questionnaire*

(MLQ 5X). (Doctoral Dissertation). Retrieved from ProQuest. (ProQuest Number: 3000380)

Andersson, B., & Nilsson, S. (1964). Studies in the reliability and validity of the Critical Incident Technique. *Journal of Applied Psychology, 48,* 398-403.

Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior, 19,* 235–258.

Avolio, B. J., Bass, B. M., & Jung, D. (1999). Reexamining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology, 7*, 441–462.

Avolio, B. J., & Bass, B. M. (2002). *Manual for the Multifactor Leadership Questionnaire* (Form 5X). Redwood City, CA: Mind Garden.

Azzam, T., Evergreen, S., Germuth, A. A. and Kistler, S. J. (2013), Data Visualization and Evaluation. New Directions for Evaluation, 2013: 7–32. doi:10.1002/ev.20065

Backer, T.E, Liberman, R.P., Kuehnel, T.G. 1986. Dissemination and adoption of innovative psychosocial interventions. Journal of Consulting and Clinical Psychology, 54(1):111–118.

Baizerman, M., & Compton, D. W. (2009). What did we learn from the case studies about managing evaluation? *New Directions for Evaluation, 2009*(121), 79–86. http://doi.org/10.1002/ev.287

Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal*, *10*(S1), 107–124. http://doi.org/10.1002/smj.4250100709

Bartholomew, N. G., Joe, G. W., Rowan-Szal, G. A., & Simpson, D. D. (2007). Counselor assessments of training and adoption barriers. *Journal of Substance Abuse Treatment*, *33*(2), 193–199. http://doi.org/10.1016/j.jsat.2007.01.005

Basadur, M. (2004). Leading others to think innovatively together: Creative leadership. *The Leadership Quarterly*, *15*, 103–121.

Bass, B.M. (1985). *Leadership and performance beyond expectations*. New York, NY: The Free Press.

Bass, B. M. (1998). Transformational leadership: Industrial, military, and educational impact. Mahwah, NJ: Erlbaum.

Bate, S.P. 2004. The Role of Stories and Storytelling in Organizational Change Efforts: A Field Study of an Emerging "Community of Practice" within the UK National Health Service. In *Narrative Research in Health and Illness*, edited by B. Hurwitz, T. Greenhalgh, and V. Skultans. Oxford: Blackwell.

Bateman, T. S., & Snell, S. A. (1999). *Management: Building competitive advantage*, 4th Ed., McGraw-Hill, London.

Bennis, W. (1989). *On becoming a leader*. Perseus Books, Reading, MA.

Berkshire, S.D. (1995). *Critical behaviors in innovative and creative decision-making and problem-solving work groups*. (Doctoral Dissertation). Retrieved from ProQuest. (ProQuest Number: 9525793)

Berta, W., Teare, G. F., Gilbart, E., Ginsburg, L. S., Lemieux-Charles, L., Davis, D., et al. (2005). The contingencies of organizational learning in long-term care: Factors that affect innovation adoption. *Health Care Management Review, 30*(4), 282–292.

Bertram, R. M., Blase, K. A., & Fixsen, D.L. (2015). Improving programs and outcomes: implementation frameworks and organization change. *Research on Social Work Practice,25* (4), 477-487. doi:10.1177/1049731514537687

Bettis, R. A., & Hitt, M. A. (1995). The new competitive landscape. *Strategic Management Journal 16*, 7-19.

Bilton, C. (2007). *Management and creativity : from creative industries to creative management*. Malden, MA: Blackwell Publishing.

Boisot M.H. (1998) *Knowledge Assets*. Oxford University Press: New York.

Boonstra, A., & Broekhuis, M. (2010). Barriers to the acceptance of electronic medical records by physicians from systematic review to taxonomy and interventions. *BMC Health Services Research, 10*(1), 231. https://doi.org/10.1186/1472-6963-10-231

Broome, K. M., Knight, D. K., Edwards, J. R., & Flynn, P. M. (2009). Leadership, burnout, and job satisfaction in outpatient drug-free treatment programs. *Journal of Substance Abuse Treatment, 37*(2), 160–170. https://doi.org/10.1016/j.jsat.2008.12.002

Bryman, A., Bresnen, M., Beardsworth, A., & Keil,T. (1988). Qualitative Research and the Study of Leadership. *Human Relations, 41*(1), 13-30

Buijs, J. (2007). Innovation leaders should be controlled schizophrenics. *Creativity and Innovation Management, 16*, 203-210.

Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology, 91*, 1189–1207.

Burnard P. (1991) A method of analysing interview transcripts in qualitative research. *Nurse Education Today 11*, 461–466.

Burnard P. (1996) Teaching the analysis of textual data: an experiential approach. *Nurse Education Today 16*, 278–281.

Burns, J. M. (1978). *Leadership*. New York, NY: Harper and Row.

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A.-S. T. (2005). Fifty years of the critical incident technique: 1954-2004 and beyond. *Qualitative Research: QR, 5*(4), 475–497.

Butterfield, L. D., Borgen, W. A., Maglio, A.-S. T., & Amundson, N. E (2009). Using the Enhanced Critical Incident Technique in Counselling Psychology Research. *Canadian Journal of Counselling, 43*(4), 265–282. Retrieved from http://files.eric.ed.gov/fulltext/EJ858080.pdf

Bryman, A., Stephens, M., & a´ Campo, C. (1996). The importance of context: Qualitative research and the study of leadership. *The Leadership Quarterly*, *7*(3), 353-370.

Bycio, P., Hackett, R. D., & Allen, J. S. (1995). Further assessments of Bass's (1985) conceptualization of transactional and transformational leadership. *Journal of Applied Psychology, 80*, 468–478.

Cantrell, S. C., & Hughes, H. K. (2008). Teacher Efficacy and Content Literacy Implementation: An Exploration of the Effects of Extended Professional

Development with Coaching. *Journal of Literacy Research: JLR*, *40*(1), 95–127. http://doi.org/10.1080/10862960802070442

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage Publications.

Chell, E. (1998). Critical incident technique. In G. Symon, & C. Cassell (Eds.), *Qualitative methods and analysis in organizational research* (pp. 51-72). London: Sage.

Cheung, D., Hattie, J., & Ng, D. (2001). Reexamining the stages of concern questionnaire: A test of alternative models. *The Journal of Educational Research*, *94*(4), 226–236.

Clark, J. (1979). *A Model of Embodied Technical Change and Employmen*t. Science Policy Research Unit, Sussex University, Sussex: Falmer Press.

Coase, R. (1937). The nature of the firm. *Economica*, *4*, 386 – 405.

Cole, F.L. (1988) Content analysis: process and application. *Clinical Nurse Specialist* *2*(1), 53–57.

Cohen-Mansfield, J. (2003). Recruitment rates in gerontological research: the situation for drug trials in dementia may be worse than previously reported. *Alzheimer Disease and Associated Disorders* *6*(4), 279–282.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity—A new perspective on learning and innovation. *Administrative Science Quarterly*, *35*(1), 128–152.

Compton, D. W. (2009). Where is the literature in evaluation on managing studies, evaluators, and evaluation units? *New Directions for Evaluation*, *2009*(121), 17–25. http://doi.org/10.1002/ev.282

Conger, J. A. (1998). Qualitative research as the cornerstone methodology for understanding leadership. *The Leadership Quarterly, 9*(1), 107–121.

Conger, J. A., & Kanungo, R. N. (1992). Perceived behavioral attributes of charismatic leadership. *Canadian Journal of Behavioral Science, 24*(1), 86–102.

Cooper , R. G. (1994) . Third-generation new product processes. *Journal of Product Innovation Management, 11*(1), 3 – 14.

Cooper, R. G. (2014). What's Next? After Stage-Gate. *Research-Technology Management, 57*(1), 20–31. http://doi.org/10.5437/08956308X5606963

Cowell, A. J., Dowd, W. N., Landwehr, J.,& Bray, J.W. (2013). A time-in-motion study of screening, brief intervention, and referral to treatment (SBIRT) implementation in healthcare settings. *Addiction Science & Clinical Practice, 8*(Suppl 1): A19.

Creswell, J.W. (2013). *Qualitative inquiry and research design: choosing among five approaches*. Thousand Oaks, CA: Sage Publications.

Damanpour, F., & Evan, W. M. (1984) Organizational innovation and performance: The problem of organizational lag. *Administrative Science Quarterly, 29*, 392-409.

Damanpour, F., Schneider, M. 2006. Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British Journal of Management, 17*(3), 215–236. doi: 10.1111/j.1467-8551.2006.00498.x.

Damanpour, F., Schneider, M. 2009. Characteristics of innovation and innovation adoption in public organizations: Assessing the role of managers. *Journal of Public Administration Research and Theory, 19*(3), 495–522. doi: 10.1093/jopart/mun021.

Davenport, T. H. (2005). *Thinking for a living: How to get better performance and results from knowledge workers*. Boston: Harvard Business School Press.

Deichmann, D., & Stam, D. (2015). Leveraging transformational and transactional leadership to cultivate the generation of organization-focused ideas. *The Leadership Quarterly*, *26*(2), 204–219. http://doi.org/10.1016/j.leaqua.2014.10.004

Denison, D. R., Hooijberg, R., & Quinn, R. E. (1995). Paradox and performance: Toward a theory of behavioral complexity in managerial leadership. *Organization Science*, *6*, 524-540.

Denzin, N. K., & Lincoln, Y. S. (2003). *Strategies of qualitative inquiry* (2nd Ed.). Thousand Oaks, CA: Sage.

Dess, G. G., & Pickens, J. C. (2000). Changing roles: Leadership in the 21st century. *Organizational Dynamics, 28,* 18 –34

Dey I. (1993) *Qualitative Data Analysis. A User-Friendly Guide for Social Scientist*s. London: Routledge.

Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly*, *25*(1), 36–62. http://doi.org/10.1016/j.leaqua.2013.11.005

Dobbins, G. H. & Paltz, S.J (1986). Sex differences in leadership: How real are they? *Academy of Management Review, 11*,118–127.

Dow, S. P., & Klemmer, S. R. (2011). The Efficacy of Prototyping Under Time Constraints. In C. Meinel, L. Leifer, & H. Plattner (Eds.), *Design Thinking* (pp. 111–128). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-13757-0_7

Downe-Wamboldt B. (1992) Content analysis: method, applications and issues. *Health Care for Women International 13,* 313– 321.

Drach-Zahavy, A., & Somech, A. 2001. Understanding team's innovation: The role of team processes and structures. *Group Dynamics, 5,* 111-123.

Drucker, P. F. (1999). The discipline of innovation. *Fund Raising Management*, *30*(3), 34–35. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10538279

Dubberly, H. (2007). Toward a Model of Innovation.

Retrieved from http://www.dubberly.com/wp-content/uploads/2008/06/ddo_innovation.pdf

Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. H. Kilmann, L. R. Pondy, & D. P. Slevin (Eds.), *The management of organization: Strategy and implementation*, (Vol.1, pp.167-188). New York: North-Holland.

Dyer, J. H., Gregersen, H. B., & Christensen, C. (2008). Entrepreneur behaviors, opportunity recognition, and the origins of innovative ventures. *Strategic Entrepreneurship Journal*, *2*(4), 317–338. https://doi.org/10.1002/sej.59

Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: a meta-analysis comparing women and men. *Psychological Bulletin*, *129*(4), 569–591. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/12848221

Erdogmus, H. (2006) The Economic Impact of Learning and Flexibility on Process Decisions. *IEEE Software. 22*, (6), 76-83.

Eisenhart, M. A. (1991). Conceptual frameworks for research circa 1991: Ideas from a cultural anthropologist; implications for mathematics education researchers. In *Proceedings of the 13th annual meeting of the North American Chapter of the*

International Group for the Psychology of Mathematics Education (Vol. 1, pp. 202–219). nepc.colorado.edu. Retrieved from http://nepc.colorado.edu/publication/conceptual-frameworks-research-circa-1991-ideas-a-cultural-anthropologist-implications-m

Elkins, T., & Keller, R.T. (2003). Leadership in research and development organizations: a literature review and conceptual framework. *Leadership Quarterly, 14*, 587–606.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107–115. http://doi.org/10.1111/j.1365-2648.2007.04569.x

Fagerberg, J., & Verspagen, B. (2009). Innovation studies—The emerging structure of a new scientific field. *Research Policy*, *38*(2), 218–233. http://doi.org/10.1016/j.respol.2008.12.006

Fahimi, M., Whitmore, R., Chromy, J., Siegel, P., Cahalan, M., & Zimbler, L. (2004). Efficacy of incentives in increasing response rates. In *Proceeding from the Sixth International Conference on Social Science Methodology. Amsterdam, Netherlands*. Retrieved from https://www.rti.org/sites/default/files/resources/tsm2006_fahimi-efficacy_paper.pdf

Feist, G. J. (1998). A meta-analysis of personality in scientific and artistic creativity. *Personality and Social Psychological Review, 2*, 290 –309.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network. (FMHI Publication No. 231).

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*(4), 327–358.

Fleishman, E. A., Mumford, M. D., Zaccaro, S. J., Levin, K. Y., Korotkin, A. L., & Hein, M. B. (1991). Taxonomic efforts in the description of leader behavior: A synthesis and functional interpretation. Leadership Quarterly, 2, 245–287.

Frankfort-Nachmias, C. & Nachmias, D. (1996). Research *Methods in the Social Sciences*. London: Arnold.

Frambach, R.T., & Schillewaert, N. 2002. Organizational innovation adoption: A multi-level framework of determinants and opportunities for future research. *Journal of Business Research,55*(2),163–176.

Fujimoto, K., Valente, T. W., & Pentz, M. A. (2009). Network structural influences on the adoption of evidence-based prevention in communities. *Journal of Community Psychology, 37*(7), 830–845. doi:10.1002/Jcop.20333.

Gabriel, Y. 2000. *Storytelling in Organizations: Facts, Fictions and Fantasies*. Oxford: Oxford University Press.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Education research: An introduction (6th ed.).* White Plains, NY: Longman.

Gallouj, F. (2002), "Interactional Innovation: A Neo-Schumpeterian Model. In Jon Sundbo and Lars Fuglsang (Eds.), *Innovation as Strategic Reflexivity*, pp. 29-56. New York, NY: Routledge.

Gander, J., Haberberg, A., & Rieple, A. (2007). The paradox of alliance management: Resource contamination in the recorded music industry. *Journal of Organizational Behavior, 28*, 607– 624.

Gibson, C. B. & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal, 47*, 209-226.

Gilson, L. L., & Madjar, N. (2011). Radical *and incremental creativity: Antecedents and processes* (Vol.5, p. 21). American Psychological Association. http://doi.org/10.1037/a0017863

Glasgow, R.E. 2003. Translating Research to Practice. *Diabetes Care, 26*(8), 2451–2456. doi: 10.2337/diacare.26.8.2451.

Glasgow, R.E., Lichtenstein, E., Marcus, A.C. 2003. Why don't we see more translation of health promotion research to practice? Rethinking the efficacy-to-effectiveness transition. American *Journal of Public Health, 93*(8), 1261–1267.

Goddard, A. (1998). Facing up to market forces. *Times Higher Education Supplement, 13*, 6-7.

Goodwin, V. L., Wofford, J. C., & Whittington, J. L. (2001). A theoretical and empirical extension to the transformational leadership construct. Journal of Organizational Behavior, 22, 759–774.

Graham, I.D. & Logan, J. 2004. Innovations in knowledge transfer and continuity of care. *The Canadian Journal of Nursing Research, 36*(2), 89–103.

Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: creating the blueprint for your "house." *Administrative Issues Journal Education Practice and Research*. http://doi.org/10.5929/2014.4.2.9

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years:

Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, *6*(2), 219–247. https://doi.org/10.1016/1048-9843(95)90036-5

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *The Milbank Quarterly*, *82*(4), 581–629. http://doi.org/10.1111/j.0887-378X.2004.00325.x

Grissom, J. A., Loeb, S., & Master, B. (2013). Effective instructional time use for school leaders longitudinal evidence from observations of principals. *Educational Researcher ,42*(8), 434-444. Retrieved from https://cepa.stanford.edu/sites/default/files/grissom%20loeb%20%26%20master%20instructional%20time%20use%5B1%5D.pdf

Guerrero, E. G., Padwa, H., Fenwick, K., Harris, L. M., & Aarons, G. A. (2016). Identifying and ranking implicit leadership strategies to promote evidence-based practice implementation in addiction health services. *Implementation Science: IS*, *11*(1), 69. https://doi.org/10.1186/s13012-016-0438-y

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18*(1), 59-82. doi:10.1177/1525822X05279903

Gustafson, D.H., F. Sainfort, M. Eichler, L. Adams, M. Bisognano, and H. Steudel. 2003. Developing and Testing a Model to Predict Outcomes of Organizational Change. *Health Services Research, 38*(2), 751– 76.

Guyll, M., Spoth, R., & Redmond, C. (2003). The Effects of Incentives and Research Requirements on Participation Rates for a Community-Based Preventive Intervention

Research Study. *The Journal of Primary Prevention*, *24*(1), 25–41. http://doi.org/10.1023/A:1025023600517

Hackman, J. R., & Wageman, R. (2005). A Theory of Team Coaching. *Academy of Management Review. Academy of Management*, *30*(2), 269–287. http://doi.org/10.5465/AMR.2005.16387885

Halberstam, D. (1986). *The reckoning*. New York: Avon Books.

Harden, E. (2009). Team *innovation: the role of intangible assets and exploratory search.* (Doctoral Dissertation). Retrieved from ProQuest. (ProQuest Number: 3379064).

Hart, C. (1998). *Doing a literature review: Releasing the social science research imagination*. London: Sage.

Hill, L. A., Brandeau, G., Truelove, E., & Lineback, K. (2014). Collective *Genius: The Art and Practice of Leading Innovation*. Harvard Business Review Press. Retrieved from https://books.google.com/books?id=Lrx0AwAAQBAJ

Hohn, H. (2000). Playing, *Leadership and Team Development in Innovation Teams*. Eburon, Delft.

Howell, J. M., & Higgins, C. A. (1990). Champions of change: Identifying, understanding, and supporting champions of technological innovation. *Organizational Dynamics*, *19*, 40-55.

Hughes, H ., Williamson, K., Lloyd, A. (2007) Critical incident technique. In: Lipu, Suzanne, (Ed.), *Exploring methods in information literacy research*. Topics in Australasian Library and Information Studies, Number 28 (pp. 49-66) . Centre for Information Studies, Charles Sturt University, Wagga Wagga, N.S.W.

Hunt, J. G., & Schuler, R. S. (1976). *Leader reward and sanctions: Behavior relations criteria in a large public utility*. Carbondale: Southern Illinois Press.

Hunt, J. G., Osborn, R. N., & Martin, H. J. (1981). *A multiple-influence model of leadership*. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Hunter, S.T., Thoroughgood, C. N., Tyler, A.T., & Ligon, G. S. (2011). Paradoxes of leading innovative endeavors: Summary, solutions, and future Directions. *Psychology of Aesthetics, Creativity, and the Arts, 5*, 54 – 66.

Hsieh H.-F. & Shannon S. (2005) Three approaches to qualitative content analysis. *Qualitative Health Research 15*, 1277– 1288.

Ibarra, H., & Hansen, M. T. (2011). Are you a collaborative leader? *Harvard Business Review*, *89*(7-8), 68–74, 164. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/21800471

Im, E.-O., & Chee, W. (2004). Recruitment of research participants through the Internet. *Computers, Informatics, Nursing: CIN*, *22*(5), 289–297. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15520599

Imai, K., Nonaka, I., & Fakeuchi, H. (1985), "Managing the New Product Development", in Clark, K. and Hayes, F. (Eds), *The Uneasy Alliance*. Boston, MA: Harvard Business School Press.

Jacobs, T. O., & Jaques, E. (1991). Executive leadership. In R. Gal & A. D. Manglesdorff (Eds.), *Handbook of military psychology*. New York: Wiley.

Janssen, O., van de Vliert, E., & West, M. (2004). The bright and dark sides of individual and group innovation: a Special Issue introduction. *Journal of Organizational Behavior*, *25*(2), 129–145. http://doi.org/10.1002/job.242

Johnston, B. J. (1996). Types of educational leadership in a postindustrial society. *The Urban Review*, *28*(3), 213–232. http://doi.org/10.1007/bf02355338

Jung, D. I., Chow, C., & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. T*he Leadership Quarterly*,525-544.

Jung, D.I., & Sosik, J. (2002). Transformational leadership in work groups: The role of empowerment, cohesiveness, and collective-efficacy on perceived group performance. *Small Group Research*, *33*, 313-336.

Kain, D. (2004). Owning significance: The critical incident technique in research. In K. deMarrais & S. D. Lapan (Eds.), *Foundations for research: Methods of inquiry in education and the social sciences* (pp. 69-85). Mahwah, NJ: Lawrence Erlbaum.

Kao, J. (2007). Innovation *nation: How America is losing its innovative edge, why it matters and what we can do to get it back.* New York, NY: Free Press.

Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations* (2nd ed.). New York: Wiley.

Kellerman, B. (1984). Leadership*: Multidisciplinary perspectives*. Englewood Cliffs, NJ: Prentice-Hall.

Kaulio, M. A., & Uppvall, L. (2009). Critical incidents in R&D alliances: Uncovering leadership roles. *European Management Review*, *6*(3), 195–205.

Kidder, T. (1981). The *soul of a new machine*. New York: Avon.

King, N., Anderson, N., & West, M. A. (1991). Organizational innovation: A case study into perceptions and processes. *Work and Stress, 5*, 331–339.

Kitchell, S. (1995). Corporate culture, environmental adaptation, and innovation adoption: A qualitative/quantitative approach. *Journal of the Academy of Marketing Science, 23*, 195–205.

Kotter, J. P. (1982).What effective general managers really do. *Harvard Business Review, 60*(6), 156–168.

Kotter, J. (1990).What leaders really do. *Harvard Business Review, 5*(3) , 3–11.

Kotter, J. (2006). Leadership versus management: What's the difference? *Journal for Quality and Participation, 29*(2), 13–17

Knudsen, H. K., & Abraham, A. J. (2012). Perceptions of the state policy environment and adoption of medications in the treatment of substance use disorders. *Psychiatric Services, 63*(1), 19–25.

Kuhnert, K. W., & Lewis, P. (1987). Transactional and Transformational Leadership: A Constructive/Developmental Analysis. *Academy of Management Review. Academy of Management*, *12*(4), 648–657. http://doi.org/10.5465/AMR.1987.4306717

Knudsen, H. K., & Abraham, A. J. (2012). Perceptions of the state policy environment and adoption of medications in the treatment of substance use disorders. *Psychiatric Services, 63*(1), 19–25.

Kraft, P. S. & Bausch, A. (2016), How Do Transformational Leaders Promote Exploratory and Exploitative Innovation? Examining the Black Box through MASEM. *Journal of Product Innovation Management, 33*. 687–707. doi:10.1111/jpim.12335

Leanna, C., & Barry, B. (2000). Stability and change as simultaneous experiences in organizational life. *Academy of Management Review, 25*, 753–759.

Lowe, K. B., & Gardner, W. L. (2000). Ten years of The leadership quarterly: Contributions and challenges for the future. *The Leadership Quarterly*, *11*(4), 459–514. https://doi.org/10.1016/S1048-9843(00)00059-X

Maccoby, M. (2000).Understanding the difference between management and leadership. *Research Technology Management, 43*(1), 57–59.

Manning, T. (2013). A "contingent" view of leadership: 360 degree assessments of leadership behaviours in different contexts. *Industrial and Commercial Training, 45*(6), 343–351. https://doi.org/10.1108/ICT-02-2013-0014

Mclntyre, R. M. & Salas, E. (1995). Measuring and managing for team performance: lessons from complex environments. In R.Guzzo & Salas (Eds), *Team effectiveness and decision-making in organizations*. San Francisco, CA: Jossey-Bass.

Mensch, G., Kaash, K., Kleinknecht, A., & Schnapps, R. (1980). Innovation *Trends and Switching between Full- and Under-employment Equilibrium, 1950-1978*. International Institute of Management, Discussion Paper Series, Berlin.

Michel, S. (2001). Analyzing service failures and recoveries: A process approach. *International Journal of Service Industry Management, 12*(1), 20–33. doi: 10.1108/09564230110382754

Miron-Spektor, E., Erez, M., & Naveh, E. (2011). The effect of conformist and attentive-to-detail members on team innovation: Reconciling the innovation paradox. *Academy of Management Journal. Academy of Management, 54*(4), 740–760. Retrieved from https://amj.aom.org/content/54/4/740.full

Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. San Francisco, CA: Jossey-Bass.

Miller KD. 2007. Risk and rationality in entrepreneurial processes. *Strategic Entrepreneurship Journal (1)*, 57–74.

Mohnen, P., & Hall, B. H. (2014). Innovation and Productivity: An Update. *Eurasian Business Review*, *3*(1), 47–65. http://doi.org/10.14208/BF03353817

Mowery, D.C. & Rosenberg, N. (1978), "The Influence of Market Demand upon Innovation: A Critical Review of Some Recent Empirical Studies", Research Policy, Vol. 8.

Mullins, M. E., Kozlowski, S. W. J., Schmitt, N., & Howell, A. W. (2008). The role of the idea champion in innovation: The case of the Internet in the mid-1990s. *Computers in Human Behavior, 24*, 451– 467.

Mumford, M. D. (1986). Leadership in the organizational context: Conceptual approach and its application. *Journal of Applied Social Psychology, 16*, 212–226.

Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly*, *13*(6), 705–750. http://doi.org/10.1016/S1048-9843(02)00158-3

Mumford, M. D., Connelly, S., & Gaddis, B. (2003). How creative leaders think: Experimental findings and cases. *Leadership Quarterly, 14*, 411– 432.

Mumford, M. D., & Hunter, S. T. (2005). Innovation in organizations: A multi-level perspective on creativity. In F. J. Yammarino & F. Dansereau (Eds.), *Research in Multi-level Issues: Vol. IV* (pp. 11–74). Oxford, England: Elsevier.

Mumford, M. D., Bedell, K. E., & Hunter, S. T. (2008). Planning for innovation: A multi-level perspective. In M. D. Mumford, S. T. Hunter, & K. E. Bedell (Eds.), *Research in Multi-level Issues: Vol. VII*. Oxford, England: Elsevier.

Muswazi, M., Nhamo, E. (2013). Note taking: a lesson for novice qualitative researchers**.** *Journal of Research Methods in Education, 2*, 13–17.

Meyers, P.W., K. Sivakumar, and C. Nakata. 1999. Implementation of Industrial Process Innovations: Factors, Effects, and Marketing Implications. *Journal of Product Innovation Management 16*(3):295– 311.

Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. *Implementation Science: IS, 10*, 1-13. http://doi.org/10.1186/s13012-015-0242-0

Nohria, N., & Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal, 39*, 1245–1264.

Nystrom, H. (1979). Creativity *and Innovation*. New York, NY: Wiley.

Nystrom, H. (2002), "The Postmodern Challenge: From Economic to Creative Management. In Jon Sundbo and Lars Fuglsang (Eds.), *Innovation as Strategic Reflexivity* (pp. 19-28). New York, NY: Routledge.

O'Connor, G. C. (1998). Market learning and radical innovation: A cross case comparison of eight radical innovation projects. *Journal of Product Innovation Management, 15,* 151–131.

Oldenburg, B., & Glanz, K. 2008. Diffusion of innovations. In, Glanz, K., Rimer, B.K., Viswanath, K. (Eds.).*Health behavior and health education*. (4, pp.313-333). San Francisco: Jossey-Bass.

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal, 39*, 607 – 634.

O'Reilly, M., & Parker, N. (2012). Unsatisfactory saturation: A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research Journal, 13*(2), 190-7. doi:10.1177/1468794112446106

Ospina, S. (2004). Qualitative research. In G. Goethals, G. Sorensen, & J. McGregor (Eds.), *Encyclopedia of leadership*. London: Sage

Patterson, F. (2002). Great minds don't think alike? Person-level predictors of innovation at work. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 115–144). Chichester, England: Wiley.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Thousand Oaks, CA: Sage.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Pearce, C. L., & Ensley, M. D. (2004). A reciprocal and longitudinal investigation of the innovation process: the central role of shared vision in product and process innovation teams (PPITs). *Journal of Organizational Behavior, 25*(2), 259–278. https://doi.org/10.1002/job.235

Perloff, R. (2004). Managing *and leading: The universal importance of, and differentiation between, two essential functions*. Presented at Oxford University, July 14–15. (http://www.katzquiz.com/opinion.cfm?o_num=3) .

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review, 29,* 89–106.

Parry, K., Mumford, M. D., Bower, I., & Watts, L. L. (2014/2). Qualitative and historiometric methods in leadership research: A review of the first 25 years of The Leadership Quarterly. *The Leadership Quarterly*, *25*(1), 132–151. http://doi.org/10.1016/j.leaqua.2013.11.006

Podsakoff, P. M., Todor, W. D., Grover, R. A., & Huber, V. L. (1984). Situational moderators of leader reward behavior and punishment behaviors: Fact or fiction? *Organizational Behavior and Human Performance, 34,* 21–63.

Quin, J.B. (1985) Managing innovation: Controlled chaos. *Harvard Business Review, 63,* 73–84.

Rafferty, A. E. & Graham, M.A. (2004). Editor's comments: Construct clarity in theories of management and organization. *Academy of Management Review. Academy of Management*, *35*(3), 346–357. Retrieved from http://www.amp.aom.org/uploadedFiles/Publications/AMR/SuddabyEditorCommentsConstruct.pdf

Robertson, T. S. (1967). The process of innovation and the diffusion of innovation. *Journal of Marketing*, 14–19. Retrieved from http://www.jstor.org/stable/1249295

Rogers, E. M. (1995). *Diffusion of Innovations*. The Free Press, New York.

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, *22*(5), 956–974. http://doi.org/10.1016/j.leaqua.2011.07.014

Rost, J. C. (1991). *Leadership for the twenty-first century*. New York, NY: Praeger.

Rost, J. C. (1998). Leadership and Management. In Hickman, G. R. (Ed), *Leading Organizations: Perspectives for a New Era* (pp.97-113). Thousand Oaks, CA:Sage. Retrieved from https://books.google.com/books?id=MGugUnmvhVQC

Rothwell, R. (1994). Towards the Fifth-generation Innovation Process. *International Marketing Review*, *11*(1), 7–31. http://doi.org/10.1108/02651339410057491

Rouche, J. E., Baker, G. A., & Rose, R. R. (1989). *Shared vision: Transformational leadership in the American Community Colleges*. Washington, DC: Community College Press.

Rous, B. S. (2015). Using the critical incident technique in early childhood research. In Saracho, O. N. (Ed), *Handbook of Research Methods in Early Childhood Education* (pp. 225-245). Charlotte, NC: Information Age Publishing.

Rowley, J. (2000). Is higher education ready for knowledge management? *International Journal of Educational Management*, *14*(7), 325–333. https://doi.org/10.1108/09513540010378978

Reuvers, M., Van Engen, M. L., Vinkenburg, C. J., & Wilson-Evered, E. (2008), Transformational Leadership and Innovative Work Behavior: Exploring the Relevance of Gender Differences. *Creativity and Innovation Management*, 17, 227–244.

Sabatier, P.A. (2007). Theories of the Policy Process. 2nd ed. Boulder, CO: Westview Press.

Sarasvathy SD, Dew N, Velamuri SR, Venkataraman S. 2003. Three views of entrepreneurial opportunity. In Kluwer (Ed.), *Handbook of Entrepreneurship*

Research: An Interdisciplinary Survey and Introduction, (pp 141-160). Dordrecht, The Netherlands:

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*, 580 – 607.

Schumpeter, J. A. (1934). *The Theory of Economic Development*. Harvard: Oxford University Press.

Sergiovanni, T. J. (1990). Adding value to leadership gets extraordinary results. *Educational Leadership 47*(8): 23-27.

Shadraconis, S. (2013). Organizational Leadership in Times of Uncertainty: Is Transformational Leadership the Answer? *LUX: A Journal of Transdisciplinary Writing and Research from Claremont Graduate University, 2*(1), 28. Retrieved from http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1027&context=lux

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2000). Matching creativity requirements and the work environment: Effects on satisfaction and intentions to leave. *Academy of Management Journal, 43*, 215 – 223.

Shalley, C. E., & Perry-Smith, J. E. (2001). Effects of social–psychological factors on creative performance: The role of informational and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes, 84*, 1–22.

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *Leadership Quarterly, 15*, 33–53.

Sharma, S., & Rai, A. (2003/5). An assessment of the relationship between ISD leadership characteristics and IS innovation adoption in organizations. *Information & Management*, *40*(5), 391–401. http://doi.org/10.1016/S0378-7206(02)00049-6

Shenton, A.K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*, 63–75

Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal, 46*, 703-714.

Simpson, D.D. 2002. A conceptual framework for transferring research to practice. *Journal of Substance Abuse Treatment, 22*(4):171–182.

Simpson, D. D., Joe, G. W., & Rowan-Szal, G. A. (2007). Linking the elements of change: Program and client responses to innovation. *Journal of Substance Abuse Treatment*, *33*(2), 201–209. http://doi.org/10.1016/j.jsat.2006.12.022

Smith, L. M. (1978). An evolving logic of participant observation, educational ethnography and other case studies. In L. Shuman (Ed.), *Review of Research in Education*, Itasca, Ill: Peacock.

Smith, W. K. (2014). Dynamic Decision Making: A Model of Senior Leaders Managing Strategic Paradoxes. *Academy of Management Journal. Academy of Management*, *57*(6), 1592–1623. https://doi.org/10.5465/amj.2011.0932

Smith, W. K., Lewis, M. W., Tushman, M. L. (2016). “Both/And” Leadership. *Harvard Business Review*, 94(5), 62–70

Somech, A. (2006). The Effects of Leadership Style and Team Process on Performance and Innovation in Functionally Heterogeneous Teams. *Journal of Management, 32*(1), 132–157. http://doi.org/10.1177/0149206305277799

Souitaris, V. (2001). External communication determinants of innovation in the context of a newly industrialized country: A comparison of objective and perceptual results from Greece. *Technovation, 21*, 25–34

St. Pierre, R. G. (1983). Management and organization of program evaluation. New Directions for Program Evaluation, 18(June), 1–3.

Stenmark, C. K., Shipman, A. S., & Mumford, M. D. (2011). Managing the Innovative Process: The Dynamic Role of Leaders. *Psychology of Aesthetics, Creativity, and the Arts, 5*(1), 67-80. http://doi.org/10.1037/a0018588

Stevahn, L., King, J. A., Ghere, G., & Minnema, J. (2005). Establishing essential competencies for program evaluators. *American Journal of Evaluation, 26*(1), 43–59.

Sundbo, J. & Fuglsang, L. (2002). Innovation as Strategic Reflexivity. In Jon Sundbo and Lars Fuglsang (Eds.), *Innovation as Strategic Reflexivity,* pp. 19-28. New York, NY: Routledge.

Thomas, D. R. (2003). Qualitative data analysis: Using a general inductive approach. *Health Research Methods Advisory Service, Department of Community Health University of Auckland, New Zealand*. Retrieved from http://fycs.ifas.ufl.edu/swisher/6802_15/Inductive2003.pdf

Tierney, P., Farmer, S., M., & Graen, G. B. (1999). An examination of leadership and employee creativity: the relevance of traits and relationships. *Personnel Psychology, 52*, 591–620.

Usher, A. P (1954). *A History of Mechanical Inventions*. Cambridge: Harvard University Press.

Vaccaro, I. G., Jansen, J. J. P., Van Den Bosch, F. A. J., & Volberda, H. W. (2012). Management Innovation and Leadership: The Moderating Role of Organizational Size. *Journal of Management Studies, 49*(1), 28–51.

Van de Ven, A.H., Polley, D.E., Garud, R., Venkataraman, S., (1999). *The Innovation Journey*. Oxford Univ. Press, New York.

Vera, D. and Crossan, M. (2004). Strategic leadership and organizational learning. *Academy of Management Review, 29*, 222–40.

Walker, J. L. (2012). The use of saturation in qualitative research. *Canadian Journal of Cardiovascular Nursing, 22*(2), 37-46. Retrieved from http://www.cccn.ca

Weberg, D. (2017). Innovation leadership behaviors: Starting the complex journey. In Davidson, S., Weber, D., Porter-O'Grady, Malloc, K., (Eds.), *Leadership for Evidence-Based Innovation in Nursing and Health Professions* (pp 43-76). Burlington, MA: Jones & Bartlett Learning.

West, M. A. (1990). The social psychology of innovation in groups. In West, M. A, & Farr, L. J, (Eds.), *Innovation and creativity at work: Psychological and organizational strategies* (pp.309 –333). Oxford, England: Wiley.

West, M. A., & Anderson, N. R. (1996). Innovation in top management teams. *The Journal of Applied Psychology, 81*(6), 680. http://doi.org/10.1037/0021-9010.81.6.680

West, M. A., & Wallace, M. (1991). Innovation in health care teams. *British Journal of Social Psychology*, *21*, 303-315.

Willig, C. (2008). *Introducing qualitative research in psychology: Adventures in theory and method*. London: Open University Press.

Wisdom, J. P., Chor, K. H. B., Hoagwood, K. E., & Horwitz, S. M. (2014). Innovation adoption: a review of theories and constructs. *Administration and Policy in Mental Health*, *41*(4), 480–502. http://doi.org/10.1007/s10488-013-0486-4

Woolsey, L.K. (1986). The critical incident technique: An innovative qualitative method of research. Canadian Journal of Counselling, 20(4), 242-254.

Yetton, P., Sharma, R. & Southon, G. (1999). Successful IS Innovation: The Contingent Contributions of Innovation Characteristics and Implementation Process. *Journal of Information Technology, 14*(1):53– 68.

Yip, J. (2009). Leading Through Paradox. In McFeeters, B. B., & Booysen, L. (Eds), *Leading Across Differences: Casebook* (1 edition). San Francisco, CA: Wiley.

Yu, S. (2013). *Improving Instructional Leadership Behaviors of School Principals by Means of Implementing Time Management Training Sessions* (Doctoral Dissertation). Retrieved from http://ir.uiowa.edu/cgi/viewcontent.cgi?article=4873&context=etd

Yukl, G. (1989). Managerial leadership: A review of theory and research. *Journal of Management*, *15*(2), 251–289.

Zaccaro, S. J., Mumford, M. D., Marks, M. A., Connelly, M. S., Threlfall, K. V., Gilbert, J., & Fleishman, E. A. (1995). Cognitive and temperament determinants of Army leadership (Tech. Rep. for U.S. Army Research Institute for the Behavioral and Social Sciences). Bethesda, MD: Management Research Institute.

Zaccaro, S.J, & Kolmiski, R. J. (2001). *The Nature of Organizational Leadership: Understanding the Performance Imperatives Confronting Today's Leaders*. New York, NY: Wiley.

Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. *The Leadership Quarterly*, *12*(4), 451–483. http://doi.org/10.1016/S1048-9843(01)00093-5

Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal*, *36*(1), 54–68. http://doi.org/10.1108/LODJ-11-2012-0141

Zaleznik, A. (2004). Managers and leaders. *Harvard Business Review*, 1. Retrieved from http://paarco.com/Articles/040507%20Managers%20and%20Leaders%20Are%20They%20Different.pdf

Vita

Chithra Adams, MS, MPA

EDUCATIONAL BACKGROUND

2004 – 2005: **Masters in Public Administration**

University of Kentucky, Lexington, KY

2001 – 2004: **Masters in Sciences**

University of Kentucky, Lexington, KY

1994 -2000: **Bachelors in Veterinary Science and Medicine**

Madras Veterinary College, India

PROFESSIONAL EXPERIENCE

2014 – Present	Director of Evaluation, Human Development Institute (HDI), University of Kentucky (UK)
2012 – 2014	Interim Director of Evaluation, HDI, UK
2010– 2012	Senior Evaluator, HDI, UK
2009– 2010	Evaluator, HDI, UK
2006– 2009	Evaluation Analyst, HDI, UK
2004– 2006	Research Assistant/Evaluation Data Coordinator, Martin School of Public Policy, UK
2001-2003	Research Assistant, Gluck Equine Center, UK

PROFESSIONAL INTERESTS

Program evaluation, team leadership, design thinking, innovation

EVALUATION PORTFOLIO

Current Portfolio

H79TI026052 Cooperative Agreement to Benefit Homeless Individuals KY 09/01/16-09/30/19

Kentucky Youth Treatment 10/01/16-09/30/19

Partnerships for Employment Change 09/01/16-08/30/19

Vocational Rehabilitation Technical Assistance Center for Targeted Communities: Educate, Empower, and Employ (Project E3) 09/01/16-08/30/20

Coaching and Provider Portals 09/01/16-08/30/17

H323A120007 KY State Personnel Development Grant 10/01/14-09/30/17

H323A150011 TN State Personnel Development Grant 10/01/15-09/30/18

H79SM061899 Transition Age Youth Launching Realized Dreams 12/01/13-09/30/18

KY School Improvement Grant Evaluation 10/01/14-09/30/17

KY State Systemic Improvement Plan 07/01/15-06/30/17

90DD0002-01-00 University Center of Excellence for Developmental Disabilities 08/01/14-07/31/17

H79T1025936-01 SBIRT (Screening Brief Intervention and Referral to Treatment) program at the University of Kentucky College of Nursing (SBIRT-UKYCON) 09/30/16-09/01/19

NU27DD000010-01 Community Health Education & Exercise Resources(CHEER)-Improving Cardiovascular & Overall Health through Nutrition & Physical Fitness Community Programming for Individuals with Cognitive Disabilities 07/01/2016-06/30/2019

KY Department for Medicaid Services, Heightened Scrutiny Reviews for Settings 01/01/2017-09/30/2017

Improving our System of Care for Children and Youth with co-occurring disorders 01/01/2017-09/30/3017

PUBLICATIONS

Adams, C., Nash, J., B. (2016). Exploring design thinking practices in evaluation. *Journal of Multidisciplinary Evaluation, 12,* 18-24.

IN PROGRESS

Adams, C, Dekle, V, Roberts, J. (2017). A mixed methods approach to evaluating networks.

PRESENTATIONS

Adams, C. (October, 2016). *Designing creative evaluation teams*. Panel Presentation at the National American Evaluation Association Conference, Atlanta, GA.

Adams, C. (October, 2016). *Misadventures in design thinking*. Panel Presentation at the National American Evaluation Association Conference, Atlanta, GA.

Rios, A., **Adams, C**. (October, 2016). *Integrating Design and Anthropology: Why Empathy and Cultural Relativism Matter*. Roundtable at the National American Evaluation Association Conference, Atlanta, GA.

Rous, B., **Adams, C**., Nash, J. (November, 2015). *Designing a human centered evaluation.* Panel Presentation at National American Evaluation Association Conference, Chicago, IL.

Adams, C, & Rous, B. (November, 2015). *Design thinking and evaluation: Old wine in a new bottle or a new way to deliver evaluation services?* Panel Presentation at National American Evaluation Association Conference, Chicago, IL.

Sherif, V., **Adams, C.,** Nash, J.B., McKay, D., Plonski, P., & Rous, B. (October, 2014). *Bringing structure to data overload: Using evaluation questions to align metrics, milestones and evolving aims*. Poster at the American Evaluation Association, Denver, CO.

Adams, C., Nash, J.B., & Rous, B**.** (October, 2014). *Using design thinking approaches to facilitate data collection and use among stakeholders*. Panel Presentation at the American Evaluation Association, Denver, CO.

Perumal, C .,& Garrett B. (November, 2007). *Using Evaluation as Management Tool: The Experience of the Tennessee State Improvement Grant Evaluation*. Panel Presentation at National American Evaluation Association Conference, Baltimore, MD

Perumal, C., Garrett, B., & Strunk, K. (July, 2007). *A Quasi-experimental Approach for Studying the Impact of the Tennessee State Improvement Grant's (SIG) Professional Development (PD) on the Pre-school Classroom Environment*. Presentation at the Office of Special Education Programs (OSEP) Project Director Conference, Washington D.C.

Perumal, C. (October, 2005). *An Economic Analysis of the Implementation of the National Lambda Rail in KY*. Southeastern Conference of Public Administration (SECoPA), Little Rock, AR

PROFESSIONAL ACTIVITIES

PROFESSIONAL MEMBERSHIPS

American Evaluation Association (AEA)

LEADERSHIP ROLES

Leadership Team, Human Development Institute, 2016 to present

Graduate Student Representative, Department of Educational Leadership, College of Education, UK, 2016 to present

Chair, Program Design Topical Interest Group 2015-2016

Co-Chair, Underserved Populations Outreach and Engagement Committee, Human Development Institute, 2013-2014

EDITORIAL ACTIVITIES FOR PROFESSIONAL JOURNALS

Reviewer, Journal of Multidisciplinary Evaluation

OTHER

Reviewer for final student projects for the undergraduate course-- Living on the Right Side of the Brain (LA 111)

Contributor to AEA365, blogpost sponsored by the American Evaluation Association (AEA)

AWARDS

Arvle and Ellen Turner Thacker Research Fund