

12-1-2013

# A Study of Transformational Initiatives and Social Capital

Craig Dean Plain

*University of Wisconsin-Milwaukee*

Follow this and additional works at: <https://dc.uwm.edu/etd>



Part of the [Human Resources Management Commons](#), and the [Work, Economy and Organizations Commons](#)

---

## Recommended Citation

Plain, Craig Dean, "A Study of Transformational Initiatives and Social Capital" (2013). *Theses and Dissertations*. 440.  
<https://dc.uwm.edu/etd/440>

This Dissertation is brought to you for free and open access by UWM Digital Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UWM Digital Commons. For more information, please contact [open-access@uwm.edu](mailto:open-access@uwm.edu).

A STUDY OF TRANSFORMATIONAL INITIATIVES AND SOCIAL CAPITAL

by

Craig Plain

A Dissertation Submitted in

Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

in Urban Education

at

University of Wisconsin at Milwaukee

December 2013

## ABSTRACT

### A STUDY OF TRANSFORMATIONAL INITIATIVES AND SOCIAL CAPITAL

By

Craig Plain

The University of Wisconsin-Milwaukee 2013  
Under the Supervision of Professor Barbara J. Daley

Organizations seek to improve themselves. They do so to become more efficient, to increase sales...indeed, to survive. Many have implemented various initiatives to transform themselves. For some, these efforts have paid off. Companies such as General Electric, Motorola, Allied Signal, and others have claimed billions of dollars in cost reductions and increases in revenue (Altinkemer, Ozcelik, & Ozdemir, 2011; Lucier & Seshadri, 2001). Such successes have driven many others to implement these transformational initiatives. Yet the failure rate hovers around 70% (Kotter J. P., 1995).

This study sought to expand the body of knowledge regarding the implementation of transformational initiatives. There are myriad issues that have bearing on implementation; this study focuses on how individuals and teams are influenced.

A qualitative methodology was used in this study. Personnel who have worked in organizations undergoing a formal transformational initiative were interviewed. The data collected developed insight into the issue of change and how transformative initiatives are a complex web of structure, relationships, and cognition rather than a simple application of “best practices.” This adds to the expanding body of knowledge in the field of transformational initiatives.

© Copyright by Craig Plain, 2013  
All Rights Reserved

## Dedication

This dissertation in fact my entire doctorate degree, is dedicated to my wife, Sally Ann Paulin Plain. I can only pray she doesn't regret the discussion we had so long ago when I expressed a desire to pursue my Ph.D. and she said, "Go for it." Neither of us imagined the journey ahead: the seemingly countless years, the two full time semesters required for residency while working full-time, school on top of National Guard and Reserve duties, changes in jobs, moving around the country and other general craziness. She never gave up and never allowed me to give up. She kicked my butt more than once. This would not have been possible without her love and support.

To my children, Matthew and Katie, I'm not sure to thank them or apologize to them. They probably don't remember the times when they were younger that I'd use an article assigned as homework as their "bedtime story" (Though I found it remarkably effective in getting them to sleep). Most of their lives saw me going to school. Their sacrifice is greatly appreciated.

My advisor, Professor Barb Daley, is owed a huge debt of gratitude. She put up with almost as much foolishness as my wife. She too never gave up on me, challenged me constantly, and provided me guidance.

Lastly there are some mentors that helped me along the way: Steve "Doc" Savage who, unknowingly, taught me the foundations of process improvement. George "Billy" Asbell who taught me the practical application of process improvement. Lastly Dr. W. Edwards Deming: while I never had honor to meet him, his straight-forward, practical, and downhome wisdom were the first words I read about transformation, and initially sparked my interest.

## Table of Contents

ABSTRACT.....	ii
Table of Contents.....	v
Figures .....	vii
Tables.....	viii
Chapter One: Introduction .....	1
Introduction.....	1
Operational Definitions & Scope.....	4
Purpose of the Study .....	10
Problem Statement.....	11
Research Questions.....	13
Need for Study .....	14
Significance of Study.....	18
Background of Researcher.....	21
Chapter Two: Literature Review .....	23
Introduction.....	23
Review of Overviews .....	25
Review of Studies on Results .....	36
Review of Studies on Organizations.....	46
Review of Studies on Social Capital .....	53
Summary.....	61
Chapter Three: Methodology and Data Analysis .....	62
Research Framework .....	62
Sampling .....	65
Data Collection .....	72
Quality Control .....	82
Data Analysis.....	85
Summary.....	90
Chapter Four: Findings .....	91
Introduction.....	91
Sample Data Description .....	91
Sample Overview.....	94
Findings .....	98
Structural Element .....	98
Cognitive Element .....	113
Relationship Element.....	123
Multiple Elements.....	132
Summary.....	146

Chapter Five: Summary, Implications, and Recommendations .....	148
Introduction.....	148
Summary of Findings .....	148
Discussion & Implications.....	152
Recommendations for Future Studies.....	164
Limitations .....	165
Final Remarks .....	166
References.....	168
Appendices.....	193
Appendix A: Vee Diagram .....	193
Appendix B: Original Interview Guide .....	194
Appendix C: Original Interview Guide with Author Notes.....	196
Appendix D: Revised Interview Guide.....	199
Appendix E: IRB Informed Consent Letter.....	200
Curriculum Vitae .....	201

## Figures

Figure 1: Relations of this study. ....	4
Figure 2: Graphic representation of research question. ....	14
Figure 3: Concept map showing areas of significance. ....	18
Figure 4: Literature Map. ....	23
Figure 5: Individual training process. ....	65
Figure 6: Evaluation of companies. ....	66
Figure 7: Original sampling plan. ....	69
Figure 8: Affinitization example. ....	87
Figure 9: Company leveraging sense of community. ....	131
Figure 10: Findings related to research question. ....	150



## Tables

Table 1: Studies on Overview .....	27
Table 2: Studies on Results.....	39
Table 3: Studies on Organizations .....	49
Table 4: Studies on Social Capital .....	55
Table 5: Initial Affinitization Framework.....	86
Table 6: Summary of Participants.....	92
Table 7: Methods and Maturity.....	95
Table 8: Summary of Projects.....	97
Table 9: Summary of Themes.....	149

## Chapter One: Introduction

### *Introduction*

Some organizations have embarked on transformational initiatives seeking to “...boost quality, improve culture, or reverse a corporate death spiral” (Kotter, 1995, p. 2). These initiatives have such names as Total Quality Management (TQM), Continuous Process Improvement (CPI), Operational Excellence (OpEx), and World Class Manufacturing. Companies use various philosophies, methods, and tools such as Lean, Six Sigma, Theory of Constraints, Business Process Re-engineering, and others. Some results have been impressive. Motorola reported \$2.2 billion in savings over three years using Six Sigma (Anthony, 2006). Other companies improved on-time delivery by 99%, reduced inventory by 75%, and increased returns on assets by 100% using other transformational initiatives (Upadhye, Deshmukh, & Garg, 2010). Results like this encouraged other companies to try these initiatives. Transformational initiatives have become an integral way many companies operate. At the height of TQM in the late 1980s, the improvement of service and product quality was seen as the most critical challenge facing U.S. businesses, per a survey of business executives (Zeithaml, Parasuraman, & Berry, 1990). This emphasis has continued into the present day. A survey conducted in 2009 of senior operations leaders showed a majority of them giving credit to transformational initiatives, such as Lean, for their businesses’ ability to respond to an economic downturn (Stiles Associates, 2009). Another popular initiative, Six Sigma, was highlighted in Caterpillar’s 2004 Annual Report:

What an incredible success story Six Sigma has been for Caterpillar! It is the way we do business—how we manage quality, eliminate waste, reduce costs, create new products and services, develop future leaders, and help the company grow profitably. (Caterpillar Corporation, 2005, p. 4)

The Bank of America echoed the praise of Six Sigma, crediting the initiative for its record earnings in 2003 (Montgomery & Woodall, 2008). For well over the last three decades, from manufacturing to service industries, transformational initiatives have been seen as critical aspects of business.

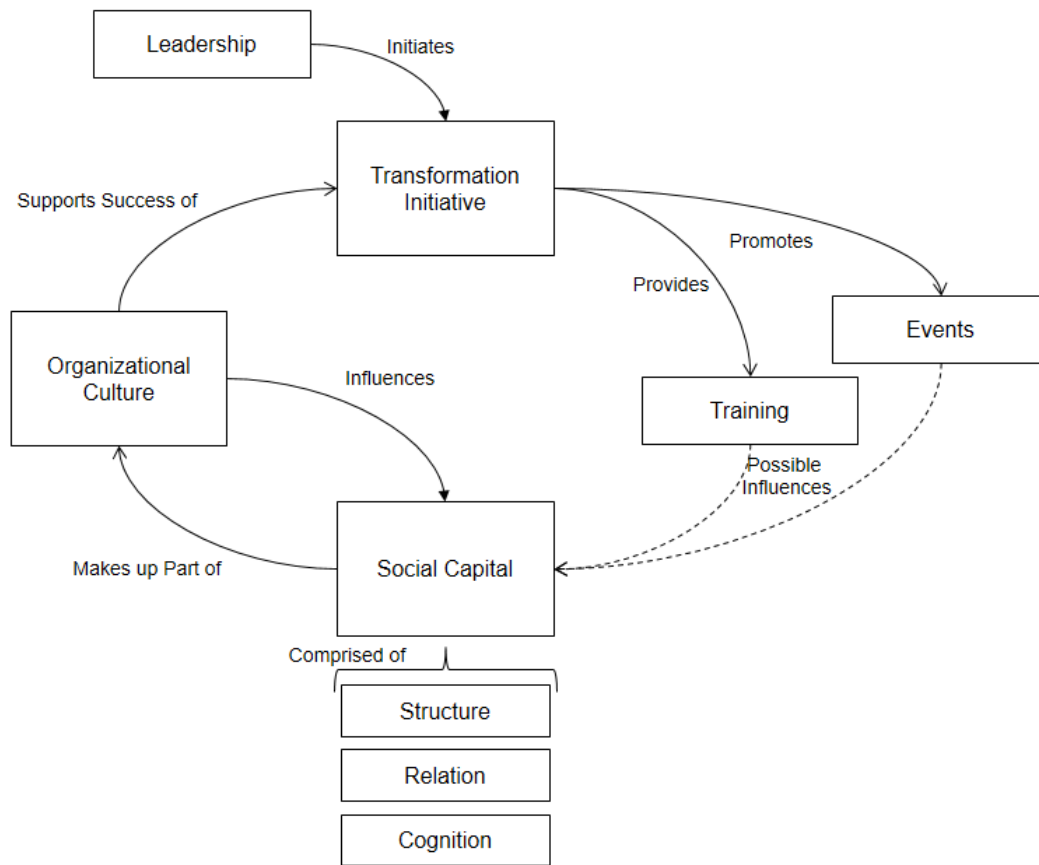
Given the significance of transformation, and the potential money involved, a substantial amount of capital and labor have been dedicated to implement these efforts. Bureaucracies are created, policies are written, and training programs are developed, all with intent to change the organization. In 2001, General Electric (GE) recorded costs of \$600 million to support and run its Six Sigma program. This was a 300% increase from the \$200 million GE spent on Six Sigma in 1996 (Lucier & Seshadri, 2001). A Stiles Associates (2009) survey showed 66% of companies planned on maintaining or increasing their spending on operational improvement initiatives. Some companies' commitments were captured in the following quote from the Stiles survey:

Despite layoffs in the 15 to 20% range, we are dedicating more resources to the operational excellence program to help drive significant reductions in working with capital and improve our competitive position. (Stiles Associates, 2009, p. 6)

Organizations have indicated their desires for successful transformational initiatives by committing large sums of money and dedicating vast resources. Even when faced with economic downturn, they continued to support the initiatives.

Despite the importance associated with these initiatives and the assets devoted to them, the success rate of these transformational initiatives is low. Several studies have placed the failure of transformational initiatives at approximately 70% (Kotter, 1995; Liker & Rother, 2010). Of the programs that survived, there were indications that they did not reach the organizations' desired states of change (Capgemini Consulting, 2010). Given the desire to transform, with the goal to improve, why do some companies succeed while so many others fail? There is no single answer to this complex problem. This study was initiated to add to the body of knowledge investigating this question.

This study sought to explore the relationships between a formal transformation initiative, the training and events generated by such a program, and the influences upon the social capital of the organization. This is important, as social capital influences the organization's culture. There is also a cyclic relationship with a company's culture having influence on social capital. It is the culture that must be changed to have a sustained transformation. This relationship is represented in Figure 1.



**Figure 1: Relations of this study.**

As seen in Figure 1, the leadership of the company will start the transformational initiative. The initiative will provide employees training on the philosophy, methodology, and tools. The initiative will also promote participation by employees in improvement events. The training and events that arise from a transformational initiative have an influence on social capital and its components of structure, relations, and cognition. This study will investigate those influences.

### *Operational Definitions & Scope*

One finds myriad definitions for the same or similar words when discussing the topics of transformation, quality, training, and social capital. To avoid ambiguity in this

study, various terms, phrases, and concepts need to be clarified and standardized. The following are operational definitions of terms used throughout this study.

**Formal Training:** In the definition put forth by Knowles, Holton and Swanson, formal training is made up of programs sponsored by an established institution, and in which the content was chosen by others (the organization) and presented to the learner (2005).

**Informal Training:** Informal training includes what Knowles, Holton, and Swanson (2005), define as *natural* and *personal* learning. When an individual learns by simply interacting with the environment, engaging others, or exploring, that is natural learning. Intentionally setting out to learn something in a self-directed manner is considered personal training.

**Transformational Initiative:** A transformational initiative is an enterprise level program that seeks “to make fundamental changes in how business is conducted in order to help cope with a new, more challenging [market] environment” (Kotter, 1995). These fundamental changes refer to organizational change, which was effectively defined by Rune Lines as “...a deliberately planned change in an organization’s formal structure, systems, processes, or product market domain intended to improve the attainment of one or more organizational objectives” (2005, pp. 9-10).

**Continuous Process Improvement (CPI):** As part of a transformational initiative, organizations will often seek to develop a culture of continuous process improvement. They are almost synonymous. CPI involves a number of small changes and modifications, on an ongoing basis, mostly unobservable from outside the firm and with the goal of constantly increasing efficiency and effectiveness (Morita, 2005).

Quality: An often-stated goal of a transformational initiative is to improve quality. Quality is defined as that which meets or exceeds expectations and specifications of the customer (Parasuraman, Berry, & Zeithaml, 1991). Noted quality expert Joseph Juran provides a definition of quality that has been widely used: "fitness for use." This is defined as the extent to which a product successfully serves the purposes of the user (Reeves & Bednar, 1994, p. 425).

While there are numerous methods and tools, there are several main quality philosophies that are defined here.

Total Quality Management (TQM): TQM is a management philosophy that seeks to integrate all organizational functions to focus on meeting customer needs and organizational objectives (Hashmi, 2010). TQM is considered the earliest transformational management initiative. Its origins have been traced back to 1926 and Henry Ford's early assembly lines (Stuelpnagel, 1993). TQM is mainly associated with the works of W. Edwards Deming and Joseph Juran (Deming, 1986; Juran & Gryna, 1993).

Six Sigma: An information-driven methodology for reducing waste, increasing customer satisfaction, and improving processes, with a focus on financially measurable results (Caulcutt, 2001, p. 302). Sanders (2010, p. 42) gives a broader definition that captures the wide scope of Six Sigma:

Six Sigma methodology is defined in multiple dimensions. It is primarily a business philosophy that focuses on continuous improvement by addressing customer needs, analyzing business processes and instituting proper measurement methods to reduce process variation. It differs from previous

productivity improvement methods in that it emphasizes an increased focus on quality as defined by the customer, reduced defects and variation and rigorous statistical methods.

Six Sigma was developed in the 1980s at Motorola and came into prominence as large companies such as General Electric, Honda, and Sony adopted the initiative. These companies, and others, have claimed remarkable improvements in quality and reductions in costs by using Six Sigma (Bhuiyan & Baghel, 2005). Six Sigma generally utilizes a method designated by the acronym DMAIC. These five letters stand for the phases in a structured problem solving methodology: Define, Measure, Analysis, Improve and Control. Six Sigma has tended to rely heavily on statistics when working through these five steps.

Lean: An initiative to reduce waste in human effort, inventory, time to market, and manufacturing space. Lean is a broad concept, and while focused on speed via waste elimination, has implications for many aspects including work design, employee involvement, training, and job satisfaction (Mehta & Shah, 2005). The general application of Lean is to create a map of a process, and then to identify which steps in the process add value, and which steps do not add value. The goal is to then eliminate or reduce those non-value added steps.

Lean Six Sigma: Some organizations (and consultants) are “combining Six Sigma quality with Lean production speed” and labeling it “Lean Six Sigma” (George, 2005). The composite of these two existing methods creates a new, distinctive method for companies that seek both the speed of Lean and the statistical rigor of Six Sigma.



Business Process Reengineering (BPR): This method focuses on the entire organization at an enterprise level. A good definition “is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed” (Hammer, 2003, p. 35).

Kepner-Tregoe: Named after two researchers who had worked with the RAND Corporation, this methodology came out of studies done during the Cold War. During a RAND research project with the United States Air Force, Kepner and Tregoe noticed differences between RADAR operators in their abilities to make decisions. After they left RAND, they continued to study why some managers were good decision makers, while others struggled. This led to the publication of their book, *The Rational Manager* (1965) and evolved into a business teaching their problem-solving methodology. It has been credited with impressive returns on investment with some well-known companies, such as Siemens (White, 2008).

Agile: In 2001, at a ski lodge in Utah, seventeen people met to ski, relax, and talk. What emerged was the Agile Software Development Alliance. The Alliance developed the Agile Manifesto (Fowler & Highsmith, 2001) with the following points as its guidelines:

- Individuals and interactions over processes and tools.
- Working software over comprehensive documentation.
- Customer collaboration over contract negotiation.
- Responding to change over following a plan.

While originally conceived as project management philosophy, Agile has begun to be used in manners similar to other transformational initiative methods. One popular guide that shows how to implement Agile also includes Lean principles (Layton, 2012).

The following definitions were used regarding behavior and relationships:

**Social Capital:** Nahapiet and Ghoshal (1998) outlined three elements of social capital: structural, relational, and cognitive. The *structural* element describes the links between people in an organization. The *relational* element “describes the kind of personal relationships people have developed with each other through a history of interactions” (244). Lastly, *cognitive* is the element dealing with shared interpretations of meanings and information.

**Empowerment:** Researchers of quality initiatives see empowerment of employees as a participatory system in which workers are allowed to have a level of discretion in taking matters into their own hands in order to improve the goods or services of an organization (Tang, Chen, & Wu, 2010). Some researchers see the level of empowerment as a key element in determining the level of employee participation (Ueno, 2008; Zhang & Bartol, 2010).

**Culture:** There are many and varied definitions of culture. As Bolman and Deal (2003, p. 243) observe, there are arguments over the very core fundamentals of the term. They note that “...some people argue that organizations *have* cultures; others insist that organizations *are* cultures.” There is also a wide range of components that many seek to attribute to culture: from core assumptions to visible artifacts and symbols, from social hierarchy to individual meaning (Dennison & Mishra, 1995). For this study, culture is

defined as Dennison (1984, p. 4) described corporate culture, referring “to a set of values, beliefs, and behavior patterns that form the core identity of an organization.”

### *Purpose of the Study*

As a facilitator of Lean and Six Sigma programs for over 15 years, the author has seen organizations successfully use the philosophies of quality to achieve their goals. The researcher has also seen companies who have proclaimed that they are transforming, but failed to enact any significant change. The reasons for success, or failure, are not fully understood. For example, one of the most successful uses the author saw of transformation tools and methods took place in an organization that did not have any formal program in place. This was a newly forming Air Force unit that went from the planning board to fully operational status 10% sooner than planned, and under budget (Inspector General of the United States Air Force, 1987). This was in an era when some in US Air Force were informally using the transformational initiative Total Quality Management (TQM). Some saw commands increase productivity “a whopping 80 percent” (Creech, 1994, p. 35). The author was also a quality leader at General Electric, the icon of the Six Sigma transformation initiative, and was part of GE’s \$2 billion savings by 2000 (Welch, 2002). Other programs observed by the author have had dedicated manpower, committed resources, and leadership support, yet they failed to make any noteworthy transformations. These experiences set the stage for the author to study the causes of success and failure.

Most of the author’s time working has been at the team level: facilitating events and projects as part of various formal transformational initiatives. Working with the teams, the author became intrigued while observing individual reactions and group dynamics,

and could also see that some organizations' cultures were, or were not, influenced by these programs. It was especially interesting to examine the experiences of individuals in transformative initiatives. The author noted changes in team members after training or participating in an event, changes which became a point of interest. People who really took to the ideas and concepts of change changed themselves. After their training, they seemed to interact differently with people, in the way they made decisions, and how they took more self-directed action. There seemed to be shifts in the way people approached their work. All these observations raised questions. What did it mean to an individual to be empowered? Was there an impact to the organization and to any transformative effort under way? Did the workers themselves truly change? As such, this study was focused on individual actions within the scope of the group.

The aspect of a group's action was just one of many issues regarding the success or failure of implementing a change program. No one study could be comprehensive enough to provide a single answer to the issue of organizational transformation. Ultimately, the purpose of this study was to help provide insight into one of the many areas that impact the success or failure of implementing a transformation initiative.

### *Problem Statement*

With only one in three organizations having any degree of success in implementing change initiatives (Aiken & Keller, 2003), the problem is in determining why the failure rate is so high. There are many aspects to the implementation of these programs, many of them already the subject of research studies. These studies have included holistic overviews of the effectiveness of transformational initiatives (Carrillo & Gaimon, 2000; Drennan, 1992; Easton & Jerrell, 1988; Ittner & Larcker, 1997). Some studies focused

on the implementation of various specific methods such as Lean or Six Sigma (Mann & Kehoe, 1995; Considine & Lewis, 2007). Others looked at the aspects of measuring the relationship between implementation and results. Some scholars examined the apparent paradox that quality efforts may improve efficiency, but financial results may actually worsen (Sterman, Repenning, & Kofman, 1997). There were a multitude of studies related to the various training aspects of transformational efforts (Ahmadjian & Lincoln, 2001; Choo, Linderman, & Schroeder, 2007; Orlansky, 1986; Ittner, Nagar, & Rajan, 2001). Many of the investigations tended to focus on the financial aspects, such as cost/benefits analysis of training and examining the return on investment to the company (Caulcutt, 2001; Hedley, 1998; Lucier & Seshadri, 2001). Others emphasized enterprise level issues: examining issues of organizational learning (Mehta & Shah, 2005; Troy, 1991; Hsu, 2007) and organizational development (Manimala, Jose, & Thomas, 2006; Galbraith, 1977).

Despite the large amount of research on transformational initiatives, there was a lack of focus on the collective actions of the individuals actually doing the work in the offices and on the shop floors. Studies have not looked at individuals and how they are influenced by transformational initiatives. What effect do these initiatives have upon individuals? What changes occur in their work lives as their organizations attempt to transform? Understanding individuals within the transformational initiatives of organizations has the potential to assist in understanding why such initiatives succeed or fail. This is condensed into a single problem statement of: As organizations implement transformational initiatives, the changes in individuals, and the influence they have upon social capital, are not fully understood.

### *Research Questions*

The following research question was developed in response to the problem statement:

How does individual participation in a transformational initiative influence their engagement in the organization's social capital?

Within the context of social capital, several sub-questions were created:

1. What are the changes to the structural element of social capital because of individual participation?
2. What are the changes to the relational element of social capital because of individual participation?
3. What are the changes to the cognitive element of social capital because of individual participation?

The purpose of the research question is to delve into the social capital of the participating organizations. Social capital has been seen as "a resource reflecting the character of social relations within the organization, realized through members' levels of collective goal orientation and shared trust" (Leana & Van Buren, 1999, p. 540). The research question is graphically represented in Figure 2.

Figure 2 illustrates the placement of the research question in relation to the map introduced in Figure 1. The research question focuses on the links between individuals participating in training and events and individuals engaging in social capital.

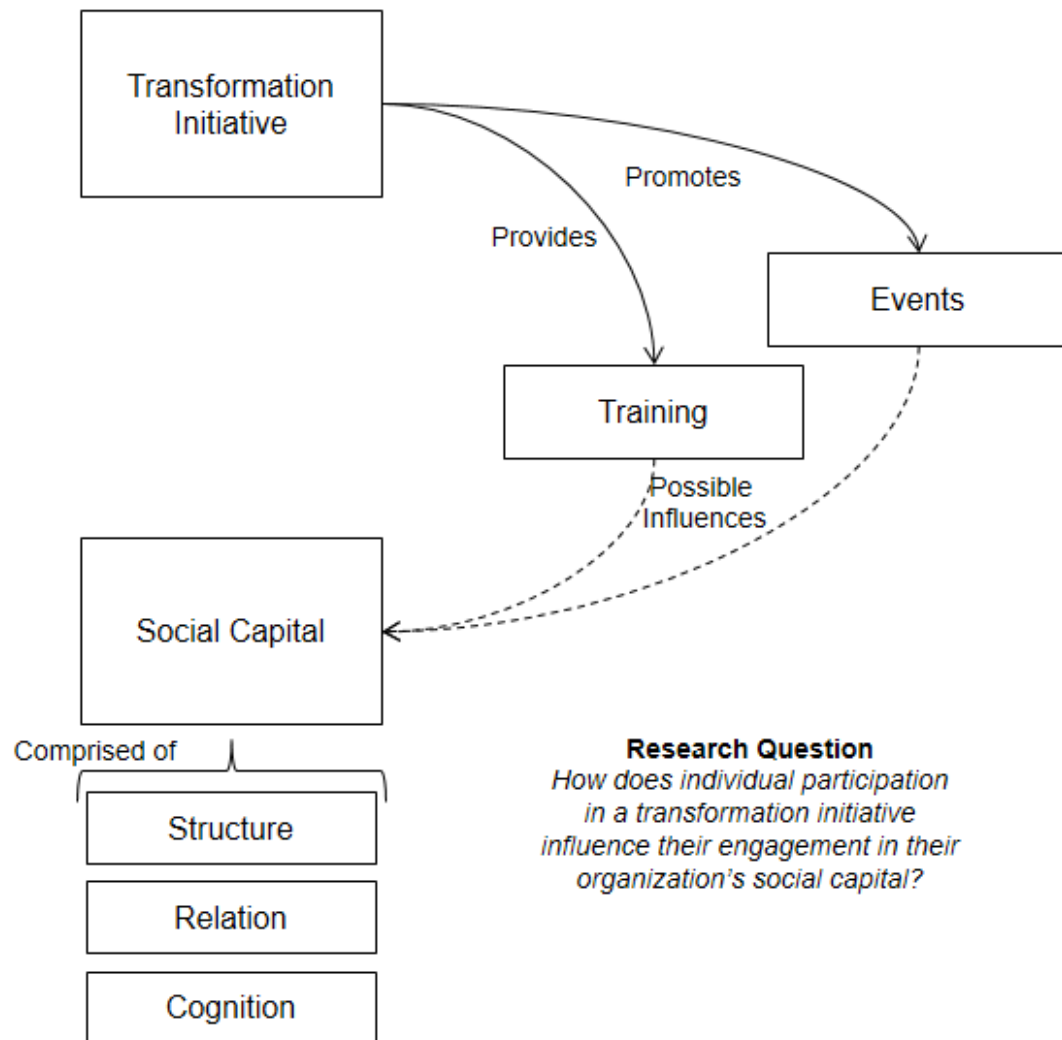


Figure 2: Graphic representation of research question.

### *Need for Study*

Transformational initiatives have become increasingly important to organizations. The numbers have proven this assertion. Regarding Six Sigma alone, over 10% of all US manufacturers have employed Six Sigma in some fashion (Berger, 2003). A survey of 920 senior executives in the United States showed an increase in using Lean methods: increasing from 56% in 2008 to 61% in 2009 (Davidson, 2009). Three out of four

companies have increased or maintained their improvement project activity (Stiles Associates, 2009). It is evident there has been a desire on the behalf of companies to improve themselves: to become more efficient and improve the quality of their goods and services. It would follow that there is also a desire to see these improvement activities succeed.

Despite this desire, the success rate of organizations transforming themselves has been very low. Studies on Business Process Reengineering showed failure rates ranged between 50 to 80 percent. (Caron, Jarvenpaa, & Stoddard, 1994; Murphy, 1994; Holland & Kumar, 1995). One study, published in the Harvard Business Review, stated that two out of every three transformative programs fail (Sirkin, Keenan, & Jackson, 2005). Consultants at McKinsey surveyed 3,199 executives around the world and found that only one transformation in three succeeds (Aiken & Keller, 2003). This reaffirms the work of Harvard professor John Kotter, whose seminal book, *Leading Change*, reported a 70% failure rate of corporate change efforts (Kotter, 1996).

Even if the initiatives do not fail outright, they often falter. A study by Industry Week found that 70% of U.S. companies have implemented transformation efforts. Of those, 74% report they have made no progress or that progress has stalled, 25% report some gains, and only 2% report that they have achieved their desired results (Liker & Rother, 2010; Pay, 2008). Those programs that survive more than a year do not garner the satisfaction of organizational leaders. In a survey, of the leaders who have had Lean programs in existence between one and two years, 68% are dissatisfied with the program, compared to only 7% who are highly satisfied (Capgemini Consulting, 2010).



Even organizations that have succeeded often have difficulty in maintaining their success. The Shingo Prize is an internationally recognized award of quality and has been called the “Nobel Prize of Manufacturing” (Businessweek, 2000). The prize has been awarded to organizations that achieved operational excellence, as measured by an established set of principles and assessed by an impartial committee. Organizations who have earned the Shingo prize are internationally recognized as having achieved quality in their field (The Shingo Prize, 2011). Yet the committee that awards the Shingo Prize reviewed past winners and found that many had not sustained their progress after being presented with the award (Liker & Rother, 2010). Subsequently, the board of governors changed its criteria for awarding the prize to drive sustained results (Miller, 2010).

Such results across such a large number of programs warrant the need for further research. While there have been numerous studies, they have tended to focus on concrete cause and effect relationships that impact productivity, such as research into the role of formal training (Barrett & O'Connell, 2001; Bartel, 1995; Holzer, Block, Cheatam, & Knott, 1993). Seeing that the research was scanty in one key area, Dennison and Mishra (1989; 1995) began to study the connections between organizational culture and organizational effectiveness. They started this work, building upon the work of others (Ott, 1989; Wilkins & Ouchi, 1983; Barney, 1986), because they saw that “...little attention has been given to the issue of organizational culture and effectiveness” (Dennison & Mishra, 1995, p. 205).

Culture has emerged as a component in transformational initiatives. In a study that investigated the biggest obstacles to the implementation of Lean, many were found to be related to culture. Three of the top four obstacles cited were resistance from middle

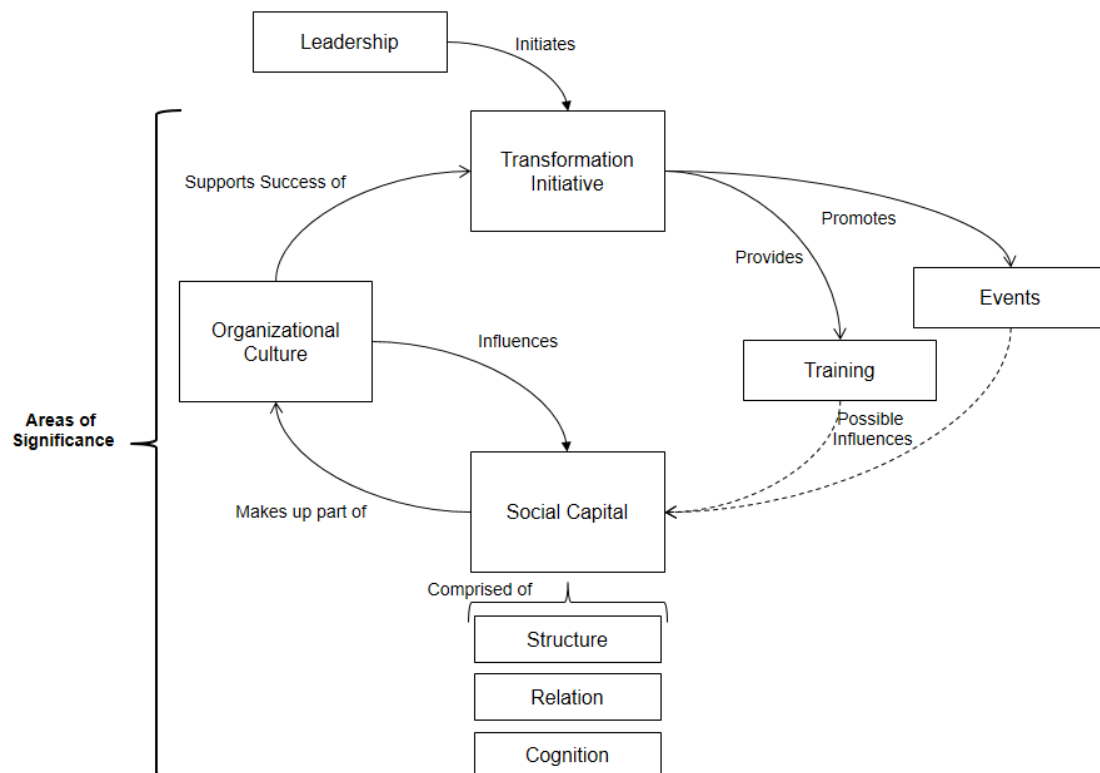
managers, employees, and supervisors (Marchwinski, 2009). Dennison and Mishra's studies showed that there was a positive correlation between involvement and transformation success: the more the members were involved, the more the culture embraced the change and the more successful the initiative (Dennison & Mishra, 1995). This has been echoed in other investigations, with one observer noting, "The one common denominator that led to failure in all of our previous quality efforts was that we did not change the culture..." (Detert, Schroeder, & Mauriel, 2000, p. 850). Michael Hammer, who pioneered the transformational initiative known as Business Process Reengineering, noted that a company's prevailing cultural characteristics can kill a reengineering effort before it begins (Hammer & Champy, 1993). Culture has clearly been an important factor in implementing a transformation initiative, and many variables impact the formation and evolution of culture.

Social capital, "...the relational resources attainable by individual actors through networks of social relationships" (Wenpin, 2000, p. 927), has been seen as a critical component in the issue of culture. Some scholars have stated that the network links that comprise social capital are a key building block of organizational culture (Nohria & Eccles, 1992; Powell, 1990; Podolny, 1998). There have been calls that further research into social capital should be a high priority (Putnam R. D., 1995). In their book, *In Good Company*, Cohen and Prusak (2001) stress the importance of social capital. They argue that it is such an integral part of business that cooperative action could not have happened without it; indeed, that without social capital, the modern company would cease to exist (Cohen & Prusak, 2001). This study seeks to build upon this past work. This study seeks to explore the implied link between social capital, organizational culture, and

transformational initiatives. This could help with the successful implementation of transformational initiatives; contributing to the body of knowledge in this field gives this study significance.

### *Significance of Study*

By expanding the body of knowledge regarding the influence individual participation has upon social capital, it may also provide insight into how social capital impacts organizational culture. This may, in turn, provide some indications as to why implementation efforts succeed or fail. Building upon the illustration from Figure 2, the relationships linking social capital to organizational structure brings it full circle to the success of the transformation initiative. This cycle is illustrated in Figure 3.



**Figure 3: Concept map showing areas of significance.**

Figure 3 highlights the areas that make this study significant. Studies have indicated transformational initiatives are impacted by organizational culture (Denison, 1984; Elenkov, Judge, & Wright, 2005; Hagen, 2010). Culture is partially composed of the elements of social capital (Melé, 2003). Thereby research into social capital has significance to transformational initiatives.

Exploring this relationship may benefit a wide audience: those in academia, government, and business. This interpretivist study may have implications for those with interests in implementing transformational initiatives to improve the effectiveness of organizations in either a theoretical or practical aspect.

For scholars researching this area, this study may help fill in some gaps in the field. Daniel Dennison, one of the more distinguished researchers in the area of culture and effectiveness, has noted that “No research that we were able to find, however, has specifically tried to integrate the numerous implicit assumptions about organizational culture and effectiveness...” (1989, p. 168). This was echoed by others who have stated that there have been inadequate efforts in exploring the relationship of social capital to improvement (Zhen, 2010). Filling in the deficit in this area of study can help. Wenpen Tsai’s (2000) article points out that several scholars argue that networks that promote shared social context are effective for transferring knowledge, which leads to competitive advantage. A need was seen for additional research to confirm, or refute, these arguments.

Politicians, bureaucrats, and other government officials may also benefit from this line of inquiry. The government has experimented with quality initiatives in the past. During the Reagan era, transformational initiatives, many of which were variations of

Total Quality Management (TQM), led to some notable changes. Some of the successes, and lessons learned, were captured by David Osborne and Ted Gaebler in their iconic book *Reinventing Government* (1992). Some have felt the movement stalled long ago and the lessons learned have been lost. There have been calls for the government to be transformed into a more efficient entity. This sentiment was affirmed, when, in 2009, President Barack Obama created a Chief Performance Officer, nicknamed the “Performance Czar,” to help provide executive level support for government transformation (Shear & Kumar, 2009). Many of the 2012 Republican Presidential candidates stated they would have used transformational initiatives such as Lean or Six Sigma to improve the government (Marr, 2011; Strong America Now, 2011). While this research project focused on private sector companies, the topics discussed may provide some lessons for the public sector.

Those in the business community may develop a better understanding into the practical aspects of implementing a transformation initiative. Culture has come to be seen as an important factor in transformative efforts. Perhaps this was best captured in a report on *Lessons Learned by Baldrige Winners* (Brennan, 1994, p. 291) in which a Xerox senior executive was quoted as saying:

The one common denominator that led to failure in all of our previous quality efforts [prior to the mid-1980s] was that we did not change the culture or the environment in which all these tools and processes were being used. We had a "flavor of the month" mentality.

A study of the relationship between training and participation with regards to changes in social capital may benefit many. While certainly not a panacea that will

provide a single comprehensive answer to low success rate, the significance of this study has been the addition of one more piece in a very large and complicated puzzle.

### *Background of Researcher*

The researcher and author of this study has first-hand knowledge of the initiatives that are part of this research. For over 15 years, he has been with numerous organizations, both public and private, that have implemented transformational initiatives. The researcher's training and experience are mainly in the methods of Total Quality Management, Six Sigma, Lean, and the hybrid Lean Six Sigma. In addition to those, he has been exposed to various other concepts such as Theory of Constraints, Business Process Reengineering, and Agile. He has worked on all levels: from facilitating improvement events, to being a mid-level quality manager, to leading enterprise-wide initiatives for global organizations. It was during these various positions that he became familiar with the objective metrics of transformational initiatives. Initiatives were being evaluated in such metrics as number of personnel trained, number of improvement events conducted, or number of dollars saved. While working with teams during projects, the author began to take an interest in what was happening on an individual level: what was the human side behind the numbers? This interest led to this study.

The author was in an excellent position to conduct this research project. Having worked with several organizations that have gone through transformational initiatives, he had a multitude of contacts that helped to provide research participants. During this study, he was working as a Director of Operational Excellence for a global company as they sought to implement change. His past positions included a Quality Leader with

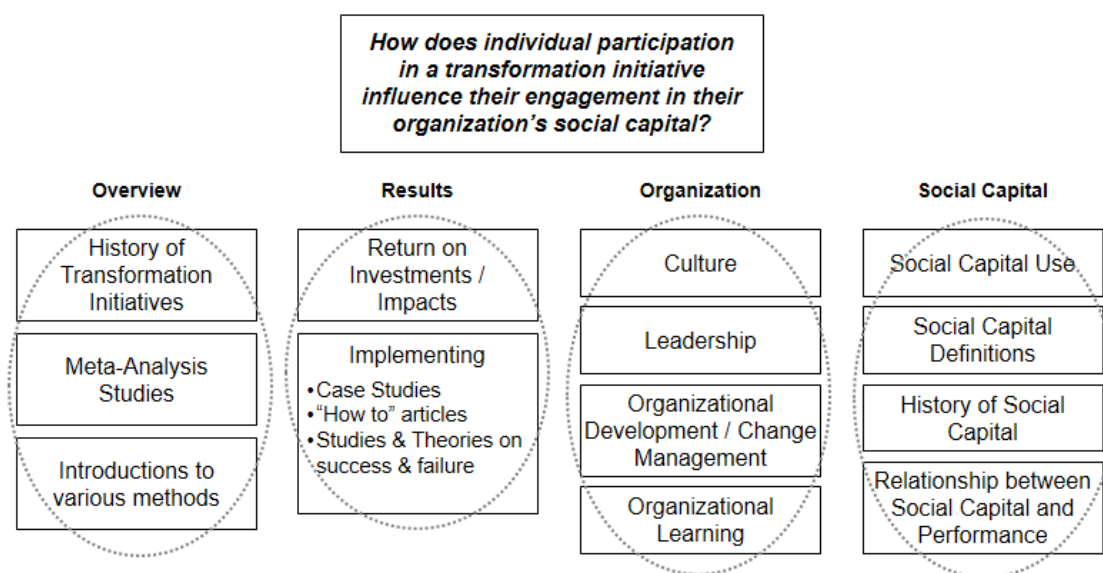
General Electric, and a tour as Branch Director for the Air Force Reserve Command's transformation initiative, as well as some consulting work for several organizations. In addition to his work experience, his past participation in professional organizations such as the American Society for Quality, and others, helped the author with this study.

The author's background provided the genesis of the idea that evolved into this study, as well as the foundation for him to conduct this research. The proceeding chapters of this study have attempted to answer the question of what happens to individual engagement in an organization's social capital as employees partake in the training and events of a transformation initiative. Relevant literature is reviewed in chapter two. Methods used and data analysis techniques are discussed in chapter three. Findings derived from the data are reported in chapter four. Implications for the field of study, as well as recommendations for future research, are reported in chapter five.

## Chapter Two: Literature Review

### *Introduction*

Creswell (2003) recommended creating a literature map as a way of organizing existing research pertaining to the study. Figure 4 is a map of literature relative to the topic of transformational initiatives and social capital.



**Figure 4: Literature Map.**

The review began with a general search for articles, books and other research material. Several databases, most notably JSTOR, EBSOhost and Google Scholar, were searched using the following terms and acronyms: Continuous Process Improvement (CPI), Business Transformation, Total Quality Management (TQM), Business Process Reengineering (BPR), Theory of Constraints (TOC), transformation results, Deming, Juran, Shingo, and other related keywords. Resources at several academic libraries were also explored. This included the collections at University of Wisconsin-Milwaukee, University of Wisconsin-Madison, University of Georgia-Athens, University of



Tennessee-Knoxville, The United States Air Force's Air University at Maxwell Air Force Base, and the University of Colorado-Boulder. Works on related topics were identified and then grouped. The groups were then organized into four major areas:

1. Overview: This group includes works that have studied overarching aspects of transformational initiatives. This comprises articles on the history of Process Improvement, Six Sigma, and other methods, along with their origins and evolutions. Also included are Meta-Analysis studies, including those that have looked at compilations of works on transformational initiatives. Lastly, writings that provide introductory overviews into the various methods and tools of transformational initiatives were included in this section.

2. Results: These are studies that focus on the tangible aspects of transformation, such as return on investment studies that calculated savings realized versus amount spent on programs. Also in this group are how-to articles, which range from case studies researching implementation to theories about the success or failure of implementing transformational initiatives.

3. Organization: This literature includes issues surrounding the company as a whole, comprising areas such as culture, leadership, and change management. Organizational learning is also included. Organizational learning is differentiated from individual learning, as it looks at the cyclical relationship of how the organization promotes learning for individuals, and how individual learning improves the organization.

4. Social Capital: The context of the study is social capital's influence on the organization in the frame of a transformation initiative. The definition and use of social

capital is examined, and the history of social capital is discussed to help lay a foundation of understanding. Lastly, papers showing the research between social capital and performance are reviewed.

Each of these four major groups are discussed in separate sections in the literature review. Each section begins with a summary table of the articles researched for the area. Not all articles cited may be in the table; if an article was used in minor context, such as using a single quote, it was not included in the table. The tables include the name of the author(s) and year of publication for reference. Under the column of *Purpose of Study*, the type and method of study is listed, along with the main point of the article. The last column summarizes the findings relevant to this study. The summarizations in the tables are not comprehensive and do not represent the entire findings of the study.

#### *Review of Overviews*

Table 1 provides a summary of articles reviewed that look at research on the history of transformational initiatives, meta-analysis studies of the field, and studies on the various methods used.

<b>Studies on Overview: History, Meta-Analysis, and Various Methods</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Allen, Helms, Takeda, White, & White (2006)	Qualitative Study. Comparative analysis between Japanese and American business philosophies.	Explanation of how Total Quality Management was credited in taking Japan from a war-torn country of the 1940s to an economic powerhouse by the 1980s.
Altinkemer, Ozcelik, & Ozdemir (2011)	Quantitative study of relationships between Business Process Reengineering (BPR) and performance. Studied 237 Fortune 500 Companies from 1987 - 2008.	Showed differing results for BPR and time of implementation: low or decreasing return upon initial implementation, then slowly increasing until diminishing returns begin.

<b>Studies on Overview: History, Meta-Analysis, and Various Methods</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Antony (2004)	Individual researcher's perspective on the pros and cons of Six Sigma.	Postulates that Six Sigma will continue to be used as long as financial results are seen.
Antony (2006)	Qualitative analysis outlining the basic features of Six Sigma and the key success factors for implementation.	Highlights some results of Six Sigma as well as illustrating differences between Six Sigma and other initiatives such as TQM.
Bauer, Falshaw, & Oakland (2005)	Qualitative analysis of data from 56 interviews. Study examined if the successful implementation of business excellence is influenced by the context of the organization.	The study concluded that organizations that have simple and informal organizational structures will encounter fewer problems when implementing business excellence than organizations with complex and formal organizational structures.
Boyne & Walker (2002)	Meta-analysis study of 25 empirical studies of the impact of TQM on companies.	The available evidence does not offer comprehensive support for the view that TQM is positively related to organizational success. This suggests that more research on the consequences of the adoption of TQM is needed.
Brady & Allen (2006)	A review of Six Sigma literature to provide an examination and agenda for future research.	Demonstrates that Six Sigma has roots in Total Quality Management.
Cringley (2000)	Narrative study detailing the dissemination of Total Quality Management in Japan.	Details Japan's acceptance of TQM after World War II, allowing it to develop into an economic superpower.
Deming (1986)	Qualitative analysis based upon a compilation of 40 years of case studies.	Development of Deming's 14 points of management, which is to become known as "Total Quality Management"
Ferdousi & Ahmed (2011)	Mixed methods study on quantitative and qualitative data gathered from surveys, interviews, and observations of nine large garment plants. The objective is to examine the practice of various Lean tools. It also focuses on the supporting factors for practicing Lean successfully	The research finds that the selected companies have adopted a wide variety of Lean tools and need support of associated factors for implementing Lean. It concludes with recommendation for further work.
Freiesleben (2009)	Qualitative study that compares the principles of quality improvement to the principles of biological evolution.	Provides an analogy of how TQM set the foundation for other forms of transformational initiatives to develop, such as Lean, Six Sigma, and others

<b>Studies on Overview: History, Meta-Analysis, and Various Methods</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Hossain (2008)	Qualitative work: a narrative study that illustrates the chronological development of Statistical Quality Control (SQC)	Provides historical perspective of the development and widespread acceptance of use of statistics in business operations.
Kanigel (1997)	Narrative study of the work of Frederick Taylor	History of development of the first scientific management studies as conducted by Frederick Taylor.
Kwak & Anbari (2004)	Qualitative work: Case study that examines the evolution, benefits, and challenges of Six Sigma practices and identifies the key factors in successful project implementation	Effective Six Sigma principles and practices will succeed by continuously refining the organizational culture. Cultural changes require time and commitment before they are strongly implanted into the organization.
Montgomery & Woodall (2008)	An introductory overview of Six Sigma and the statistical tools used. Includes case study examples.	Six Sigma not only had impressive results with Motorola, but was adopted by other large companies such as General Electric and Allied Signal with great success.
Nonthaleerak & Hendry (2008)	Qualitative study examining multiple cases to explore weaknesses in Six Sigma programs that may require changes in the methodology.	One key finding is that Six Sigma is more appropriate for high risk, complicated, large-scale, and cross functional projects.
Sila & Ebrahimpour (2002)	Quantitative study. Meta-analysis of 76 survey studies that used an integrated approach to TQM to study the state of TQM	Categorized and highlighted differences among the studies. Illustrated conflicting relationships between transformational initiatives and results.
Sousa & Voss (2002)	Literary review looking at three questions which are fundamental to TQM: 1. What is TQM? 2. Is the set of practices associated with TQM valid as a whole? 3. How to implement TQM	In addition to providing a historical reflection on TQM, the study found that as a whole, TQM practices have a significant and strong impact on quality and operational performance.
Zatzick, Moliterno, & Fang (2012)	Quantitative work: Longitudinal study from a sample of 780 manufacturing organizations to study the strategic implementation of TQM	Show conflicting results for TQM: positive results for companies focused on cost savings, negative results for those focused on product difference.

Table 1: Studies on Overview

*History of Transformation Initiatives.*

The United States moved away from an agrarian economy as the industrial revolution began in the late 1700s. It was a rapid transformation, with over a quarter of the labor force moving away from farms and finding employment with factories as early as 1800. By 1890, the U.S. economy was predominantly manufacturing, engaging over half of the work force. This trend continued, with agriculture employing only 1.5% of the U.S. workforce as of 1990 (Carter, 2006). With this change came the need to lead and supervise these large scale production operations. Borrowing from the hierarchical structure found in the European military, management evolved into a centralized organization (Rao, et al., 1996). In 1923, Alfred Sloan became president of General Motors and pioneered a decentralized bureaucracy. Instead of a single leader controlling the entire organization, responsibilities were delegated. Division leaders were held accountable to meet revenues and profits while given budgets and strategic guidance from executive committees (Tanz, 2003). The development of large scale manufacturing, and the management to lead it, set the foundation for transformational initiatives.

Additional components needed for transformational initiatives were the development of standardized parts and the processes to create and assemble them. At the dawn of industrial revolution, everything was custom made: machines, products, parts...they were all being made individually and without standard sizes. In the manufacture of firearms during the eighteenth century, a single craftsman might create an entire musket by himself. One worker would make a barrel, carve wood to create a stock, build a firing mechanism, and then fit it all together. This process was labor intensive and time consuming. In 1780, Eli Whitney, after he invented the cotton gin, conceived

another idea: the standardized part. Whitney created a model musket that provided standards for the size and shape of parts. Employees were put to work on manufacturing the individual parts. All the barrels were the same, all the stocks were the same, and all the firing mechanisms were the same. After the introduction of standardization, all parts were interchangeable. This also allowed for the division of labor, which increased productivity. This standardization significantly impacted production. During the late 1700s, the time to manufacture a musket decreased from 21 days to 9 (Woodbury, 1960). While the manufacture of standardized parts paved the way for mass production, it also created some problems. To repeatedly create the same part, to the same specifications, standard work processes were needed. Workers needed to be trained in these processes. Additionally, after the parts were produced, they needed to be checked to ensure they met the standards. These two problems drove the creation of quality departments.

It took over a hundred years after the start of the industrial revolution for an analysis of how workers learned and performed their tasks. In 1903, Frederick Taylor presented a paper titled *Shop Management* to the American Society of Mechanical Engineers. Several years later, this work had evolved into a book of the same name (1911). This was the first time an analytical approach to labor had been attempted. Management expert Peter Drucker noted, “Frederick W. Taylor was the first man in recorded history who deemed work deserving of systematic observation and study” (Drucker, 1974, p. 181). Up to this point in manufacturing, supervisors and foremen determined the best way to do jobs based on experience, but “...much of their wisdom was guesswork, built up over years into serviceable rules of thumb” (Kanigel, 1997, p. 18). In contrast, Taylor wanted to know very specific information. What was the best

rate to run a metal lathe? What machine settings should be set for specific jobs? What provided for optimal output? To answer these questions, Taylor began a series of experiments in the machine shop he supervised; his quest was to find “the one best way” for any given task (Kanigel, 1997, p. 18). This school of thought, appropriately labeled Taylorism, or Scientific Management, created many tools used in transformational initiatives. These tools include standard work, work study analysis, efficiency studies, and many more. These tools have helped both to improve production rates and to reduce defects and waste. Also, after the creation of standard work operations, it allowed workers with little or no experience to perform complex and detailed tasks (Taylor, 1911). Taylor’s work laid the ground for transformational initiative efforts such as Total Quality Management, Lean, and other efforts aimed at improving the abilities of workers to achieve standard production requirements.

The second challenge posed by the use of standardized parts was verifying that they were produced to specifications. If a bolt was to fit into a quarter inch wide hole, it would not do to have some bolts made a half inch wide. Inspections became part of the operations of manufacturing. The evolution of inspection has been classified into five phases: operator quality control, foreman quality control, inspection quality control, statistical quality control, and total quality control (Feigebaum, 1983). It started with individual workers checking their own work. Then it became standard to have supervisors review the output. As production increased and specifications became more detailed, certain employees were designated as inspectors. The evolution of these dedicated inspection departments had taken 150 years after the start of the industrial revolution.

There was a sudden revolution in manufacturing quality that began in the 1920s with the ideas of Walter Shewhart. In 1924, Shewhart wrote a one-page memo, a third of which was a simple graphic diagram that outlined a new inspection paradigm. With that memo, Shewhart gave birth to the modern scientific method of Statistical Process Control (Bell Systems, 2012). Instead of looking at every finished product, Shewhart developed programs to track production as it went along, identifying potential errors and stopping the defects before they occurred. Part of the control process included using statistical sampling. Instead of 100% of production being inspected, random samples were taken throughout the production run and then examined. The results were put on charts, where trends were analyzed and it could be determined if the process was in, or out, of control. Action would be taken on an out of control process. Statistical sampling was also applied to how organizations accepted goods and material. Instead of looking at every piece of inbound product, random samples could be taken, examined, and results statistically analyzed. Such sampling plans gained acceptance during World War II as the United States and Britain adopted them to improve the flow of war materiel. Before statistical acceptance, it took 42 inspectors to accept one million dollars worth of ordnance. After adopting statistical acceptance, it took 12 inspectors to accept the same amount of materiel (Safford, 1989). These inspection processes ultimately developed into series of standardized processes called Military Standards, or MIL-STD for short, and are still in use today. The military's acceptance helped validate the use of statistics by private companies (Hossain, 2008).

Ironically, going into World War II, the United States had everything in place to revolutionize manufacturing quality. But the results of the war actually stifled quality in



America. After World War II, the U.S. was the only industrial power to emerge largely intact. With the means of production in place, and large pent up demand due to years of rationing, just about anything made in the U.S. was snapped up by consumers.

Companies thus did not see the need for quality control. Instead, it was one of the defeated countries that used the tools of quality to bring themselves out of the ashes of war.

Japan was nearly in ruin after World War II. Much of its manufacturing capability had been destroyed. Many of the senior leaders of industry had served in the military and had been lost. Lastly, the country had always been resource poor. General Douglas MacArthur was the United States military governor overseeing the islands after the war. One of his early initiatives was to improve the flow of communications to the Japanese, and thus he ordered an increase in the production of radios to make them more available to the general population. Unfortunately, the failure rate of radio tubes produced in Japan after the war was very high, which prevented the production of radios from reaching the desired levels. To solve the problem, MacArthur brought in experts from the States: Homer Sarasohn from the Massachusetts Institute of Technology, as well as Charles Protzman and Frank Polkinghorn from Bell Laboratories. As they began their efforts to improve radio tube production, they realized the problems originated primarily in management issues. They began teaching management classes to the young, inexperienced industry leaders that were left after the war. The class material evolved into the book *Fundamentals of Industrial Management*, which was still in print into the early 2000s in Japan (Cringely, 2000).

As Sarasohn, Protzman, and Polkinghorn expanded their efforts, they invited others to help them. One was a student of Walter Shewhart, W. Edwards Deming. Deming was well versed in statistics from his time with Shewhart, and also as a result of his jobs with the military and census bureau. In addition to his expertise with statistical concepts, Deming was also developing a more holistic and systematic viewpoint to manufacturing. He created a philosophy, built upon certain core beliefs, that was needed if a company was to be truly successful in producing quality goods. He started compiling these beliefs early in his career and continued as he worked in Japan. As time went by, these ideas developed into the lists of *The Seven Deadly Diseases* and the more famous *Fourteen Points* (Deming, 1986). *The Seven Deadly Diseases* pointed out obstacles and pitfalls to success, such as the emphasis on short-term profits. *The Fourteen Points* formed a philosophy and included such wisdom as establishing a vision and instituting training on the job (Deming, 1986).

Deming's work formed the core of what was to become known as Total Quality Management (TQM). This was perhaps the first wide-ranging view of business that advocated use of statistics and product control, while stressing the role management plays in meeting the needs of the customer (Walton, 1986). TQM is credited in taking Japan from a war torn country of the 1940s to an economic powerhouse by the 1980s (Allen, Helms, Takeda, White, & White, 2006). As Asia gained market share, most notably in automobiles and electronics, companies in the United States began adopting TQM as a way to improve their competitiveness. TQM is also largely credited for establishing the foundation for other transformational initiatives such as Lean, Six Sigma, Theory of

Constraints, and Business Process Reengineering (Freiesleben, 2009; Black & Revere, 2005).

Since the advent of TQM, other philosophies and methods have been developed in efforts to transform organizations. Six Sigma has statistical roots in TQM (Brady & Allen, 2006). In the mid-1980s, engineers at Motorola endeavored to reduce the amount of variation when manufacturing products. The engineers wanted something that provided them more granularity. They developed what they called “Six Sigma,” a term first used in a technical paper written by Motorola engineer Bill Smith (Ramias, 2005). Six Sigma had a specific goal: out of every one million production opportunities, there should be no more than 3.4 defects. Six Sigma also had a problem-solving framework to achieve that goal (Montgomery & Woodall, 2008). Six Sigma not only had impressive results with Motorola, but was adopted by other large companies, such as General Electric and Allied Signal, with great success (Montgomery & Woodall, 2008; Brady & Allen, 2006; Lucier & Seshadri, 2001). Lean (also commonly referred to as the Lean Manufacturing System) is a concept that focuses on identifying what adds value to a process, and what is waste, and then seeks to eliminate or reduce the waste. The term Lean was coined in the book *The Machine that Changed the World*, which was written about the Toyota Production System (Womack, Jones, & Roos, 1990).

The descendants of TQM have continued to morph. Six Sigma has been combined with Lean, creating *Lean Six Sigma*, a blend that allows for the quickness of Lean, but with the statistical rigor of Six Sigma (Smith B. , 2003). Business Process Reengineering (BPR) was created in 1990 by Michael Hammer, a computer science professor at the Massachusetts Institute of Technology. At that time, there had been great improvements

in computers, leading to an increasing tendency to automate processes. Instead of simplifying matters, however, automation often made the processes more complicated. Hammer published an article in the Harvard Business Review in which he calls upon managers to reconsider their business processes. With BPR, Hammer advocated obliterating, then rebuilding, those processes that did not add value, instead of blindly automating them (Hammer, 1990). Theory of Constraints (TOC) has its roots in Shewhart's Statistical Process Control (Steyn, 2000). It was introduced by an Israeli physicist, Eliyahu Goldratt, who became a business management consultant and described his theory in his 1984 book, *The Goal: A Process of Ongoing Improvement* (Goldratt & Cox). The main assumption of TOC is that throughput is the key to production. To achieve optimal output, bottlenecks must be managed, since the line can only march as fast as the slowest procedure. These are the main philosophies and methods used in transformational initiatives. There are countless variations of them, as well as offshoots and mutations being created every day. The intent here is not to discuss each one in detail, but to provide an overview to better put this study in context.

Where are these transformational initiatives headed? Some studies suggest they will continue, and perhaps expand as companies continually seek to improve their competitive edge (Anthony, 2006; Kwak & Anbari, 2004; Montgomery & Woodall, 2008). This trend serves to further validate the need for this study. The road ahead will not be without bumps. Challenges will include the high cost of implementation and potential for any such program to become an exercise in bureaucratic futility (Anthony, 2004). Another challenge is highlighted in several meta-analysis studies that show conflicting relationships between various factors of transformational initiatives and

performance results (Sila & Ebrahimpour, 2002; Zatzick, Moliterno, & Fang, 2012; Altinkemer, Ozcelik, & Ozdemir, 2011). These studies called for future studies into implementing transformational initiatives. This research will be the key to the future of Lean, Six Sigma, and other transformational initiatives. When Anthony wrote “Six Sigma has made a huge impact on industry and yet the academic community lags behind in its understanding of this powerful strategy” (2006, p. 305), he was validating the opinions of others (Sila & Ebrahimpour, 2002; Brady & Allen, 2006; Sousa & Voss, 2002).

There are additional calls for research into the relationship between performance results and various methods used in transformational initiatives. Suggested areas for more research include Total Quality Management (Bauer, Falshaw, & Oakland, 2005; Boyne & Walker, 2002), Business Process Reengineering (Altinkemer, Ozcelik, & Ozdemir, 2011), Lean (Ferdousi & Ahmed, 2011), and Six Sigma (Brady & Allen, 2006; Nonthaleerak & Hendry, 2008). One important reason for more research is the money involved. There are reports of transformational initiatives that have achieved great success with increased efficiency, decreased defects, reduced costs, and improved competitiveness. With such reports, it would be appropriate to review the literature highlighting the results of transformational initiatives.

#### *Review of Studies on Results*

Table 2 provides a summary of articles reviewed for this section on results of transformative initiatives.

<b>Studies on Results of Transformation Initiatives</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Al-Mashari (2001)	Literary review of a holistic view of implementing Business Process Reengineering (BPR). To include the hard and soft factors that cause success and failure for BPR implementation.	A comprehensive and well-planned BPR implementation will have the minimum chance of failure. Future work includes assessing the criticality of these factors in BPR implementation.
Barney (1986)	Literary review study to examine the relationship between organizational culture and sustained superior financial performance.	Firms that have cultures with the required attributes can achieve sustained improved financial performance.
Cameron & Freeman (1991)	Comparative study of 334 institutions of higher education to investigate the relationship between organizational cultures and organizational effectiveness.	No significant differences in organizational effectiveness exist between those with congruent cultures and those with incongruent cultures, or between those with strong cultures versus those with weak cultures.
Caron, Jarvenpaa & Stoddard (1994)	Case study of CIGNA Corporation's Reengineering efforts.	Describes reengineering successes that had a return of \$2-3 for every \$1 spent. Also uncovers that only 50% of reengineering reaped expected benefits.
Caulcutt (2001)	This paper identifies the essential elements of Six Sigma using literary reviews.	Any company embarking on Six Sigma will not succeed if it focuses on statistics whilst failing to develop a supporting culture.
Criger (1993)	Using "Circular Question" method, this study sought to explore an organization's culture as it underwent a transformation initiative.	Managers studied were less satisfied with TQM as results decreased. Yet their employees, during same time frame, were increasingly satisfied with the actions and relationships of their managers. Implications of this study are that transformational initiatives both impact culture, and depend upon it.
Dennison & Mishra (1989)	This paper presents a model of culture and effectiveness derived from the literature and provides preliminary empirical support from a sample of 969 organizations.	Positive results of four hypotheses including Involvement, Consistency, Adaptability, and Mission.
Detert, Schroeder, & Mauriel (2000)	Study of organizational culture corresponding to the specific values and beliefs underlying Total Quality Management (TQM) practice.	The relationship between culture and implementation of new behaviors and practices has not been adequately explored because of the lack of a comprehensive framework for defining and measuring organizational cultures.

<b>Studies on Results of Transformation Initiatives</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Gordon & DiTomaso (1992)	This article investigates the relationships of culture strength and two substantive cultural values with corporate performance.	Results indicates a strong culture is associated with better performance. The results support the findings of Denison (1990) that strength of culture is predictive of short-term performance.
Guimaraes (1999)	Survey study of success in three ways: 1. goals and objectives accomplished by the project, 2. benefits derived from the project, and 3. the project's impact on company performance.	Organizations are not emphasizing some of the most important activities and tasks recommended in the BPR literature. Top managers should not engage in BPR before ensuring the presence of the important success factors.
Hendricks & Singhal (2000)	A study of 600 quality award winners seeking to develop expectations of what different organizations can expect to get from TQM.	When TQM is implemented effectively, financial performance improves dramatically.
Holland & Kumar (1995)	A cross-sectional study of a survey sent to strategic business units that have implemented Business Process Reengineering (BPR).	The key challenges for successful BPR implementation are changing attitudes and culture, ensuring extensive communications and dealing with resistance to change from middle management.
Marcoulides & Heck (1993)	Twofold purpose: 1. To propose and test a model concerning how an organization's culture affects organizational performance; 2. To demonstrate the application of LISREL modeling methodology	Variables associated with organizational culture are predictive of organizational performance. Results support the possible importance of management's use of strategic organizational design as an activity that can improve organizational performance.
Odom, Boxx, & Dunn (1990)	The purpose of the study was to investigate the relationships between organizational culture and three important elements of employee behavior: commitment, work-group cohesion, and job satisfaction.	Findings include: Organization tended to be more bureaucratic and less innovative. Innovative and supportive cultures seemed to influence employee commitment, satisfaction, and cohesion.
Pay (2008)	Analysis of survey data of U.S. manufacturing plants to determine reasons of success or failure in implementing a Lean initiative.	Of the U.S. companies that have started transformational initiatives, only 2% claim they have achieved their desired results. Of the remainder, 25% report some gains, and the other 74% report no or stalled progress.

<b>Studies on Results of Transformation Initiatives</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Rigby & Bilodeau (2007)	Longitudinal survey study from 1993 to 2007. Objectives: -Provide managers with information needed to improve bottom-line results -Understand how executives view their strategic challenges	Of the two more popular transformational initiatives: Lean and Six Sigma, both are found to have lower overall satisfaction rates than the global average. Six Sigma was at 3.66, lower than Lean's 3.73, both below the average of 3.75.
Schein (1990)	Analysis of case materials on how culture should be defined and analyzed if it is to be of use in the field of organizational psychology.	"Culture" as a concept has been explicitly used in research since the mid to late 1970's. Any definable group with a shared history can develop a culture. The group "learns" its culture over a period of time as it solves its problems.
Sherman, Repenning, & Kofman (1997)	To explore the connection between quality improvement and reported weak financial results using a detailed simulation model econometric estimation, interviews, observation, and archival data to develop the model.	Improvement programs like TQM can present firms with a tradeoff between short and long run effects. In the long run TQM can increase productivity, raise quality, and lower costs. In the short run, these improvements can interact with prevailing systems and create pressures that undercut continuous improvement.
TBM Consulting Group, Inc. (2011)	Consultant white paper outlining a case study of one of their clients.	Using Lean principles, a \$3 billion manufacturer eliminated \$1 million in inventory, cut 50% of its shifts on lines, doubled its inventory turnover, and achieved a 99.3% fill rate.
Upadhye, Deshmukh, & Garg (2010)	Literature review focused on the importance of Lean manufacturing to achieve sustainable development of an organization.	A systematic approach that integrates all the functions of an organization for the identification and elimination of waste helps an organization to improve and perform better.

Table 2: Studies on Results

"Adapt or perish," a quote from H.G. Wells (1922, p. 124), has been well-known phrase in the world of transformation. Dr. W. Edwards Deming echoed the sentiment in his famous line, "Learning is not compulsory... neither is survival" (Thinkexist.com, 2012). The thought behind both lines is that the world is continually changing, and if an entity is to survive, it must change to continue to exist. In the business world, such



factors as varying tastes, emerging technologies, increasing costs, and developing competitors all provide constant change. Deming used his line to drive home the fact that organizations must constantly be aware of these factors in order to learn how to meet the challenges presented. Deming used the dire reference to survival as motivation for companies to learn and flourish. Successful results from Deming, and others, drove the adoption of transformational initiatives.

The philosophies and methods discussed in the previous section have demonstrated some remarkable results. After implementing Business Process Reengineering, CIGNA realized savings of \$100 million while improving its customer service and reducing operating costs (Altinkemer, Ozcelik, & Ozdemir, 2011, p. 132). Black and Decker attributed more than \$30 million in savings in 1999 (Caulcutt, 2001, p. 302) to their use of Six Sigma. Using Lean principles, a \$3 billion manufacturer eliminated \$1 million in inventory, cut 50% of its shifts on production lines, doubled its inventory turnover, and achieved a 99.3% fill rate for its customers. These results allowed the company to avoid an estimated \$30 to \$100 million in finished goods inventory and additional warehousing space (TBM Consulting Group, Inc., 2011). An academic study of Lean showed various case studies of companies achieving results that included 75% improvement of production time, achieving 99% on-time delivery, and 100% return on investment (Upadhye, Deshmukh, & Garg, 2010). The study concluded that Lean "...helps to optimize the available resources to produce a world class product to delight the customer" (p. 135). Total Quality Management was subject to meta-analysis research and the study concluded "The bottom-line from our research is that effective TQM implementation significantly improves financial performance – it does pay off

handsomely” (Hendricks & Singhal, 2000, p. 5). There were clear stories of success when using transformational initiatives, which naturally motivates others to implement their own.

Implementing a transformational initiative is no easy feat. As mentioned earlier, studies have shown failure rates ranging between 50 to 80 percent (Caron, Jarvenpaa, & Stoddard, 1994; Murphy, 1994; Holland & Kumar, 1995). A noted scholar in this area, John Kotter, states that 70% of corporate change efforts fail (Kotter, 1996). Those that have not failed often never fully achieve their desired outcomes. Of the U.S. companies that have started transformational initiatives, only 2% claim to have achieved their desired results. Of the remainder, 25% of companies report some gains. The other 74% of companies report either no progress or stalled progress (Liker & Rother, 2010; Pay, 2008). A Wall Street Journal article reported that 60% of all corporate Six Sigma programs fail to achieve the desired results. The article described how one aerospace company launched 100 improvement projects, only to find less than two years later that more than half had failed to generate lasting gains (Chakravorty, 2012). Failure and lack of sustainability are on the forefront of any leader’s mind when implementing a transformation initiative. Executives who have Lean programs have a 68% dissatisfaction rate with the program after one to two years of its implementation (Capgemini Consulting, 2010). In one comprehensive study by Bain & Company, a consulting firm in Boston, eleven surveys of companies were conducted around the world over fourteen years to examine a range of management methods and philosophies. Of the 25 that were examined, Bain & Company found Lean and Six Sigma to have lower overall satisfaction rates than the global average. Six Sigma was at 3.66, lower than

Lean's 3.73, and both were below the average of 3.75 (Rigby & Bilodeau, 2007). The authors noted that Lean and Six Sigma were in declining trajectory regarding satisfaction. An analysis of the study concluded that, "At the end of the day, executives and others will judge a methodology or tool or system by what it has done for them and for the firm" (Abilla, 2007). The studies showed that from a business perspective, the emphasis is on results. If an attempt to transform a company shows success by decreasing costs, increasing sales, or otherwise improving key metrics, leaders are happy. Conversely, leaders are not happy when initiatives fail. Companies implementing transformational initiatives have put forth great effort to ensure success.

A great deal of resources can go into implementing transformational initiatives. From 1996 to 2000, General Electric was expanding its Six Sigma initiative, increasing support from \$200 million to \$600 million (Lucier & Seshadri, 2001). By 2000, this expenditure provided returns of \$2.5 billion in increased productivity and another estimated \$0.5 billion in improved customer satisfaction (Lucier & Seshadri, 2001). GE's success with Six Sigma has spawned a side-business of sorts for the conglomerate: they began offering Six Sigma consulting to their customers. By improving their customer's success, GE improved their customer bases, which led to increased sales. GE made money while improving their customers (Lucier & Seshadri, 2001).

Costs incurred with a transformational initiative include training existing employees, hiring new personnel, buying new equipment, and hiring consulting firms for additional expertise. Some reports have showed organizations implementing Business Process Reengineering have increased their training budgets by 30 to 50 percent (Al-Mashari, 2001). In addition to the monetary costs to make a program operational, the

company will likely undergo some initial turmoil, resulting in decreased productivity during the initial phases of implementation (Guimaraes, 1999). For an organization to implement a transformational initiative there are tangible and intangible costs, and there may also be a decline of production in the short run. The firms may be presented with a tradeoff between short-term costs and long-term benefits (Sherman, Repenning, & Kofman, 1997). This tradeoff has seemed to slow down the trend of companies attempting transformational initiatives. In 1994, seventy percent of the top 600 companies in Europe and the United States implemented at least one reengineering initiative (Choi, Rungtusanatham, & Kim, 1997). A study noted that over 50% of the Fortune 500 companies were using various tools and methods to drive improvement (Wince, 2010).

Despite the resources allocated, bureaucracies established, training developed, and people hired, many transformational initiatives fail. The failure rate has been approximately 70% (Kotter, 1995; Liker & Rother, 2010). The question becomes why? This is no easy question to answer, and many have tried. In many instances, the research was non-academic in nature. It is research used for company white papers, non-reviewed articles, and mass market books (Aitken, 2012; Wince, 2010; Capgemini Consulting, 2010). One study, however, possessed not only academic rigor, but was well rooted in practicality, and was presented in Harvard professor John Kotter's book *Leading Change* (1996). This book expanded on a highly popular article Kotter published in the Harvard Business Review. The book was a culmination of fifteen years of analyzing of dozens of initiatives (Kotter, 1996). From this research, Kotter developed an eight-stage process to take an organization through implementing a transformation initiative. These eight stages

are in direct response to the list of errors and obstacles Kotter has observed. It was this list of failures that provided an outstanding insight into transformational initiatives.

Kotter's list of errors includes:

1. Allowing too much complacency
2. Failing to create a sufficiently powerful guiding coalition
3. Underestimating the power of vision
4. Under communicating the vision by a factor of 10 (or 100 or even 1,000)
5. Permitting obstacles to block the new vision
6. Failing to create short-term wins
7. Declaring victory too soon
8. Neglecting to anchor changes firmly in the corporate structure

From these eight common errors, Kotter (1996) outlined the following consequences:

1. New strategies aren't implemented well
2. Acquisitions don't achieve expected synergies
3. Reengineering takes too long and costs too much
4. Downsizing doesn't get costs under control
5. Quality programs don't deliver hoped-for results

These are the problems that cause transformational initiatives to fail or stall. In response, Kotter developed action items he labeled as stages to address each of the common errors. The last on this list of stages was perhaps the one most relevant to this

study: “Anchoring New Approaches in the Culture” (Kotter, 1996, p. 145). This stage showcased the strong relation between culture and transformation.

Kotter used various case studies compiled over his 15 years of research to illustrate his points. Regarding his thought of anchoring the approach in the culture, Kotter related the following case. There was an aerospace company that was inwardly focused and sluggish in introducing products. Realizing the need for change, a division General Manager spent years working to transform the company, and had achieved impressive results: divisional revenues increased 62% and net profit rose 76%. The comparable figures for the previous five years were 21 and 15 percent. Thus, the executive was able to retire on a high note. Within two years of his retirement, however, both the new product introduction rate and product success were once again precipitously low (Kotter, 1996, pp. 145-147). What was Kotter’s postmortem? Kotter speculated that the General Manager’s active support of the initiative had affected its natural development—as with plants, the constant attention and watering kept the roots shallow. After he was no longer there to continuously tend to the initiative, its roots were not deep enough to sustain its former success. The change was not embedded into the culture, and was doomed to wither away. This story not only illustrates Kotter’s thoughts on culture, but also supports the need for this study.

This notion of cultural change is not new in the study of transformational initiatives. Deming recognized it as the second of his *Fourteen Points*: “Adopt the New Philosophy” (Walton, 1986, p. 58). As Deming was developing his points in the 1940s, organizational development was still in its infancy as an area of research; in fact, the term “organizational culture” was not even coined until the mid-1950s (Weisbord, 1987). The

concept of culture has been explicitly used in research since the mid to late 1970s (Schein, 1990). Deming's explanation of his second point clearly states that transformation must be in the roots of the company's culture, in its very being. Deming declared, "Quality must become the new religion" (Walton, 1986, p. 58). This belief was shared by Joseph Juran, a contemporary of Deming, and a pioneer of the early quality movement in his own right. Juran wrote several books that were considered essential to anyone in the transformation field. In his seminal work, *Juran on Quality by Design: The New Steps for Planning Quality into Goods and Services*, he included chapters such as "Human Behavior and Cultural Values," "Impact on Cultural Values of the Workers," and "Dealing with Cultural Resistance" (Juran, 1992). Thus, Juran's work extensively discussed the importance of culture in sustaining transformational initiatives. Before producing *Leading Change*, Kotter co-wrote a book on the topic of culture and performance: *Corporate Culture and Performance* (Kotter & Heskett, 1992): a study linking culture and performance. Other studies have examined the relationship between culture and transformational initiatives (Dennison & Mishra, 1989; Criger, 1993; Detert, Schroeder, & Mauriel, 2000; Odom, Boxx, & Dunn, 1990; Marcoulides & Heck, 1993; Cameron & Freeman, 1991; Gordon & DiTomaso, 1992; Safford, 1989; Barney, 1986). These studies have indicated the considerable interest in the research of culture and performance in organizations.

#### *Review of Studies on Organizations*

Table 3 provides a summary of articles reviewed regarding organizational studies:

<b>Studies on Organizations</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Buchanan (1974)	Survey of 279 managers looking to answer two questions: 1. Which organizational experiences have the greatest impact on a manager's organizational commitment? 2. How does the significance of such experience vary with one's tenure, particularly early in a career?	Study suggests that the influence of particular experiences varies, but notes that the leadership of an organization is a key factor to any organization, but especially so with a transformation initiative.
Cr��mer (1993)	This study defines the concept of culture in economic terms, analyzes it with economic tools, and studies its economic consequences.	Creates framework that assumes that human beings have limited capacity for processing, receiving and transmitting information. Culture is defined as the stock of knowledge shared by the members of the organization. The acquisition of this knowledge is an investment.
Dale & Cooper (1994)	Qualitative study examining the roles of senior managers in Total Quality Management (TQM).	Findings show that managers should become active in TQM; their personal behavior impacts the creditability of TQM and influences in changing employee behavior and attitudes.
Dow, Samson, & Ford (1999)	A large-scale study investigating quality management practices and performance using random sampling of manufacturing sites.	Categorizes quality practices into nine dimensions, but finds that not all contribute to superior outcomes. Those associated with leadership, employee commitment, and other items related to social capital have a positive correlation.
Elenkov, Judge, & Wright (2005)	A survey in six countries, this study investigates the relationship of strategic leadership behaviors with innovation, top management heterogeneity, and social culture.	Strategic leadership behaviors were found to have a strong positive relationship with executive influence on implementing change.
Hagen (2010)	Literature review study of process improvement investigating how the implementation of managerial coaching training for Six Sigma impacts organizational knowledge.	Managerial coaching training for Six Sigma students has a positive effect on accumulating knowledge in an organization. This enhances the potential benefits of a Six Sigma effort.



<b>Studies on Organizations</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Kanter (1983)	Multiple case study of America's most important companies, including Hewlett-Packard, General Electric, General Motors, and more.	Provides qualitative narrative on their organizational structures, their corporate cultures, and their specific strategies.
Kotter (1995 & 1996)	Multiple case studies of companies implementing change initiatives spanning over 20 years.	The leadership of an organization is a key factor to any organization, but especially so with a transformation initiative.
Lascelles & Dale (1990)	This paper discusses the role and responsibility of the chief executive in the quality improvement process.	The paper identifies the factors of a successful quality improvement process. Also points out that the chief executive needs to be engaged if the process is to be effective in the long-term.
Lean Enterprise Institute (2007)	Annual survey of companies regarding their implementation and effectiveness of Lean transformation initiative.	Results include finding that middle management resistance to change is the number one obstacle to implementing the Lean transformation.
Levitt & March (1988)	Literary review on organizational learning.	Organizations learn from experience as well as develop conceptual frameworks for interpreting that experience.
Maak (2007)	Qualitative literary analysis looking at the relationship between leadership and social capital.	Finds that responsible leadership contributes to building social capital and, ultimately, to both a sustainable business and the common good.
McKinsey and Company (1989)	Consultant survey of private companies examining their use of Total Quality Management.	Study showed that 95% considered top management commitment as the key requirement for success of TQM.
Melé (2003)	Qualitative literary analysis investigating the composition of the elements that make up an "Organizational Humanizing Culture."	Findings suggest that an organizational culture with "humanizing" features tends to bring about trust and associability, which are basic elements for social capital.
Peters & Waterman (1982)	Multiple case study of 43 of America's best run companies of the earlier 1980s.	Developed eight basic management principles that include taking corporate culture into account.
Ven den Steen (2005)	Study on why members of an organization often share similar beliefs.	Study finds that the model developed matches observations on corporate culture, such as a manager's influence a firm's culture. Also shows that culture, instead of being created for its own good, can be a side effect of other actions. As a consequence, there can be too much culture in firms.

Studies on Organizations		
Author/Year	Purpose of Study	Relevant Results & Findings
Vera & Crossan (2004)	The study develops a theoretical model of the impact of top manager leadership on organizational learning.	Leadership impacts organizational learning. Strong strategic leadership causes learning to be institutionalized into an organization.

Table 3: Studies on Organizations

### *Culture*

Edgar Schein, a pioneer in the field of organizational study, stated that any definable group with a shared history can develop a culture. The group learns its culture over a period of time as it solves its problems of survival in the world, and as it develops internal integration (Schein, 1990). Schein expanded his definition of culture, breaking it down into several sections:

*Culture* can now be defined as (a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems. (Schein, 1990, p. 111)

Schein goes on to outline how the strength and consistency of an organization's culture is a function dependent upon the following variables (1990):

- Group stability
- How long group has been around
- The intensity of group's learning experiences
- How the learning took place (positive or negative)

- The assumptions of the group's founders and leaders

These variables form the core factors in the development of an organization's culture. As several studies suggest, cultural variables are related to organizational performance (Marcoulides & Heck, 1993; Hofstede, 1986; Peters & Waterman, 1982; Kanter, 1983; Goffee & Jones, 1998). It stands to reason that the cultural variables would also have to be addressed to implement a transformation. This conclusion is not based solely on academic study. The significance of organizational culture can be seen in a quote from Sam Malone, Worldwide Marketing Manager at Xerox Quality Solutions:

The one common denominator that led to failure in all of our previous quality efforts [prior to the mid-1980s] was that we did not change the culture or the environment in which all these tools and processes were being used. We had a "flavor of the month" mentality. (Brennan, 1994)

Considering that culture is described as "the way we do things around here" (Deal & Kennedy, 1982, p. 4), it is an inherent factor in an organization's ability to produce goods or services. Leadership plays a key role in the formation and evolution of a culture (Schein, 1990; Dennison & Mishra, 1995). The collective learning that takes place in an organization is an important factor in the formation and growth of a culture (Schein 1990; Dennison & Mishra, 1995; Crémer, 1993). This section further discusses leadership and learning. The issue of social capital will bridge the gap between this section on organization and that of individuals.

### *Leadership*

The leadership has been a key factor of any organization, but especially so with a transformational initiative (Buchanan, 1974; Kotter, 1995). This was realized early in the

development of transformational initiatives. Frederick Taylor's studies, the first objective look at how we work, noted the importance of leadership. In his book, *The Principles of Scientific Management* (Taylor, 1911), he stated that all important knowledge was in the heads of management. Taylor sought to draw out that knowledge and create standards that the average worker could understand. Deming saw strong leadership as a paramount need in transforming an organization, and that there was a distinct difference between supervision (getting a team to meet a quota) and leadership (getting a team to do quality work). One of Deming's *Fourteen Points* was "Institute Leadership," in which he described the leader's responsibility to create an environment that allows workers (and machines) to do their best (Walton, 1986).

There have been numerous studies on the importance of leadership in the area of transformational initiatives. Empirical studies have shown a positive correlation between committed leadership and implementing change (Dow, Samson, & Ford, 1999; Elenkov, Judge, & Wright, 2005). There have been qualitative studies showing the important roles that the engagement of managers and executives have in transforming a company (Dale & Cooper, 1994; Lascelles & Dale, 1990). The relationship between leadership and social capital has also been studied. A literary analysis showed that responsible leadership contributes to social capital, and ultimately, to improved business (Maak, 2007). Besides the academic studies, observations from the practical aspects of leadership have been noted. Juran, who helped implement Total Quality Management in Japan after World War II, attributed the Japanese success to their leadership's strong personal commitment to quality. Juran felt so passionate about the importance of leadership in transformational initiatives that he wrote an entire book dedicated to the

subject: *Juran on Leadership for Quality* (1989). The consulting firm McKinsey conducted a survey of managers from the top 500 European companies that showed that 95% consider top management commitment as the key requirement for TQM to be successful (McKinsey and Company, 1989). It is not only top leaders that are vital to transformation. The Lean Enterprise Institute found in its annual survey that middle management resistance to change is the number one obstacle to implementing a Lean transformation (Lean Enterprise Institute, 2007). All levels of leadership play an important role in a transformation initiative.

### *Organizational Learning*

Leadership impacts many aspects of an organization, and learning is one of them. Several studies highlighted leadership's relation to learning. These studies included how leaders develop strategy and how that was linked to organizational learning (Vera & Crossan, 2004). A literary review found that organizations learn by experience, and experience is shaped by the guidance of leaders as they create the environment and set goals (Levitt & March, 1988). Another study on leadership during a transformational initiative showed the importance of driving learning throughout an organization (Hagen, 2010). From multiple frames researchers have confirmed the positive link between leadership and learning.

Organizations are usually seen as an entity with a culture that exists to get things done. Knowles, Holton and Swanson (2005) point out that one of the misconceptions in our cultural heritage is that "every organization is also a social system" (p. 107). They further discuss how adult education can further both purposes of an organization: work

and social. This was an indication, validated by articles and books, of the inter-connection between organizations, learning, production, and social capital.

*Review of Studies on Social Capital*

The following table summarizes research on social capital for this study:

<b>Studies on Social Capital</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Adler & Kwon (2002)	Study of theoretical research in various disciplines, developing a conceptual framework of social capital.	Social capital is more than the sum of the various kinds of relationships that people have.
Boxman, De Graaf & Flap, (1991)	Multivariate analysis of 1359 managers to study the interplay between social and human capital in the attainment of income.	Study that showed individuals with larger social networks obtain higher paying positions to those with smaller networks.
Brass & Burkhardt (1993)	Study to explore the relationships between potential organizational power, viewed as structural position, and use of power through behavioral tactics.	Results show an individual's structural position (as measured by their network centrality and level in organizational hierarchy) and behavior relate to others' perceptions of the individual's power.
Burt (1992)	Research on personal networks, and the advantage a person's contacts in the social structure provide for them.	Develops structural hole theory showing the competitive advantages of having a robust social network. Burt's work set the framework for others to examine social capital's impact upon organizational performance.
Gabbay & Zuckerman (1998)	Study of scientists in corporate research and development (R&D) units, investigating how their positions in networks of work relations affect their future mobility.	Article showed that the effect of contact density on expectations of promotion is contingent on the character of relevant structures and cultures of opportunity.
Gerlach (1992)	This book attempts to explain the remarkable economic success of Japan in the postwar period, using multiple case studies of companies throughout Japan.	Development of a theoretical context of Japan's business networks. Study showed the inter-corporate alliances in Japan are as traditional as Western economic institutions as the public corporation and the stock market.

<b>Studies on Social Capital</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Grix (2001)	Literary review of the definition, origins, and use of social capital as a research concept.	Use of social capital has increased in research. Social capital is in line with other forms of physical capital in terms of impact on productivity, but differs greatly in that social capital increases with use instead of diminishing.
Lin (2000)	Literary review regarding inequality in social capital.	Included reviews of empirical studies that confirm the proposition that social resources affect action outcomes.
Moran (2005)	Survey to examine the impact of managers' social capital on performance, using two dimensions of social capital: structural embeddedness and relational embeddedness.	Social capital has potential for explaining performance at various levels. Finds that social capital is particularly important for strategic management issues.
Moran & Ghoshal (1999)	Study to show how business firms interact with markets to create economic value for themselves, for their members, and for society.	Study claims social capital may be a firm's most enduring source of competitive advantage.
Nahapiet & Ghoshal (1998)	Study of the following: 1. Social capital facilitates the creation of new intellectual capital; 2. Organizations are conducive to the development of high levels of social capital; 3. Firms with more dense social capital have an advantage in creating and sharing intellectual capital.	Development of a model that outlined three dimensions of social capital: structural, relational and cognitive.
Podolny & Baron (1997)	Study to examine how structure and content of individuals' networks in the workplace affect their mobility within the organization.	Study finds that an individual's mobility is enhanced by having a large, sparse network of informal ties for gathering information and resources.
Portes (1998)	This paper reviews the origins and definitions of social capital. It distinguishes four sources of social capital and examines their dynamics.	Portes provides historical insight into the development of social capital as a research tool in the writings of Bourdieu, Loury, and Coleman, and other authors.
Putnam (1993)	Case study of a 1970 experiment when Italy created new governments for each of its regions. The study spanned two decades and focused on the tenet of social capital.	The research has supported the relationship between "a good stock" of social capital and improved economic importance.

<b>Studies on Social Capital</b>		
<b>Author/Year</b>	<b>Purpose of Study</b>	<b>Relevant Results &amp; Findings</b>
Romo & Schwartz (1995)	A sociological analysis of regional political economies specifically examining industrial migration in New York State.	Study finds that structurally embedded establishments are unlikely to leave the region, even when cost differentials are severe.
Rowley, Behrens, & Krackhardt (2000)	Qualitative study of strategic alliance networks built on studies that both relational embeddedness (characteristics of relationships) and structural embeddedness (characteristics of relationship structure) influence firm behavior and performance.	Finds that relational and structural embeddedness impact on firms' performance can only be understood with reference to the other. The influence of these factors on firm performance is contingent on industry context.
Schiff (1992)	Study on the impact of labor mobility upon society.	Finds that society benefits from a common property resource. That resource is social capital and includes the network of relations among people. Provides definition of social capital.
Tsai & Ghoshal (1998)	Using data collected from multiple respondents, the study examines relationships among the dimensions of social capital and the patterns of resource exchange and product innovation in the company.	Social interactions were significantly related to the extent of interunit resource exchange, which in turn had a significant positive effect on product innovation.
Walker, Kogut, & Shan (1997)	Multiple-case study of network formation; comparing social capital theory and structural hole theory.	Findings: network formation and industry growth are significantly influenced by the development of social capital.
Woolcock (1998)	Overview of intellectual history of social capital and a detailed critique of the two major subfields within development studies of social capital.	Woolcock provides historical roots of social capital as part of the grand economic philosophies of Marx, Weber, Simmel, and Durkheim to its appearance in 1960s neoclassic economics work of Schultz and Beckers.

**Table 4: Studies on Social Capital**

Production requires capital. Melé (2003) outlined that there are three forms of capital; physical capital (plants and equipment), human capital (knowledge and technical ability) and social capital (relationships and networks). This study has sought to focus on



social capital, making a core concept of the research. This section starts with a discussion of how social capital has been used in academic research and in practical application. Then there will be a review of definitions, an overview of historical development, and finally, a discussion of how social capital ties into organizational performance.

### *Importance of Social Capital*

The importance of social capital has been increasingly recognized in social sciences such as sociology and economics. There has been an explosive increase in the attention given to social capital in a wide range of social science disciplines (Grix, 2001; Adler & Kwon, 2002). Besides becoming a standard concept in academic research, it has also been practically applied in the areas of economics and politics (Fine, 2008). The World Bank has commissioned numerous studies that have investigated social capital. These studies have been seen as necessary in aiding economic development (The World Bank, 2011; Fine, 2008). Research has supported this, showing a relationship between a good stock of social capital and improved economic importance (Putnam, 1993). Social capital has also been examined more and more at an organizational level. It has been a central factor in explaining actors' actions in a group. Studies have ranged from how social capital influences career success (Gabbay & Zuckerman, 1998) to how it has facilitated resource exchange and product innovation (Tsai & Ghoshal, 1998; Nahapiet & Ghoshal, 1998). There are studies that have linked social capital to operational areas of a company, such as strengthening supplier relationships (Gerlach, 1992). Romo and Schwartz (1995) conducted a study that showed social capital has an impact on

production networks. Social capital has gained acceptance and can serve as the conceptual framework for this research.

### *Definition of Social Capital*

While social capital has drawn increased attention, there have been an assortment of definitions. Social capital has been defined as “the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action” (Adler & Kwon, 2002, p. 17). Depending upon the context of use, there are variations in the meaning of the term. The main perspective to understand is whether the view is internal, external, or both. Social capital considers a person’s function and location within a social structure (Adler & Kwon, 2002). An actor can be inside a structure with relationships with others belonging to the same structure (internal). Or there may relationships to somebody outside the structure (external). Social capital definitions have been adjusted to meet the needs of the various studies. In their review of social capital, Adler and Kwon (2002, p. 20) listed twenty-three definitions by twenty authors. Adler and Kwon then classified the definitions by internal, external, or both. From their list, there were two definitions most closely related to this study’s problem statement. The first comes from Loury (1992, p. 100), which defines social capital as the “naturally occurring social relationships among persons which promote or assist the acquisitions of skills and traits valued in the marketplace.” The second comes from Schiff (1992, p. 160), which defines social capital as “the set of elements of the social structure that affects relations among people and are inputs or arguments of the production and/or utility function.” While these both derive from public policy research, they are well suited for this study. These definitions

cover both internal and external contexts. They are also both focused on the issues of developing relationships, acquiring knowledge and skills, and impacting production.

### *History of Social Capital*

The first reference to capital in the context other than physical machinery or land is believed to have been made by William Petty in his 1676 work, *Political Arithmerick*. In it, Petty compared the loss of humans to that of warships and other military machines (Hull, 1899). In the mid-1770s, Scottish philosopher David Hume argued that a concept of what he called “moral sense” would emerge as a supporting factor in economic activity (McNally, 1990). Adam Smith, in his revolutionary masterpiece, *The Wealth of Nations*, expanded upon Hume’s work. Smith was the first to discuss the influence between improving the knowledge and abilities of individuals and their personal income and wages. Smith considered this human capital as one of the fundamental sources of economic welfare (Smith A. , 1976). Woolcock discusses the development of social capital as part of the grand economic philosophies of Marx, Weber, Simmel, and Durkheim. He then tracks social capital’s appearance in the 1960s neoclassic economics work of Schultz and Beckers (Woolcock, 1998).

The first systematic analysis done in contemporary research was produced by Pierre Bourdieu, a Frenchman who defined social capital as an aggregate of resources linked to a network of relationships (Bourdieu, 1980). Because the work was in French, it did not get much attention in the English speaking research community. This was unfortunate, as Bourdieu’s work was among the most theoretically refined of those introducing the concept in contemporary times (Portes, 1998). It took time for social capital to gain solid footing as a research concept. Once it did, its use accelerated in the 1990s (Farr, 2004).

The nineties saw seminal works by political scientist Robert Putnam as well as sociologist James Coleman, primarily using the concept in the field of politics, community, and government (Portes, 2000). The use of social capital has since expanded into other areas of research, to include organizational studies.

*Social Capital and Organizational Effectiveness*

The concept of how relationships and networks can elevate an individual's ability was captured by a contemporary of Bourdieu's, Glenn Loury, when he stated:

The merit notion that, in a free society, each individual will rise to the level justified by his or her competence conflicts with the observation that no one travels that road entirely alone. The social context within which individual maturation occurs strongly conditions what otherwise equally competent individuals can achieve. (Loury, 1977, p. 176)

Loury did not fully develop the concept of social capital, but used the same foundational tenets of the theory. Loury and others, such as the social capital researchers Putnam and Coleman, used the concept of social capital mainly in studies of community, government, and politics. Bourdieu applied social capital to performance and economic output. He tried to reduce the acquisition of social capital as a straightforward economic transaction: one service of value for another service of value. Unfortunately, Bourdieu found social capital transactions to be uncertain in nature and not very transparent. He was unable to garner support to further develop the idea (Portes, 1998). Bourdieu's work did, however, set the framework for others to examine social capital's impact upon organizational performance. There has been research using social capital done at multiple levels. Studies have been done on small groups and individuals (Burt, 1992;

Brass & Burkhardt, 1993; Podolny & Baron, 1997). There have also been studies of larger organizations, to include business companies (Walker, Kogut, & Shan, 1997; Tsai & Ghoshal, 1998; Walker, 1998; Rowley, Behrens, & Krackhardt, 2000). Moran (2005) explained that social capital's potential for explaining performance at these various levels makes it an exciting tool. He stated social capital was particularly important for strategic management issues, as it is tightly bound with the organization's development and culture. Moran and Ghosal (1999) have claimed that because a firm can influence its development, that social capital may be a firm's most enduring source of competitive advantage. Because of these factors, social capital has been increasingly considered in research regarding performance.

“Empirical studies have strongly confirmed the proposition that social resources affect action outcomes” (Lin, 2000, p. 786). Studies that examine the relationship between performance and social capital include work from Boxman, De Graaf, and Flap (1991). Their study showed that individuals with larger social networks obtain higher paying positions than those with smaller networks. There has also been research at the organizational level. Tsai and Ghoshal (1998) did a quantitative study that showed strong correlation between social capital and product innovation. Stronger social capital leads to more inter-unit exchange, and results in more innovation within a company's products. Gerlach (1992) conducted a statistical analysis of 250 large Japanese firms, examining their relationships and alliances. Gerlach concluded that these relationships “become infused with a social significance that goes beyond the immediate economic concerns of the partners” (p. 27) and are a fundamental factor in Japan's economic success. Another quantitative study used hypothesis testing on semiconductor and steel industries, from

which researchers concluded that social capital "...is meaningful in terms of performance" (Rowley, Behrens, & Krackhardt, 2000, p. 385). These studies have validated the relationship between social capital and performance.

### *Summary*

A review of the literature spanning the topics of this study is a considerable undertaking and could easily span multiple chapters. Initiatives to transform an organization, with the vague goal "to improve," involve myriad factors to consider, namely, all the issues that go into creating and changing a culture. The scope of the problem statement for this study allowed for a focused review. This literature review started with an overview of the various methods and philosophies of the mainstream transformational initiatives, followed by a review of the results of such change efforts. Various aspects of the organization were then discussed: from culture, to leadership, to learning. Lastly, there was a review of social capital to provide an understanding of what it is, how it is used, where it comes from, and how it relates to performance.

The literature review reinforced the graphic introduced in Figure 4, which maps out the areas of significance. The review showed there are interconnections between transformational initiatives, social capital, organizations, and performance. The literature review also showed that there are factors of culture and learning that come to bear on these connections. While this study cannot fully address the question of why transformational initiatives succeed or fail, it can contribute to the body of knowledge to help lead to a greater understanding of the matter.

## Chapter Three: Methodology and Data Analysis

### *Research Framework*

Issues of behavioral changes, team work, social capital, and culture were best explored by gaining deeper insight into the issues and theories central to the phenomenon. To gain this insight, a qualitative method is preferred over a quantitative one (Creswell, 2008). A qualitative inquiry approach provides detailed information for this interpretivist study that could not have been derived from quantitative methods. This was summarized by the quote, “Social process is not captured in hypothetical deductions, covariances and degrees of freedom. Instead, understanding social process involves getting inside the world of those generating it” (Orlikowski & Baroudi, 1991, p. 2). The complex nature of the problem statement lends itself to qualitative study. As noted in the literature review, there are a variety of issues involved in the success, or failure, of a transformation initiative. According to Creswell, “Qualitative research...is best suited for research problems in which you do not know the variables and need to explore” (2008, p. 53). A qualitative approach provides the best avenue to conduct an interpretivist analysis of a transformation initiative’s impact upon an organization’s social capital.

### *Methodology*

Given the nature of the research question and the population in question, the researcher decided this study should be an interpretive study. The roots of interpretivism lie “...in the German intellectual tradition of hermeneutics and the Verstehenn tradition in sociology...” (Schwandt, 1998, p. 222). There continues to be a debate about the precise definition of interpretivism. Some use it interchangeably with all qualitative analysis

methods (Williams, 2000). Williams sought to standardize the definition of interpretivism as “...those strategies in sociology which interpret the meanings and actions of actors according to their own subjective frame of reference” (2000, p. 10). He further expands the definition “...to include observation techniques which seek to make sense of actors’ actions and language within their ‘natural’ setting” (Williams, 2000, p. 10). This corroborated other researchers’ definitions of interpretivism. Orlikowski and Baroudi (1991, p. 1) state:

Interpretive studies assume that people create and associate their own subjective and intersubjective meanings as they interact with the world around them. Interpretive researchers thus attempt to understand phenomena through accessing the meanings participants assign to them.

This study followed the steps for a basic interpretive study set forth by Merriam (2002, pp. 6-7):

1. Data is collected via interviews, observations or documents
2. Data is inductively analyzed for recurring or common themes
3. A descriptive account, grounded in a literature framework, is created for presentation and discussion

### *Research Question*

In chapter one, it was stated that the purpose of this interpretivist study is to explore the influence upon an organization’s social capital by examining the experiences of individuals who attend formal training programs and participate in improvement events conducted by an organization that is implementing a transformational initiative. This provides the proper context for this study’s research question:

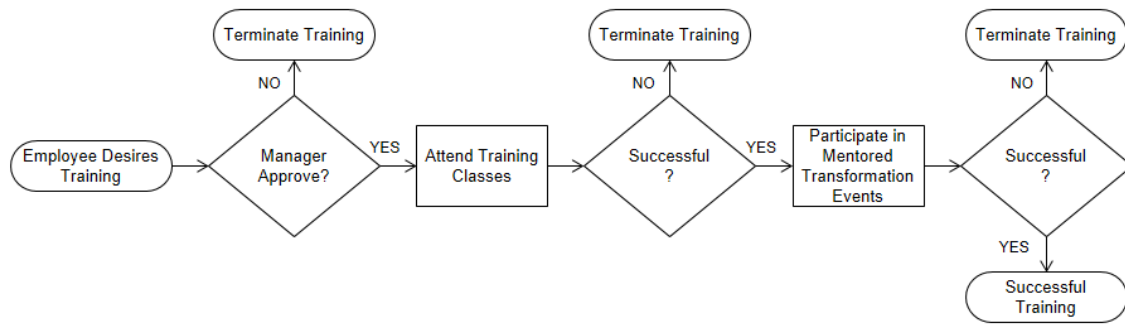


How does individual participation in a transformational initiative influence individual engagement in the organization's social capital?

As discussed in the review, the view of Nahapiet and Ghosal (1998) with regard to social capital will be used in the course of this study. They separate social capital into three distinct elements: structural, relational, and cognitive. This delineation is important, as it provides focal areas for the study. These three dimensions provide a starting point for the data collection as well as the initial data analysis.

### *Environment*

Before design details are discussed, a brief review of the implementation of transformational initiatives will be helpful. Transformational initiatives start implementation by training a number of employees in whatever methodology leadership has chosen to transform the company. This could be Lean, Six Sigma, or something else. Most training programs will consist of an academic component that is coupled with the practical training that results from either leading or participating in an improvement event. The *American Society for Quality* (ASQ), a non-profit organization that has promoted quality in over 140 countries, provides certification in many methods, including Six Sigma. The requirements they have established for a Six Sigma Green Belt, the first level of certification, is the successful completion of an academic exam and three years' experience in a field that meets ASQ requirements for doing Six Sigma work. For their Six Sigma Black Belt certification, the advanced degree, a candidate must pass an exam and have successfully completed two projects (American Society for Quality, 2011). Figure 5 shows a generic training process representative of most organizations implementing a transformation initiative.



**Figure 5: Individual training process.**

Some companies may outsource their training; others may only have academic class offerings. Some companies may not have any formal program, but merely some employees who are interested and taking courses on their own. This study sought companies that have formal training programs in place, as this demonstrated their commitment to implementing a transformation initiative. Whether a company has a formal program was the first step in determining sample inclusion for this study.

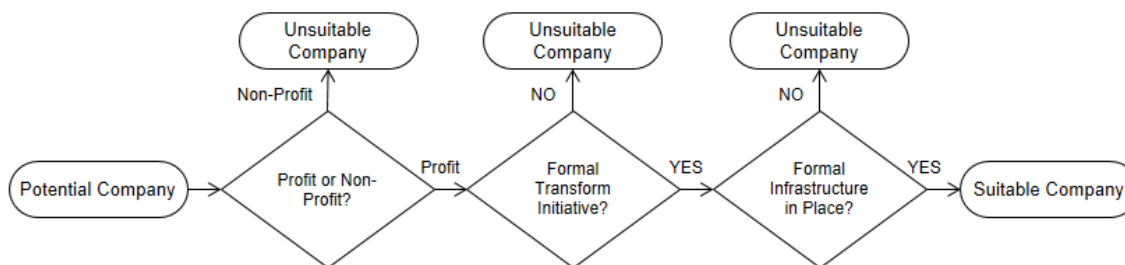
### *Sampling*

#### *Inclusion Criteria*

Finding and qualifying appropriate participants was crucial to the success of this study. This section details the requirements, and the rationale behind the requirements, for the participants deemed qualified to participate. The discussion will then turn to how the samples were gathered.

The companies of potential participants were first vetted. The organization must have implemented a formal transformation initiative, whether it was Lean, Six Sigma, Business Process Reengineering, or some other variant. The initial issue to narrow the sample pool was if the potential participants' organization had announced it was actively promoting a formal transformation initiative. Two criteria were developed. First, the

organization had to have made public announcements of the program. Second, the initiative needed to have a formal structure of resource support such as dedicated personnel, training support, and documentation of the program. Also, because past studies have noted differences between the private and public sectors in regard to transformational initiatives (Halachmi & Bovaird, 1997; Robertson & Seneviratne, 1995), only private for-profit companies were considered for this study. Different industries were allowed, as various studies show the methods and tools of transformational initiatives may span industries between manufacturing and services (Ahire, Golhar, & Waller, 1996; Cusumano, 1994; Kwak & Anbari, 2004; Schroeder, Linderman, Liedtke, & Choo, 2007). Figure 6 represents the process used to determine from which organizations it was suitable to recruit research participants.



**Figure 6: Evaluation of companies.**

Originally, it was planned to find suitable companies and then find qualified participants within those companies. As the research began, the reverse often occurred. Potential participants were identified and then their company was vetted. Regardless of the order in which it happened, the study dealt with qualified participants from qualified companies.

A qualified participant had to have completed some type of formal training and also to have participated in an event that utilized that training. The training should have provided them a foundation of knowledge of their organization's transformation initiative. Since organizations used different methodologies, and used external or internal resources to establish the programs, it was inevitable that there was a variety of training courses. The variety made it unwieldy to try to ensure all the participants have equivalent training. Verification of participants attending some type of transformational initiative training was sufficient.

The participants must also have participated in a formal improvement event. Depending upon the methodology of the transformation initiative, such events could be called kaizens, rapid improvement events, value stream analysis, or a variety of other titles. To qualify, the event had to meet the two criteria. First, it had to be formally sponsored by the organization. It could not be part of a skunk-works or underground movement in which workers try to take it upon themselves to improve their processes. Second, it must have used an established, recognized process improvement methodology (i.e. Lean, Six Sigma, Business Process Reengineering, etc.). It could not have been a made-up method or something so new as to not have an established following or proven track record.

Another aspect regarding the participants was the time they had been with their company. It was important that the participants have some time with the organization to ensure they had knowledge of the culture to make informed observations. For that reason, participants were selected who had been with their organization for at least a year.

A last point of inclusion regarding the participants was their geographic location. While transformational initiatives have been instigated around the globe, and are often associated with Japan, this study was limited to companies within the United States. Studies have shown that differing cultural aspects cause variations in management that impact productivity rates (Bloom & Van Reenen, 2010). Limiting the participants to a single country improved the homogeneity of the sample and thereby improved sample integrity.

During initial planning of this study, it was thought that employees whose jobs were dedicated full-time to transformational initiatives would not be ideal participants, since they would have a vested interest in the initiatives and therefore not be objective. After the proposal for this study was approved, the researcher began a series of test interviews to validate the interview format. Several people were interviewed, some of whom were not dedicated to transformational initiatives, but only worked on improvement part-time, in addition to their regular work duties. Others were dedicated full-time to support the transformation initiative. When comparing the test interviews, no bias was noticeable. It was also determined that a richer, fuller data set could be obtained if both full- and part-time participants were recruited.

After the researcher discussed the matter over with his advisor, an amendment was filed with the Institutional Review Board (IRB). It was requested to change the sampling plan to allow for those who work full-time supporting transformational initiatives to be included. Since there was no change to risk of participants, the change was approved.

As the study progressed, another modification to the sample plan was made. Original research plans were to find between four and six companies with transformational initiatives; then find two or three participants. This would have resulted in a possible sample size that ranged from eight to eighteen, as illustrated in Figure 7.

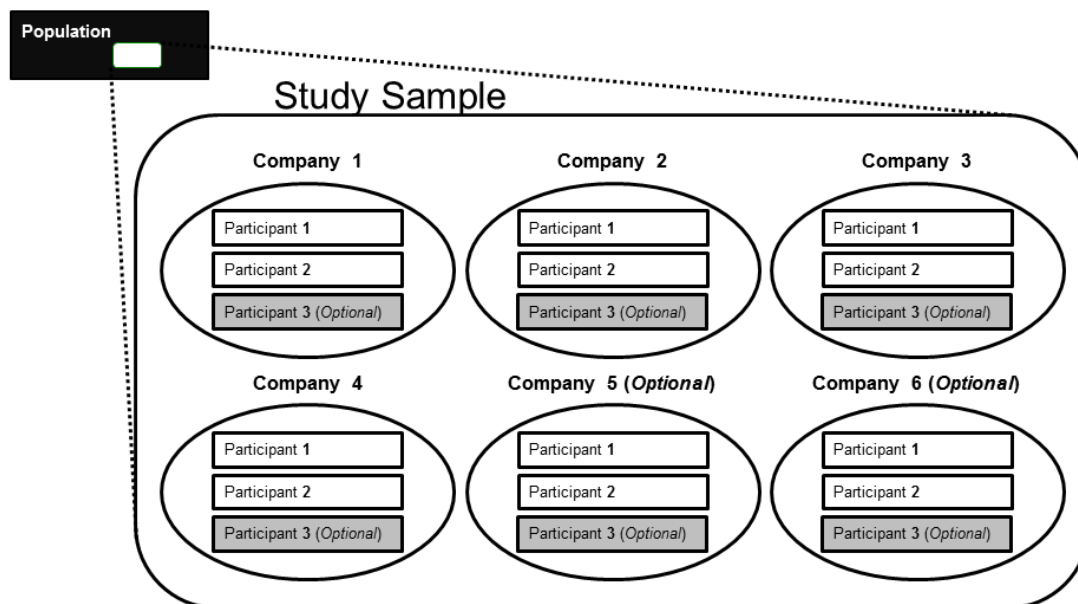


Figure 7: Original sampling plan.

Problems arose with this plan once data collection began. As companies were approached, either via their Human Resources Department, or whatever area managed their transformation initiative, bottlenecks inevitably developed. For example, a very large company, with a widespread transformation initiative, was contacted to see if anyone there would volunteer. The researcher was directed to the Human Resources Department. After explaining the purpose of the study and the promise of anonymity for both individuals and companies involved, the consent letter was presented. It was intended to show IRB approval and further assure the company of the legitimacy of the research. The company determined the consent letter would have to be reviewed by its

Legal Department. No estimate of the time required for the review was provided. After several weeks, and numerous follow up calls, there was no word as to the status, and eventually the company was dismissed. This happened at almost every large company contacted: either Legal or Human Resources was asked to review and approve involvement in the study. After that, one of two things happened. Either there was straightforward rejection or the request was forwarded somewhere and no commitment was ever provided.

Another approach to gather participants was attempted. Individuals were contacted directly. After making contact with somebody in a company, the contact was asked if any colleagues would be interested in participating. If six participants from different companies could have arranged for a few co-workers to volunteer, the desired sample size would have been achieved. When asked, however, several said they would have to funnel the request through their management or Human Resources channels. Others did not feel comfortable asking others. Some did ask others, with most unable to persuade people to participate.

Instead of seeking groups within companies, it was decided to remove that constraint. The sampling would be opened to individuals who met study requirements, regardless of the company for which they worked. The company would still have to meet the requirements of having a formal transformation initiative. Since this change had an impact on sampling, another amendment was filed with the IRB. It was quickly approved, as the change did not alter the risk to any participants. This modification improved the time it took to line up participants. The new method also expanded the sample pools and increased the sample size.

An additional point about Institutional Review Board requirements: per the *Exempt Status IRB Reviewer Checklist* provided by the IRB Department of the University of Wisconsin at Milwaukee, this study qualified for a Category 2 exemption. It qualified because only interview techniques were used, and the risk was considered to be minimal for any participant. The risk was so minimal that consent forms were not required with a Category 2 exemption. Even with an exemption, a consent letter was prepared and is seen in Appendix G.

### *Sample Size*

In qualitative studies, sample sizes may range from one to well over fifty, depending on type or intent of study. For a narrative study, a single person might suffice. For grounded theory, fifty to sixty may be required (Creswell & Plano Clark, 2006). For research in which cases were reported, such as this study, some feel that a smaller sample of four to ten may be appropriate (Creswell, 1998; Morse, 1994). This study was not a case study, focused on a single organization. To avoid bias, a variety of companies was desired, which increased the desired number of participants.

The original plan illustrated in Figure 7 would have resulted in a sample size of eight to eighteen. A balance was desired between ensuring a sufficient number of participants and time management. This desire led to a target goal of twelve participants. This sample size was expected to bring the study to, or past, the point of data saturation, or what Lincoln and Guba (1985) called the point of redundancy. This is the point when “...no new information is forthcoming from new sampled units” (Lincoln & Guba, 1985). It was expected that after twelve interviews, there would be considerable redundancy, and



therefore, sufficient data collected. This sample was still manageable with available time and resources.

During the presentation of the proposal to the dissertation committee, there was concern that twelve participants would be too small of a sample. Thus, the goal was increased to a minimum of sixteen. With the changes in the sampling protocol, it became apparent that increasing the sample size would be manageable and would result in a richer data set. The final sample size was higher than the revised goal, and close to twice the original desired sample size.

### *Data Collection*

Purposeful sampling was used to gather participants. This is sometimes called judgment sampling, the methodology being, "... you decide the purpose you want informants to serve, and you go out and find some" (Bernard, 2000, p. 176). To find potential participants in a purposeful manner from qualified private organizations that met the requirements, a modified type of snowball technique was used. In snowball sampling, "The approach is to identify a few members of that population, to ask each of them to identify other members, to contact those so identified and ask them to identify others, and so on" (Kalton & Anderson, 1986, p. 77). To start the snowball, inquiries were put out to the communities that deal with transformational initiatives via the social network channel LinkedIn, as well as professional organizations such as the American Society for Quality. Over sixty personal contacts and a dozen companies were contacted. It was broadcast that the researcher desired to interview personnel who have been trained in and part of an improvement project. Eventually, over one hundred potential participants were identified.

As possible participants' names came in, their organizations were vetted. There were some possible participants who worked only in the public sector, and thus were excluded. Other volunteers came from companies that did not have a formal program in place, but the individuals were pursuing training independently. These were also excluded, as it was not felt such an environment would provide a comprehensive portrait of the development of social capital if only one or two in an organization were trying to implement change. While several volunteers were excluded from the study, several were used to practice interview techniques and help validate the interview guide.

Per the snowball technique, all possible participants were asked about others who might want to participate. This proved quite fruitful, as many potential participants provided additional leads. One individual who replied to a LinkedIn posting was especially helpful. Despite not qualifying for the study himself, this individual provided numerous names of individuals, and five of these contacts participated in the study. Eventually, a list of qualified potential participants was compiled. Some participants were within the same area as the researcher, while others were on the east and west coasts of the United States, as well as one who was travelling in Europe. Each was contacted to set up a scheduled time to meet and to confirm the expectations of the interview. This issue of setting expectations in this initial contact became a key element of this study.

### *Interviews*

Interviewing was the primary method of data collection. Qualified volunteers were contacted to obtain consent and to schedule a day and time for an interview. Interviews were conducted both in-person and via telephone, depending upon logistics. The interview took place only with participants who had attended training and participated in

an event. The study relied on their recollections of pre- and post-participation. All interviews were audio recorded, then transcribed for reference, review, and analysis.

There are multiple approaches to interviews, such as open-ended interviews, informal conversational interviews, and the general interview guide approach (Patton, 2002). This study utilized an interview guide. The use of an interview guide allowed for a semi-structured approach, providing consistency among differing interviews. A guide also allowed flexibility for participants to provide rich details of their unique experiences (Seidman, 1991). This study used critical incidents as a way to collect data. The critical incident technique is a process for collecting observations of human behavior, which are then used in solving practical problems and developing broad principles (Flanagan, 1954). This definition came from the researcher who is considered the originator of the technique, John C. Flanagan. He developed the technique during World War II to research behavior of aircrew members and how it influenced the success or failure of training and missions (Corbally, 1956). This method seemed especially appropriate given the following description of the critical incident technique:

People assign meanings to their experiences, and when we group together collections of such meanings in order to make sense of the world, we engage in a kind of research, a seeking of understanding. The critical incident technique provides a systematic means for gathering the significances others attach to events, analyzing the emerging patterns, and laying out tentative conclusions for the reader's consideration (Kain, 2004, p. 85)

The basic premise of the critical incident technique is to collect observed incidents that meet systematically defined criteria and have significance to the study. Initial

studies used interviews to gather observational data (Flanagan, 1954). This study uses the same approach. A simple question was asked of participants; to recount a specific project from a transformation initiative. As the participant recounted their experiences, the researcher was on alert for references or inferences regarding three major elements of social capital: structural, relational, or cognitive. The researcher asked follow on questions to any of those issues, utilizing the interview guide to remain focused. The interview guide is in Appendix B. Appendix C has a copy of the interview guide with researcher notes regarding the rationale of the questions and thoughts on how to approach participants. It was estimated the interviews would range from approximately thirty minutes to one hour.

Given the geographical scope of this research, many of the interviews were conducted via the telephone. In the past, there has been some concern about the use of telephone while conducting interviews. Concerns include that a loss of rapport and lack of physical presence can lead to loss of meaning (Irvine, 2010). However, recent studies show many of these concerns to be "...somewhat exaggerated or unfounded" (Irvine, 2010, p. 1). There are both qualitative (Holt, 2010) as well as quantitative and empirical (Irvine, 2010; Block & Erskine, 2012) studies that support this conclusion. With proper preparation and awareness of the challenges, the telephone can be a tool as effective as face-to-face meetings. This study employed the guidance provided by these studies to ensure effective interviews transpired. Specifically, the considerations outlined by Irvine (2010) were utilized. These included preparing participants so they realized it was a scheduled phone interview, and not some unexpected call. Focus and attention to detail were maintained by the researcher throughout the call. Lastly, to avoid any technical

issues, every effort was made to ensure a good phone connection and that the recording equipment was functioning properly. A dedicated land line was used for most interviews. In a few instances, logistics required the use of a mobile cellular phone. A digital audio recorder was pretested and used with both types of telephones. During the course of the study, the only technical problems encountered were on the participants' end. There were a few garbled transmissions that were instantly clarified and one dropped call that was immediately reconnected. None were insurmountable, and the worse consequence was some minor inconvenience. Throughout the study there were no major issues regarding the use of the telephone as an interview tool.

There was a minor change to the interview process. While developing the interview guide, questions regarding the participants' demographics were included. Questions such as length of employment, current role, and other information that would be needed to ensure the participant was qualified. Originally it was thought these questions would be asked at the start of the interview. As the data collection began, these questions were actually answered before the interview. As participants were identified, their demographics were often provided upfront, or it was unveiled during the initial discussions about joining the study. While the questions remained in the interview guide, they were, for all practical purposes, answered well before the interview. It was just a small point, but it allowed the participant and research to go straight into the questions at the start of the interview.

Document review was not a planned part of the data collection plan for this study, as interviews were to be the focal point. Some participants voluntarily shared documents relating to the projects they discussed. These included slide decks of final project

presentations, spreadsheets of data collections, and reports of results. These were accepted and used during the course of the interview and utilized appropriately during analysis. The documents that were collected had the same security protocols as the interview.

### *Test & Discarded Interviews*

Before beginning the regular interviews, there was a chance for the researcher to conduct several test interviews. This opportunity presented itself when several possible participants were not qualified to be included in the study, but expressed a deep desire to be of help. These individuals were disqualified either because they worked in public sector, had not been with their company long enough, or had not received formal training. As the researcher wanted to ensure the interview guide was valid, and wanted to gain some additional interviewing experience, he asked three of the disqualified participants to partake in a practice interview. All three agreed.

During three test runs of the interview, it became clear that prefacing the interview with talk about social capital confused the participants. They were not sure what social capital was, and often a discussion began on the definition, history, and details of social capital. This protracted the interview and required efforts to steer the discussion back to the participant's experiences. By bringing up social capital at the beginning, it hindered the interview. Bradley noted (1993) the way a question is asked will condition the response. The mention of the social capital aspect of the study at the beginning, was what Patton (2002) described as a presupposition question. By asking about social capital, it presupposes the participant was involved with a project that had social capital implications. It also presupposes that the participant knew what social capital was.

Asking about social capital caused the test participants to skew their answers. The participants tried to bring up points that they thought would be pertinent. Often these were opinions or general commentary not at all related to the project they were recalling. This then led to a side discussion and again, further distraction from the interview. These early interview tests were running close to ninety minutes each, and produced a lot of information that was distracting. Patton warned of “long winded responses, irrelevant remarks, and digressions” (2002, p. 375) and how they negatively impact an interview. All this led to some slight changes in the approach to collecting data.

The minor changes had significant impact upon the collection of data. Data was easier to obtain, and the quality improved. The presupposition lead-in questions were replaced with dichotomous lead-in questions as advocated by Patton (2002, p. 370). As seen in Appendix B, the original interview question presupposes that there were changes due to participating in a project. The revised interview guide, presented in Appendix D, simply asks the participant to walk through a project they have done. Participants were asked how the problem was identified, how it was addressed, and how it was resolved. This simple, straightforward approach improved the engagement of the later participants compared to the test subjects.

Also, prefatory statements and announcements were made with the intent of “...warming up the respondent” (Patton, 2002, p. 370). Having prefatory statements gave clear expectations as to what was being asked and gave the participant time to think of their replies. These statements were used both prior to the interview and throughout the interview itself. After getting the volunteer’s name and contact information, an email was sent. In the email, a request was made to set a day and time to conduct the interview.

Also, the email clearly stated that expectations were to have the volunteer relate a story about a project in which they had participated. The terminology that became standard in the emails was “...it could be a project that went extremely well, or maybe one that did not. Or it could be a project that you’re proud of, or perhaps you just find interesting. Whatever project you wish to talk about.” Some early interviews saw issues with participants not knowing where to start, so after a few interviews, it was added that the story should cover how the problem was identified, how it was addressed, and what were the results. This provided a general framework that could apply to any methodology used: Lean, Six Sigma, or any other method. It also gave the participants clear start and stop points for their story, and followed the critical incident technique perfectly.

At the start of the interview, prefatory statements were also used. After getting permission to audio record, it was once again stated that all that was desired was to have participant relate a story of an improvement project, that the project could be any one they cared to talk about, and that the story should start at problem identification, go into actions taken, and end with discussion of any results. Then, during the course of the interview, any points brought up that seemed relevant to social capital were noted by the researcher. Follow up questions were then asked to gather more information into those noted areas.

The follow on questions were never asked in the context of social capital, but rather, just as a point of interest to the researcher. Social capital was not mentioned until the end of the interview. Only then was it explained the study was gathering stories of transformational initiatives, compiling them, and analyzing them through the lens of social capital. This was followed by a quick one or two minute definition of social



capital. Over the course of the interviews, it was discovered that this overview of the study at the conclusion of the interview helped the participants. Early interviews tended to end on an awkward note, with the researcher not wanting to simply say thank you and stop. The participants seemingly wanted to know why they had just told their story. By briefly explaining the study, it gave the participants a sense of closure. It also inspired additional offers of help. Before using the overview at the end of the interview, the researcher had to specifically ask if it would be okay to get back with the participant with any questions later if needed. After it became routine to conclude by explaining the study, participants began to offer continued support without any solicitation.

While most interviews went extremely well, there were some that did not. There were two interviews that were ultimately discarded. Both occurred after the test interviews and well into the regular interviews. It was at the halfway point in the schedule that these two participants were interviewed. As stated, there were prefatory statements made during initial contact, included within scheduling emails, and declared at the start of the live interview. Expectations of the participants were made clear. Despite all these precursory statements, and despite the repeated attempts of the researcher during the course of the interview, these two participants did not stay within the parameters of the study. One participant would only talk about his work with a government agency, even though he was repeatedly reminded only private sector companies were being researched. The other participant would only talk about his theories of why transformational initiatives succeed, or fail. As the researcher would redirect him to be more specific, he would make mention of a project only to use it as a springboard into

more generalities, theories, and various thoughts. The interview ended up so disjointed as to be worthless. Both interviews were not included in data analysis.

Both test interviews and the discarded interviews ultimately helped this study. The lessons learned, and applied, from the test interviews set the foundation for the actual interviews. While the intent of these early tests was to validate the interview guide, they did more than that. The changes made to the sampling protocol, as well as improved use of prefatory statements, helped the overall study. The discarded interviews, while occurring well into the data collection, spurred the researcher to reexamine interview management techniques to help with the remaining interviews. Reviewing Patton's steps to controlling interviews, it was clear that step four, "giving appropriate verbal and nonverbal feedback to the person being interviewed" (2002, p. 376) was lacking. A concerted effort was made to ensure the rest of participants stayed on-track with the interview. This helped strengthen the researcher's interview management skills.

#### *Data Collection: Field Notes & Journal*

Field notes were used during the course of interviews. A blank interview guide was on hand for each interview for reference. A notebook was used to record significant points made during the course of interviews. Each page of notes was labeled with the participant's name, date of interview, and page number. Notes taken during the course of interview included such items as:

- Key ideas, issues or comments made by participant
- Reference to social capital concepts
- Indicators of follow-on questions to ask

- Notation of time on recorder of especially relevant points or interesting quotation made by participant for future review
- Possible additional participants
- Highlighted remarks for follow up (facts, figures, etc.)

After the interview, time was spent reviewing field notes, organizing and clarifying them as well as making any additional notations. In addition to the book of field notes, a research journal was used throughout the study. During field note reviews, the research journal was used to capture noteworthy comments or quotes, reflective thoughts, early notions on analysis, and other ideas. This provided early and ongoing analysis of the interview data and formed a solid foundation for the analysis portion of the study.

#### *Data Management*

All interview material was secured in accordance with IRB requirements. All interviews were audio recorded using a digital recorder. All digital audio files were kept on a password-protected laptop computer, with back-up files on a flash-drive memory stick. This memory stick was stored in a secure location. Any documentation provided by participants, such as any project presentations, spreadsheets, or other items, if not already in digital format, was converted to digital and stored alongside the audio files. Paper copies of the files, along with transcripts, interview notes, and research journals were kept in a secured office.

#### *Quality Control*

In quantitative studies, the issue of quality depends if the study was *valid* (actually measured what it is supposed to measure) and *reliable* (consistently reproduced the measurement) (Golafshani, 2003). Both of these rely heavily on the selection and proper

use of instruments used in the study. These concepts are not easily transferred to qualitative studies, principally because, as Patton (2002, p. 14) states, “the researcher is the instrument.” So care must be taken to allow the researcher immersion into the study, while separating out bias. This study sought to do so in several ways.

The first was the use of triangulation. Triangulation, in a qualitative study, is the use of multiple methods, data sources, researchers, and perspectives in an attempt to increase the validity and reliability of the study (Denzin, 2000; Mathison, 1988). The sampling plan provided multiple data sources for this study. There were multiple organizations, from a variety of industry types, and the study participants came from an assortment of areas and levels. These multiple data sources allowed for triangulation.

Secondly, every effort was taken to build the trustworthiness of the research. It was critical that the credibility of the researcher and the research methods be created in the mind of the reader. This was accomplished by following Lin’s (1999) recommendations. Follow on questions to clarify points with participants were used. Data checks were conducted with those interviewed. Lastly, actual quotations were used in the development of implications. The follow up with participants was a key element to this study. Every participant was asked at the end of interview if it was acceptable to be contacted with any follow up questions. Every participant agreed it would be acceptable. Several of the participants were contacted with follow up questions after the initial interview. These second contacts were critical in clarifying and expanding issues from the first interview.

Every attempt to mitigate the bias of the researcher was made. It is important for researchers of a qualitative study to examine themselves, to be aware of their role, in

order to avoid “going native” (Plochg & Zwieten, 2002, p. 10). Malterud (2001) cautioned that the researcher should be open and transparent on background, and experience to avoid the perception of bias. However in this environment, the research was not so open. Some professionals working in the transformational initiative field feel very strongly about specific methodologies and philosophies. Some will claim that Six Sigma is the best method, while others will fervently argue that Lean methodology is superior. This raised the possibility of neutrality becoming an issue during the course of the interviews. Patton (2002, p. 365) defines neutrality as meaning “...that the person being interviewed can tell me anything without engendering either my favor or disfavor with regard to the content of her or his response.” If a participant knew of the researcher’s background, especially the position with General Electric, a company renowned for its use of Six Sigma, it could prejudice the interview. The interview could get sidetracked with side discussions about the pros and cons of various methods. Or the participants might embellish their stories to showcase their preferred method. To avoid violating neutrality, two steps were taken. First, the researcher’s background was not discussed upfront. This was to avoid imparting any misconceptions. Second, during the requests for the interview, and during the interview itself, specific methods were mentioned as little as possible. Instead, generic terminology, such as process improvement methods or operational excellence tools, was used. It was also stressed that the researcher was looking for stories, on specific projects, not discussions of overall programs. Violating neutrality was not a factor during the data collection process.

### *Data Analysis*

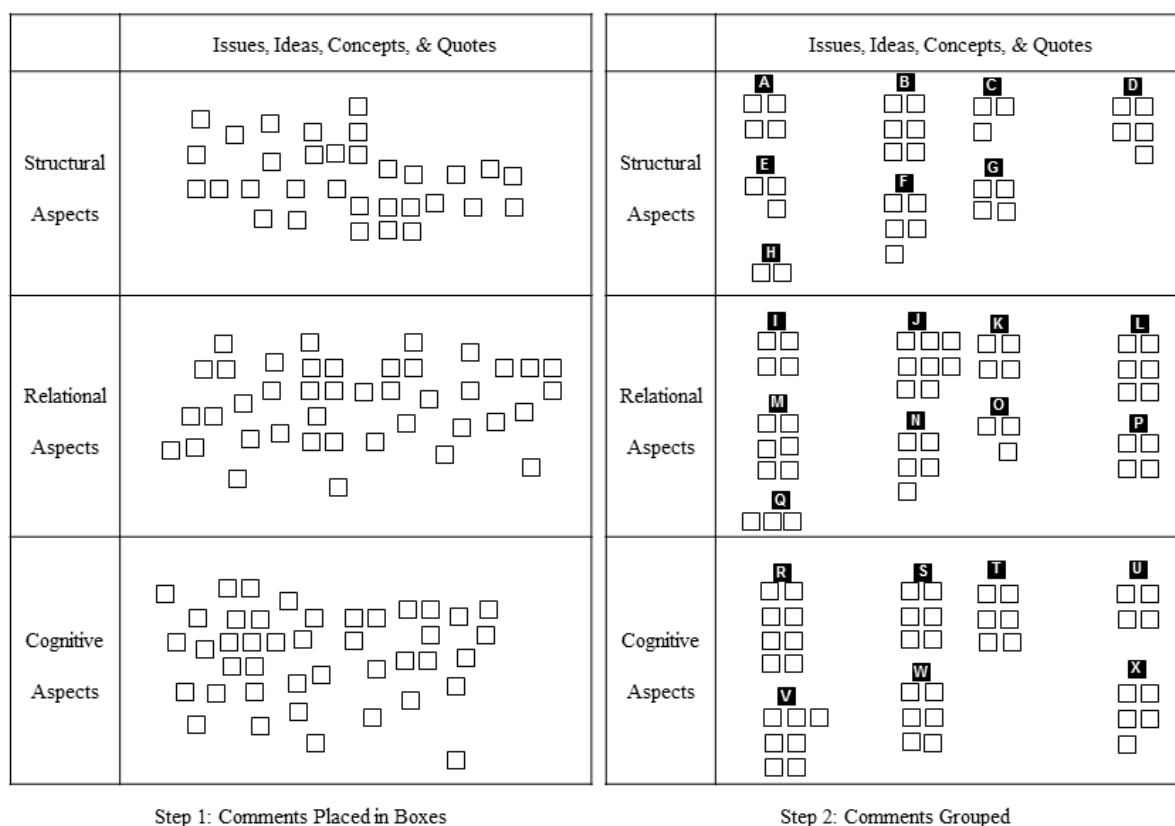
Bogdan and Biklen (1998) define data analysis as a process of systematically searching and organizing the interview transcripts and other accumulated materials in order to increase understanding. This will enable the researcher to present what has been discovered to others. To achieve this, a coding process was utilized on the data gathered from interviews as prescribed by Miles and Huberman (1994). It was planned to start analysis by constructing an initial framework with which to code and group the data. The information from the interviews was categorized along the lines of the three elements of social capital: structural, relational, and cognitive.

Originally, the interview data were to be affinitized by positive or negative inference. But as the interviews were transcribed, key concepts and quotes broken out, and the coding begun, it was quickly realized that there were no clear-cut positive or negative connotations. As such, the affinitization plan changed and ideas were grouped along the lines of structure, relation, and cognition. Issues for each of the three elements were identified from the discussion in Nahapiet and Ghoshal's work (Nahapiet & Ghoshal, 1998). This categorization of issues provided initial guidance for the affinitization exercise. Table 5 illustrates the framework used to begin the grouping of the key ideas from the interview.

	<b>Issues to Include</b>
<b>Structural Aspects</b>	<ul style="list-style-type: none"> <li>• Impersonal configuration of linkages between people or units</li> <li>• Hierarchy and appropriable organization</li> <li>• Social system &amp; network of relations as a whole <ul style="list-style-type: none"> <li>○ Who you reach</li> <li>○ How you reach them</li> </ul> </li> </ul>
<b>Relational Aspects</b>	<ul style="list-style-type: none"> <li>• Personal relationships developed via history of interactions <ul style="list-style-type: none"> <li>○ Respect</li> <li>○ Friendship</li> <li>○ Sociability</li> <li>○ Approval</li> <li>○ Prestige</li> </ul> </li> </ul>
<b>Cognitive Aspects</b>	<ul style="list-style-type: none"> <li>• Intellectual capital</li> <li>• Resources providing shared: <ul style="list-style-type: none"> <li>○ Narratives</li> <li>○ Representations</li> <li>○ Interpretations</li> <li>○ Systems Of Meaning</li> </ul> </li> </ul>

**Table 5: Initial Affinitization Framework**

Starting with an initial framework shown in Table 5, the first step entailed taking the major points from the transcripts and putting them in similar groups within the pre-specified areas. These groupings provided the basis for the thematic coding for the qualitative data derived from the interviews. This process is illustrated in Figure 8.



**Figure 8: Affinitization example.**

The data analysis began by breaking the data apart. The data was then reassembled in a more meaningful manner within the context of the theoretical framework. Text and graphics were then used to illustrate the issues, along with researcher's deductions, in a descriptive fashion. This allows the readers to add the findings to their own body of knowledge, permitting them to add to their perspective and generalization. The data analysis approach used for this study included the following steps:

1. Review audio with notes
2. Review transcriptions
3. Affinity exercise
4. Expanding the affinity groupings



*Review Audio with Notes*

A short time after the interview, the audio recording was reviewed along with the notes taken during the original interview. This review usually occurred a day or two after the interview, which allowed for the information to be assimilated, yet still be fresh in the memory. Reviewing the audio with the notes allowed the researcher to confirm the initial notes taken. The review also allowed for additional notes to be made on anything that was missed, or any points that needed clarification. This review also allowed initial considerations regarding analysis to be captured in the research journal. These thoughts became more cohesive as more interviews were completed, with many of them becoming the seeds of the finding of this study.

*Review Transcriptions*

After the interviews were transcribed, a week or more after the interview, they were reviewed. This allowed for immersion into the material. The written word, along with the notes and audio, provided new viewpoints. It was during this review that the seeds of the findings germinated from the new perspectives. For example, after noting several references during several interviews, it became apparent that an organization's current social capital structure had a bearing on how transformational initiatives were executed. No one participant specifically stated, "Our structure hindered the deployment of our improvement program." Instead, it was the compilation of stories about various companies' bureaucracy, the existing social networks, and related comments that spawned the notion that there was likely a grouping around this idea. The review of the transcripts provided a solid foundation for the affinity exercise.

### *Affinity Exercise*

The researcher considered utilizing commercial qualitative data analysis software. Programs such as NVivo<sup>®</sup> and ATLAS.ti<sup>®</sup> were evaluated and trial versions tested. While offering many impressive features and functions, the researcher did not feel the tools were necessarily the best fit for this study. Instead, there was a desire to be more hands-on with the interview data.

There was a fair amount of preparation for the affinity exercise. Key quotes and ideas from the transcripts were transcribed onto sticky notes, along with various ideas and comments from the interview notes and the research journal. Large sheets of paper were hung on the walls and the sticky notes attached. Then, as described in the first section of data analysis, the notes were grouped. The groups came together relatively quickly because of two factors. First, the arrangement of having preset areas for structure, relation, and cognition helped with the initial placement of the notes. Second, the multiple reviews conducted on the interview data provided the researcher with detailed knowledge of the data and facilitated the grouping.

### *Expanding the Affinity Groupings*

The groupings from the affinity exercise were reviewed and cross referenced. Ideas, concepts, and quotes from the interviews were reviewed, along with notes for each group. Time notations on the notes were used to go back to the interviews and review the content to ensure the ideas were being seen in the proper context. This led to additional content, as the material around the specified portion of the interview often contained more insight and information. Interview data often did not fit neatly into one specific group. Some ideas spanned several groups or elements; they were included in both.

These were cross referenced to ensure they did indeed belong in both groups. This action also helped set the order for their presentation. For example, some ideas brought forth the notion that current structures hindered social capital engagement. Other notes grouped to create the impression that current structures facilitated social capital engagement. There were several notes that spanned both these groups. Upon reflection, it seemed logical that these two groups be presented one after the other in chapter four. By the time the expansion and cross referencing of the interview material was completed, the analysis was firmly in place.

### *Summary*

A qualitative interpretivist study was determined to be the best approach to address the research question. A data collection plan was developed that used purposeful sampling to target individuals who have participated in their companies' transformational initiatives. A structured guide was used to interview qualified participants. The data collected from twenty-one participants was thematically grouped using an affinity exercise. Chapter Four will present the findings developed from the themes. Chapter Five discusses the implications inferred from the findings.

## Chapter Four: Findings

### *Introduction*

This interpretivist study sought to gain participant perspective on the following research question:

How does individual participation in a transformational initiative influence their engagement in their organization's social capital?

At the start of the study, expectations were that participants would relate stories of how they received training and participated in an event. They would then tell of how their world changed, or did not change. It was thought that the stories of the participants would indicate a fairly straightforward, almost linear cause and effect relationship between transformational initiatives and social capital. Instead, the picture that developed from the accounts of the participants was far richer and more complex than imagined. While there were many straightforward stories, there were some that brought forth issues not imagined at the start of this study. Lastly, there were findings brought forth by participants that were outside of the scope of the research question. These issues were, however, notable and could be the basis for future research. This chapter presents the participants, the thematic analysis of their critical incident reports, and the relation the analysis has to the research question.

### *Sample Data Description*

The interviews ranged in length from twenty to ninety minutes. The length depended upon the openness and experiences of the participant, as well as side discussions around the follow-on questions. It was originally estimated the interviews would range from approximately thirty minutes to one hour.

There was variety among the twenty-one participants who successfully completed interviews. Table 6 summarizes the diversity of the participants.

<b>Participant</b>	<b>Full/Part Time</b>	<b>Company</b>	<b>Company Size</b>	<b>Industry Type</b>
Aaron	Full	1	100,000 or more	Plumbing, Heating, and Air-Conditioning Contractors
Barney	Part	2	5,000 to 9,999	Aircraft Manufacturing
Charley	Part	3	500 to 999	Industrial Gas Manufacturing
Deena	Part	2	5,000 to 9,999	Aircraft Manufacturing
Edward	Part	2	5,000 to 9,999	Aircraft Manufacturing
Fred	Part	2	2,500 to 4,999	Machine Tool (Metal Cutting Types) Manufacturing
Glenda	Part	4	Less than 20	Administrative Management and General Management Consulting
Hilda	Part	5	100 to 249	Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)
Inigo	Full	6	100,000 or more	Cellular and Other Wireless Telecommunication
John	Full	7	25,000 to 49,999	Bare Printed Circuit Board Manufacturing
Kevin	Full	8	10,000 to 24,999	Pump and Pumping Equipment Manufacturing
Liam	Part	9	5,000 to 9,999	Software Publishers
Mike	Full	10	2,500 to 4,999	All Other Converted Paper Product Manufacturing
Nicholas	Full	11	100,000 or more	All Other Specialty Trade Contractors' industry
Oscar	Part	12	100,000 or more	Surgical and Medical Instrument Manufacturing
Peter	Part	12	100,000 or more	Surgical and Medical Instrument Manufacturing
Quinn	Full	13	50,000 to 99,999	Semiconductors & Related Devices Manufacturing
Raleigh	Full	14	250 to 499	Fruits, fresh, merchant wholesalers
Satchel	Full	15	2,500 to 4,999	Storage Battery Manufacturing
Terri	Part	16	20 to 99	Management Training
Ulysses	Part	12	100,000 or more	Surgical and Medical Instrument Manufacturing

**Table 6: Summary of Participants**

Table 6 lists the twenty-one participants who provided valid interviews. Those who provided test interviews and the two whose interviews did not provide cohesive critical incidents were not included. The participants were not listed in any particular order. Each participant was referred to by a pseudonym for anonymity. The companies were assigned numbers to conceal their identities. Nine of the participants were employees whose full-time job was dedicated to transformational initiatives. The other twelve were employees who worked on transformation only on a part-time basis. All twenty-one interviewed had been trained and participated in an event. The participants came from sixteen different companies. Of those participants who worked in the same companies, all were in different departments. The largest group within a single company was four participants. Of these four, one gave information from a company he had worked at previously. Another company had three participants. All other participants were with separate companies. While there are various metrics to classify company size, such as total revenue or market share, the size in terms of the total number of employees seemed to be best suited for this study. The United States Census Bureau (Commerce, 2013) has developed a classification of companies by number of employees, and those bands provided the breakouts listed in the size column. The participants were with companies ranging in size from 12 employees to a company with approximately 305,000 employees. The largest company had three participants. These three came from the same business unit of approximately 46,000 employees.

The companies produce a wide array of goods and services. The short descriptions of industry types in the last column of Table 6 come from the North American Industry Classification System (NAICS). The descriptions were developed by the United States

Census Bureau (United States Department of Commerce, 2013). The companies range from small consulting firms to giant manufacturing conglomerates. The diversity of the participants, as seen in their different positions, industries, companies, experience, and education, provided an excellent data set.

### *Sample Overview*

The critical incidents of the transformation projects related by the participants were diverse. Participants' companies had different primary methodologies designated for their programs. The companies' programs were at different levels of maturity. The projects had variation of actual method and the level of complexity. The actual method used in a project sometimes varied from the primary method designated for the program. Several programs espoused Lean Six Sigma, but the project was either Lean or Six Sigma. In another instance, the program had Lean Six Sigma designated as the primary method, but the project related by the participant was a design project. The method used was Design for Six Sigma, a variant of Six Sigma. The participants related incidents of projects that were successful, as well as some that did not meet their desired level of results. The differences in the projects were captured in the following table. Table 7 summarizes the participants, their company, the primary method used in their transformation initiative, and the maturity of the overall program.

<b>Participant</b>	<b>Company</b>	<b>Primary Methodology</b>	<b>Program Maturity</b>
Aaron	1	Lean, Kepner-Tregoe	Mature
Barney	2	Six Sigma	Mature
Charley	3	Lean	New
Deena	2	Six Sigma & Lean	Mature
Edward	2	Six Sigma	New
Fred	2	Six Sigma	Mature
Glenda	4	Lean	New
Hilda	5	Lean	Intermediate
Inigo	6	Lean	Mature
John	7	Lean Six Sigma	Intermediate
Kevin	8	Lean Six Sigma	Mature
Liam	9	Lean Start Up	New
Mike	10	Lean-Six Sigma	Intermediate
Nicholas	11	TQM/BPR	New
Oscar	12	Lean Six Sigma	Mature
Peter	12	Lean Six Sigma	Mature
Quinn	13	Lean Six Sigma	Mature
Raleigh	14	Lean	New
Satchel	15	Lean	Mature
Terri	16	Agile	New
Ulysses	12	Lean Six Sigma	Mature

**Table 7: Methods and Maturity**

There is no definitive, industry-wide scale to measure maturity levels of transformational initiatives. The following levels are loose guides created for this study to give an approximation of the programs' development:

- **Mature:** The program is well established in the culture of the company. It is recognized as a valuable program both internally and externally to the company. The company has a well-developed infrastructure to support the program. The behavior of employees reflects their desire to continually improve the company.



- Intermediate: A point between new and mature. The program is becoming established in the company. Enough people are becoming certified to make the program self-sustaining; the company has enough expertise to drive the program forward without external consultants or constant championing by leadership. The infrastructure has begun to take root, but still may have some way to go before becoming firmly entrenched.
- New: The program has not been active for very long. Few people are certified or have any level of expertise. The program has not yet fully demonstrated its value to the company. The infrastructure is still being developed.

The summary of the participants' projects including the method used, the level of the project, and whether it was successful is shown in Table 8:

<b>Participant</b>	<b>Project Methodology</b>	<b>Project Level</b>	<b>Successful?</b>
Aaron	Lean	Mid-Level	Yes
Barney	Six Sigma	Mid-Level	No
Charley	Lean	Mid-Level	No
Deena	Lean	Floor Level	Yes
Edward	Lean	Mid-Level	Yes
Fred	Lean	Mid-Level	Yes
Glenda	Lean	Floor Level	Yes
Hilda	Lean	Floor Level	Yes
Inigo	Lean	Mid-Level	Yes
John	Lean Six Sigma	Mid-Level	No
Kevin	Lean Six Sigma	Mid-Level	Yes
Liam	Lean Start Up	Enterprise	Yes
Mike	Six Sigma	Mid-Level	Yes
Nicholas	TQM/BPR	Enterprise	Yes
Oscar	Design for Six Sigma	Mid-Level	No
Peter	Six Sigma	Mid-Level	No
Quinn	Lean Six Sigma	Mid-Level	Yes
Raleigh	Lean	Enterprise	Yes
Satchel	Lean	Enterprise	Yes
Terri	Agile	Enterprise	Yes
Ulysses	Lean Six Sigma	Mid-Level	Yes

**Table 8: Summary of Projects**

There is no standard metric of project levels, so definitions were created for this study. The purpose is to give an idea of the scope and complexity of the projects described by the participants. These levels include:

- Enterprise: A project that impacts the entire company. These projects tend to involve senior leadership and to be complex.
- Mid-Level: A project that involves several areas within a company. These projects range from relatively simple, straightforward projects to more complex ones. Typically, the teams that worked these projects had a mix of

personnel from lower level to middle managers, often with a senior leader as a sponsor or champion.

- **Shop Floor:** Borrowing a term from manufacturing, shop floor level implies the project dealt with a specific area or process. These projects range from simple to complex, and often have a facilitator leading a team of employees who work on the specific process being addressed.

### *Findings*

Interpretive researchers attempt to understand phenomena by appraising the participants' meanings (Orlikowski & Baroudi, 1991). The steps to achieve this were outlined in chapter three; data is collected and inductively analyzed for themes. This chapter presents a descriptive account of the findings, grounded in a literature framework. A discussion of these findings will occur in chapter five. Thematic coding of the interview data occurred within a structured affinity exercise. The three elements used to construct social capital—structure, relation and cognition—provided starting points for the creation of the themes. There were also topics brought forth by the participants that spanned two or more of the elements. This chapter will present the findings derived from the analysis of the data.

### *Structural Element*

#### *Theme: Influence on Structural Element*

*“It was like a giant game of pick-up basketball. The temps lined up against the wall and the supervisors saying, ‘I’ll take him...I’ll take him...’”*

Many of the participants' critical incidents had aspects related to the structural elements of social capital. Structure is the organizational hierarchy and formal assembly of the company. The issues from the critical incident reports related to the structural

element broke out into two areas. First was the overall organizational structural dimension; how the company was divided into formal areas and how individuals interacted among them. Many participants made reference to silos, a common slang term denoting compartmentalized areas that are self-contained and discourage contact with others. The second area was how assigned roles and responsibilities influenced engagement.

### *Working Among the Silos*

Many participants told of individuals working outside of their areas as a result of participating in a transformation event. Deena told of her project and how she accepted it, even though it was outside of her area. She knew if the other area improved, the work in her area would get better. That was exactly what happened; after the project was successfully completed, defects in her area decreased.

Similarly, Terri told how her company's chosen transformation method drove employees to different structural interaction. The company was implementing a method known as Agile. Primarily a technique used in software development, it changes the typical linear product development process. Instead of following a prescribed sequence, Agile has the teams pull together earlier in the development cycle. This means team members who did not normally interact on a regular basis now had to work together. According to Terri, this change brought new perspective to product development, helping them to avoid problems and, she felt, building a stronger team. Hilda told of how an employee from one area came to observe another area's improvement event. While watching, he saw waste in the process that was not being addressed and began to engage in the event. His participation helped to eliminate the waste he identified. Ulysses

mentioned that during an event to improve a healthcare clinic, the biggest contributor was a delivery driver. Originally invited to provide the team with a customer input, he became the one to question everything. “They’d be looking at an immunization process and this driver would pipe up asking ‘Why are you doing it that way?’ He asked why on everything. It really challenged the team’s thinking and led to some huge changes,” according to Ulysses. These were examples of individuals who did cross functional work successfully. It was not so easy for others to transcend the silos.

Inigo told of a project for a large telecommunications company. The company had electronic boxes, basically computer servers, housed in large metal sheds out in the field. There were indications that some of these servers were underutilized. They were not being used, but were consuming a lot of electricity. As part of a transformation initiative, a study was done to determine which servers could be retrieved without diminishing customer service. It was determined that eliminating those servers would mean significant savings for the company on electricity, a sum greater than the cost to retrieve the equipment. “It was a no brainer to anyone who looked at it,” said Inigo as he related the story. The trouble was that there were two groups involved and they operated in silos. The Utilities Group oversaw the servers, and paid the electric bill. The Utilities Group would receive the savings benefit. It was the Services Group, however, that would have to pay to retrieve the servers. They were not budgeted for the work, nor would they receive any savings to pay for the costs. The improvement project had a cross functional team with representation from both groups. Despite this, the two could not agree on transferring funds. Inigo told about how the issue had to go all the way to senior leaders

of the company to resolve the issue and have the Utilities Group share the savings with the Services Group to offset removal costs.

John discussed a similar situation, not only across departments, but across continents. Individuals working in a cross functional team had troubles resolving difficulties between divisions located in the United States and China. While John felt there might have been some cultural issues, the root cause of the difficulties came from a lack of agreement on inventory standards and methods. In this situation, the individuals representing both areas could not reconcile their differences, and the project never reached its full potential. Unfortunately, this type of dysfunction between areas was not uncommon in the critical incident reports of the participants. Such dysfunction appears to have prevented individuals working across various functions, hindering the transformation initiative.

### *Roles & Responsibilities*

Besides the silos, there were incidents that related how formally assigned roles were impacted by transformational initiatives. Raleigh had an enlightening story. His company used a lot of temporary workers. Each morning, as the workers filed in, the supervisors would gather around to assemble their work teams. Raleigh said, “It was like a giant game of pick-up basketball.” Supervisors would pick people based either on past experience, or on who looked most fit to work. The workers had to deal with a new learning curve each day, which impacted productivity. It was denigrating to the temporary workers and did not build any permanency regarding their roles or responsibilities. While this story was an extreme example of problems caused by badly structured work environments, several study participants also discussed this theme of

assigned roles. Participants mentioned how process maps created during transformation events helped to define employees' roles and responsibilities. When clearer explanations were given of what the workers were to do, it provided them a framework, and also a foundation for the structural element of the organization's social capital.

There were times when critical incident reports blurred the lines between issues of individual roles and the ability to work across areas, as in Nicholas' account of his organization's highly bureaucratic structure. When senior leadership used Business Process Reengineering to execute fundamental changes to the organization's vision, several leaders left. People who were unable to work across the span of the organization were no longer of value in light of the new vision. This was a case of structural change and the impact it had on roles.

#### *Relation to the Research Question*

This theme illustrated a direct relationship between the implementation of transformational initiatives and changes in structural elements of social capital. Interview data provided instances of change in both company structure and of individuals working outside of their assigned roles. Such actions showed an influence upon the individuals' engagement to social capital.

There were examples of how transformational initiatives helped create a change in the structure of the company, whether it was Nicholas' example of a complete revision of the company's mission, or Terri's case of how a new methodology drove new team structure. Changes such as these in the structure impacted multiple aspects of the company's social capital: formal reporting, team dynamics, information flow, and decision making processes. Transformational initiatives changed the very foundation on

which the company's social capital was built, which led to a tremendous impact upon the individuals' engagement.

There were also reports of how transformational initiative projects provided an impetus for employees working outside of their formally assigned roles. An example was how Deena extended herself, engaging in a project outside of her work area. This was an opportunity that would not have presented itself without the company's transformation initiative. Ulysses told of how the biggest contributor to a health clinic reform project was a truck driver who was attending to provide a customer's viewpoint. It was something that would not have occurred without the use of the transformational initiative method and tools. By enabling individuals to work outside of their assigned structured areas, their engagement in their organization's social capital increased.

*Theme: Organizational Structures: Hinder*

*"At one center I had three unions. It took forever to get any changes through."*

Several participants mentioned that the structure of the organization sometimes hindered engagement. A common complaint heard was about bureaucracy, especially in larger, complex, older, and more established companies. These tended to have narrowly defined roles, or strict guidelines, that stifled employees' ability to act.

*Hindering Structures*

Aaron and Satchel told of a Human Resources Department that limited movement of personnel, even when it was beneficial to the company to reassign them. Peter echoed their frustration as he told of his project. Peter was trying to assemble a cross functional team, but was stymied repeatedly by various departmental managers insisting they could



not allow their employees to be on such a project. The company was not set up to easily allow for cross functional teams. Other organizational structural entities outside of management also had a bearing. Aaron and Inigo both talked about unions. Aaron mentioned that unions made structural changes on the shop floor difficult. The unions were unwilling to change, it was believed, because they feared losing jobs. Even when told the project would improve operations, and be better for the company, the unions balked. Inigo's concern was with his company's call center operations. The company had several centers, each employing hundreds of people and handling thousands of calls a day. The centers, however, were never standardized. Each operated differently. This caused issues with training, metrics, and personnel. A transformational initiative project highlighted the benefits of having all call centers operating to the same set of standards. Problems arose when trying to implement the standards. Inigo lamented, "At one center I had three unions. It took forever to get any changes through." Structural elements were hindering the transformation initiative.

### *Leadership & Structure*

One important issue that emerged is that the leaders of a company are likely to be the champions of the current organizational structure, since they are the ones who have put it into place. During an interview Liam said, "Organizational structures are like buildings. You can put in doors, knock down walls and do all sorts of stuff. But you've got to have the people willing to do it. Some do not like tearing up stuff they built." Oscar was faced with a department that had been assembled in a very haphazard manner. The current processes were a "hodge-podge of methods" that were not formalized nor standardized. Oscar led a team on a yearlong project to rectify that situation. They

gathered voice-of-customer and benchmarked best practices. Oscar formed a team with representation from a variety of areas, and the team developed a comprehensive proposal. Unfortunately, there was not sufficient leadership support to implement the actions from the proposal and drive change. The leadership supported the status quo structure. Charley also spoke to the issue of leadership. During his project, the team identified a supervisor as a hindrance to change. The supervisor was not buying into the transformational initiative and so impeded it. This furthered his reputation as hindrance. The company leadership did not take action to alter the structure, and so at the expense of the transformation initiative, they kept the supervisor in place.

#### *Relation to the Research Question*

The critical incident data cited above included situations where organizational structures hindered engagement in social capital. The following section reviews critical incidents that showcase the opposite: how organizational structures facilitated social capital. These two are intertwined. With that in mind, the influence they have upon the research question will be discussed at the end of the next section. This way, the hindrance, and the facilitation, can be discussed together.

#### *Theme: Organizational Structures: Facilitate*

*“If I put the effort in, I get the results out.”*

While some reports related how structures hinder transformational initiatives, others illustrated how an organization’s structure can facilitate change. There were instances of flexible structures and adjustable leaders. There was also a participant who told of a highly organized construct deployed across a global company. While highly

structured, it was built with the idea of transformational initiatives in mind, and so facilitated change. In these instances, participants told of management's ability to implement change.

### *Flexible Structures*

Some participants told of organizations with flexible structures. Most of these flexible structures happened to evolve over time to their current state. Quinn said, "It's amazing we get anything done. The company is not top down on anything. Nothing. It's like this massive group of entrepreneurs." But she went on to explain how it all seemed to work despite that. The entrepreneurial spirit within the massive organization drove departments, leaders, and individuals to constantly challenge themselves to improve the company. The company had the flexibility to pursue improvement projects. This structural flexibility was not common in the participants' stories. Many told of organizations implementing policies trying to promote transformational initiatives. A successful story of such a policy came from Inigo. During his discussion of driving change at his call centers, he told of how each center was doing processes differently, and of the challenges faced when trying to standardize operations, both from unions and from leaders. The solution was the development of a standard operations model for management. This model was a guide; it provided a framework that the centers could then build around as necessary. It provided both structure and flexibility, with the end goal of promoting transformation. This model proved quite successful. Inigo stated that anywhere the model was implemented, there was at least a 10% improvement in key performance indicators, with some reaching 40% improvement. It provided an environment where workers could say, "If I put the effort into it, I get the results out."

*Providing Resources for Structure*

As noted, participants stated leaders were a key to any structural change. Several participants told of how their company's leadership provided resources to support transformational initiatives. Ulysses had worked at a conglomerate noted for its implementation of a transformational initiative, and he stated how the well-known Chief Executive Officer (CEO) supported the program at every level and promoted it every time he spoke. Two participants, Aaron and Kevin, told of how their different companies not only have Continuous Process Improvement managers at locations to facilitate improvement events, but also Change Managers to help drive the execution of the actions coming from events and to promote the overall transformational initiatives. Participants Inigo, Oscar, Peter, and Satchel all mentioned their companies' extensive certification program that included personnel dedicated to the transformation initiative. However, it was not only personnel. The same participants mentioned the training programs involved, which implied the companies' commitment in time and money. Hilda talked of how one company she worked for demonstrated its commitment by flying personnel from different plants to participate in improvement events. This not only provided additional manpower for projects, but also helped disseminate the transformational initiative throughout the global company. Similarly, John spoke of the expense of having people travel from the United States to China to work on transformation events. This was an expense sponsored by senior leadership and was widely seen as an indication of its support of the initiative. Supportive leadership was seen as vital by all of the participants.

### *Notable Cases*

There were two notable incidents told by participants related to leadership. Hilda, working in a manufacturing company, did not have an engineer degree nor operations background. Instead, she was a leader in the Human Resources department and had been her entire career. Yet Hilda told of how she has been a proponent of transformational initiatives since the 1980s. Ever since then, Hilda has been advocating transformation for improvement: bringing in external consultants to help drive change, promoting events, and engaging with all departments. Hilda has been a one-woman promoter of transformation for close to 30 years.

The second notable case on leadership dealt with the total restructuring of a company. Complete restructuring was rarely witnessed by the participants in this study, so Raleigh's critical incident is notable. Raleigh was originally a consultant for a company looking to transform. The company was rapidly expanding, and overtime costs were skyrocketing. Consequently, employee morale was plummeting. Raleigh went into the company as a consultant, conducted his research, completed his analysis, and presented his recommendations. Raleigh had recommended a radical new work schedule for the entire work force. The company's leadership scoffed at the idea and ignored it. Over a year later, the problems still existed and were growing worse. The company's owners decided to create what Kotter (1996) called a "burning platform" to drive drastic change. The owners replaced almost all of the company leadership with new managers. Raleigh was asked to come back and ultimately joined the company. The new leadership team revisited Raleigh's original ideas and began to implement them, resulting in

successful change. This incident was noteworthy due to the radical actions taken by the owners.

### *Rigid Structures*

Some of the participants related how their leaders built very rigid structures, and yet they were designed to promote and facilitate transformational initiatives. Fred told of how his company had defined pre-work and formal procedures for conducting improvement events. The company had a very organized approach to its transformation initiative. The formal structure did not hinder the initiative, instead it facilitated it. Employees knew what to expect and support was in place. A remarkable report of how a seemingly bureaucratic structure can support transformation came from Kevin. His company is a large global conglomerate. Yet there was a detailed structure supporting all their plants. Kevin told of how he could walk into a factory in the United States, China, Russia, or anywhere in Europe and see the same metrics. Standardized visual aids were posted in all of the plants with all the same metrics. This allowed for quick identification of problem areas and potential improvement projects, and also supported the company's strategy of transformational initiative deployment. They had teams of experts who travelled to the plants, reviewed the metrics, and then led improvement projects. Personnel at the plant level were not expected to be transformation experts, so could focus on their daily tasks. They were, however, expected to participate in improvement events. Every plant had established goals of monthly improvement events. The plants also had specific improvement goals for savings, quality, and efficiency. Kevin stressed that people were held accountable for these goals; if they were not met, people were

fired. The structure, while complex, was run very well. It was built to drive continuous transformation.

*Relation to the Research Question: Both Hinder & Facilitate*

The participants' critical incidents included many facets of organizational structure; it emerged as a theme in the analysis. The organization's structure impacted how the transformational initiative was implemented, how people were positioned to engage, and what people were allowed to do. Organizational structures influenced individual engagement by partially dictating how they could engage. If a company's Human Resources Department did not allow for employees to be on a project team, engagement was hindered. If the company had the structure and commitment to support a transformation initiative, engagement was facilitated.

There were four main sub-themes within organizational structure that were developed from the participants' critical incident reports. These included: leadership, resources, roles and responsibilities, and lack of roles and responsibilities. From the participants' interviews, these four areas both hindered, and facilitated, individual engagement in social capital.

Leadership of the company set the structure which drove the transformation initiative. Leadership was a strategic issue in participants' critical incident reports. Satchel said it best, that good leadership was critical; it provided the support for any program. Kevin told of a company culture with a high degree of accountability to which leaders held individuals in his company. At a tactical level, leadership played a role in participants' experiences as well. Raleigh told of a project killed by plant leadership, only to have company owners reverse the decision. Inigo related how two departments

could not come to terms to complete a project, so senior leadership had to resolve the issue. Leaders set the foundation, create the vision, and execute the mission. All of these actions ultimately impacted the participants' ability to engage in their organization's social capital. The leadership of a company also was a factor in other areas of the organization's structures.

Labor resources and finances were factors mentioned by participants. These were controlled by leadership, and made up part of the organizational structure. There were several reports of positive resource commitment. Aaron told of having both a change manager and a process improvement manager. Hilda declared how her company would fly people around the world to work transformation projects. John's company was increasing training. For the participants, when a company has dedicated staff to support and was willing to spend money, it showed its commitment to a transformation initiative. Participants who spoke of a committed company conveyed the willingness to get involved in the initiative. Participants reported that companies that provided resources demonstrated commitment, encouraged empowerment, and provided opportunities.

Strictly defined roles and responsibilities both helped and hindered the participants' engagement into social capital. This theme first came to light as Inigo told of the issues he had at a call center with three different unions, making it very difficult for him to make changes. Barney also mentioned the difficulties posed by unions. Aaron and Satchel talked of highly bureaucratic corporate structures that stifled change. Whether it was hindrance from a union or a company, highly bureaucratic structures kept people from fully participating in transformational initiatives, thereby keeping them from engaging in the organization's social capital. Conversely, other participants told of well-



defined roles and responsibilities promoting transformational initiatives. Fred told how his company had detailed guidelines for running a project, along with standard expectations for individuals to participate. Kevin outlined his company's lack of green and black belt certification, but how the defined roles and responsibilities set the expectations that everyone would be involved in transformation projects. Liam, Peter, and Ulysses all mentioned their company's demand that everyone be green belt certified. Employees who wanted to earn a promotion, had to first earn a black belt. These were examples of how a company can either mandate, or encourage, employees to participate in a transformation initiative. Either way, the result was participation in the initiative, which then led to the participants engaging in their organization's social capital.

Poorly defined roles and responsibilities were also reported by participants. Quinn's project stemmed from her company's lack of structure surrounding older plants. Her quote, "You're making older stuff, just try not to break it" summarized the issue she was faced with. With no supporting structure, there was not any focus provided on the older plants... for 15 years. This changed when Quinn's team took it upon themselves to offer their services and follow up with the older plants. The success spawned imitation throughout the company. Charley told of a supervisor identified as an obstruction to a transformation initiative. With nothing in place to outline the expectations of employees, the problem supervisor remained on the job. Peter needed a cross functional team for his project, but there was no structure in place to allow for it. The lack of roles and responsibilities both hindered and helped transformational initiatives in the participants' report. Most participants who had discussed this issue talked of hindrance. The lack of roles and responsibilities meant lost opportunities, which resulted in no engagement in

social capital. A few participants used the lack of roles and responsibilities as an opportunity to exercise their initiative and promote transformation. This then led to engagement in social capital.

### *Cognitive Element*

#### *Theme: Improve Cognitive Element*

*“Those in the trenches were not aware of the work instructions. They’re not even sure what their specific task is.”*

The above is a quote from John, expressing his dismay at the lack of awareness of the workers. John went on, “So that came up as an action item [from the event]. Something needed to be done.” He explained how the company was investing in training, resources, and management emphasis. John’s comments echoed the sentiments of Frederick Taylor (1911), who at the turn of the century was the first to advocate that workers needed clearer definitions of work, and that it was management’s responsibility to provide the definitions. This topic was also discussed by fellow participants in this study. Edward told of how defects were increasing in his company’s product. When investigated, it was because workers were not following, or did not have, the proper training. Edward further stated the people and roles were constantly changing, which exacerbated the situation. Liam talked of similar issues, not just about changing personnel and roles, but also of changing products. As new products became more complex, there was an impact upon employees. They had greater needs, not only for more training, but also to know what their roles should be, which then led to questions regarding the direction of their careers. Liam’s company turned to a newer

transformational initiative method, Lean Start Up, specifically to address these questions. Other participants used other tools and methods.

The most common tools mentioned by participants in the cognitive area were those of standard work and process maps. Participants Aaron, Deena, Edward, Fred, Hilda, Mike, Oscar, Peter and Satchel all specifically mentioned standard work or process maps as they related to training employees. Process maps are graphic representations of what actions, in what order, are needed to complete a process. Standard work is documented requirements detailing how a process should be done. Deena talked about how process maps aided with her company's ability to train, especially new employees: "As turnover occurred, the process map helped new folks get up to speed." Deena also mentioned that as they developed standard work, it really helped to define roles throughout the company. The standard work documents then helped to communicate the standards to everyone. Mike outlined how his company was using Six Sigma methodology to decrease defects and improve their testing processes. Action items coming out of Mike's events included the need to develop standard work. These standards allowed for the sharing of cognitive information, which greatly assisted in the transfer of manufacturing operations from one country to another. Aaron was perhaps the biggest proponent of standard work and process maps. As he worked to improve customer service at one of his centers, he realized the need for standard work. Expectations had to be established for everyone, and everyone had to know what they were. Workers then had to be supported so they could meet the criteria set for them. He led his teams to this by working with them to develop standard work, and the supporting process maps. Aaron noted that "Process maps helped define what roles and functions should be. This helped us identify what training was

needed in what roles.” Demonstrating his commitment to this, he paid to bring in an external consultant, as he felt his internal resources were not sufficient in this area, and he wanted to ensure it was done properly. Other participants also found process maps and standard work to be valuable tools that assist the development and delivery of training.

Besides training, the flow of information was another issue in the cognitive element. Aaron, in his quest to develop standard work, had the team develop a future state process map. A future state process map illustrates what the team believes to be the optimal process that could be developed in the short term. It provides a goal for the future, and standard work can be developed around it to help guide the team to that goal. Aaron mentioned that his team’s future state changed the flow of information. They envisioned processes that provided better communication among the various teams. Participants Barney, Glenda, Peter, and Satchel all shared similar experiences of how transformational initiatives resulted in an improved flow of communications. Barney was on a team whose project discovered “...there was no idea of targets throughout the company.” Barney’s team drove the development of standard goals, starting with establishing takt times (the rate of production needed to satisfy customer demand: a basic building block for production scheduling). The team also created a communications plan so everyone was aware of the new goals. Nicholas, who related a case of using Business Process Reengineering to provide a completely new direction for an organization, stressed the importance of this issue. Nicholas pointed out that the flow of information with a transformational initiative was critical to the success of the imperative.

Improving the flow of information sometimes did more than disseminate new goals. Hilda told of holding training classes as part of her company’s transformation initiative.

The class had a mix of engineers who were on the staff, and operators who worked on the floor. Hilda shared her observation on how the training helped increase dialogue between these two groups that otherwise rarely interacted. It had a distinct impact upon the operators, as they gained a better understanding of what the engineers did. Hilda laughingly recounted how before the training the operators were always making comments such as “Those engineers don’t know how to do any real work...” The training seemed to improved awareness of each other’s responsibilities. Hilda’s critical incident illustrates how multiple social capital elements can be affected by a single action.

#### *Relation to the Research Question*

The participants’ critical incidents showed direct connection between participation in transformational initiatives and engagement in the cognitive element of social capital. There were several aspects to this theme. First is the need for training of employees to do their jobs. Second is the actions that were taken to satisfy the training need. Lastly is the change to the flow of information.

Several participants mentioned that training needs were identified during the course of transformation projects. Edward saw defects increase because operators were not trained. John told of how “those in the trenches were not aware of their work instructions.” Liam mentioned that his transformation project uncovered how the complexity of new products required improved training, especially for new employees. As training programs evolved from these transformation projects, they addressed the very definition of cognition: “of, relating to, being, or involving conscious intellectual activity (as thinking, reasoning, or remembering)” (American Heritage Dictionary, 1980, p. 259).

The training coming out of transformational initiative projects influenced individuals' participation in their organization's social capital.

It was not just the training that came out of transformational initiative projects that had an effect on their cognition. Process maps and standard work, two common tools used during transformations, were often mentioned. Deena stated that process maps helped get people up to speed, especially new employees. Mike's Six Sigma project used process maps and standard work to help the transfer of manufacturing operations from one country to another. Aaron mentioned that process maps and standard work not only helped convey specific tasks, but also helped define an individual's roles and functions. The transformational initiative drove the use of these tools, which had direct impact on employees' cognition. As this was one of the three elements comprising this study's definition of social capital, it showed a direct connection between participants' work in transformational initiative and their engagement in social capital.

Last in this theme were the changes in the flow of information. Aaron's project produced a future state that had a new flow of information among team members. Peter, Glenda, and Satchel shared similar recollections. Barney discovered that people throughout the company did not have any idea of production targets, and his project sought to correct that. Changing the way information was disseminated had a direct influence on what employees knew and when, directly influencing their cognition. Information also impacts how people interact with one another. Participants mentioned how changing the flow of information changed their team's interactions. The information changes also had a bearing on the relationship element in the research question.

*Theme: Best Practices Affect Cognitive Element*

*“There’s a fine line between ‘copy exactly’ and ‘copy stupid.’”*

When discussing the ability to transfer transformational initiative programs from one site to another, Quinn gave the above quote. A common phrase in the transformational initiative world is *cut, copy, and paste*. It is a reference to the actions one takes with a computer document to copy material from one place to another. During the interview with Quinn, she mentioned how her leadership sought to do just that: to copy a successful program from one location and merely paste it into another. She said, however, that reproducing a program’s success requires more than just taking the policies and procedures from one site and dropping them onto another. She added, “There has to be understanding of the concepts behind the tools. You have to understand the people and environment you’re developing.” In other words, you have to do it smart. The topic of transformational initiatives providing best practices whose success can be shared with others was common among the participants. They mentioned how the sharing of projects influenced leaders, encouraged fellow employees, and promoted the overall initiative.

*Leader & Team Buy In*

Participants referred to the engagement of leaders and employees in best practice sharing so frequently that it emerged as its own theme. As participants became involved in various transformational initiative projects, successes were shared. Many participants referred to them by the industry common phrase “best practice.” When a successful project was seen worthy of duplication, it was given the title of best practice and disseminated throughout the company. Some participants told of formal systems,

complete with computerized databases, created to facilitate this dissemination of information.

The fundamental reason behind the concept of best practice sharing was captured in Hilda's critical incident. She worked at a high precision, low volume manufacturing facility. Hilda's interview included the following dialog;

This is the first manufacturing plant that I've worked at where the value of the knowledge of people out on the floor hasn't been tapped into. We're a high tech company. The founder is a very intelligent scientist type guy. And so he...you know we were pretty much drove by him and he... put all his weight on the PhD physicists and degreed engineers we have here. And most of engineers have never really [performed manufacturing work on the floor] in their life. But they're writing the processes how to do it and, um, everywhere I've worked we've dug all of this change out on the floor based on the knowledge that was in the heads of the people on the floor. 'Cause who better to tell you what's working and what isn't than the people actually doing the work. And that was never utilized here. Their opinions never counted. And since we've started this Lean process and, umm, started doing a lot of training in the methodologies of the Lean and things like that, the knowledge is starting to be appreciated and the people on the floor are having a voice now. And that's probably the most powerful thing that has happened. And we're getting better results because people are able to see their ideas put into action, so they're a little bit more, umm, willing to offering up suggestions rather than waiting to be asked.



Other participants had similar situations. Edward talked of how the success of his project helped sell the expansion of the transformational initiative to leaders and fellow team members in his company. Participants Aaron, Inigo, and Satchel all made mention of fellow employees seeking additional training in the transformational initiative after participating on teams working on various events.

*Promoting the Program*

According to several participants, transformational initiative projects helped to promote the initiative itself. Edward recounted how his team's project was the first Six Sigma project the company had attempted. There was a lot of attention on the training leading up to the project, and the project itself. After it was clear the results were positive, the success of the project helped secure the launch of additional Six Sigma projects. Participants Aaron, Barney, Deena, Inigo, Quinn, Raleigh, and Satchel all mentioned successful projects that promoted the overall transformation initiative, with one participant quoting the old proverb, "Nothing succeeds like success."

The opposite also occurred. Oscar discussed his Six Sigma project, a year-long effort to drive disparate sections towards standardized work. In the end, however, leadership failed to support the change and the project failed. When asked if the project was a success, Oscar stated,

In spite of the fact that a half a dozen people had invested a year's worth of meetings... and work in it, it just kind of.... died. We got to declare success on having this great Six Sigma project. But in terms of actually making a difference, it didn't.

Being able to declare “success” on a project that was a notable failure undermines a transformation initiative’s credibility. While there will be failures, Quinn captured a great idea when she said, “You have to make the same mistakes for about a year and a half before you can implement process improvement.” She was explaining that companies have to learn more quickly from failure, which can then prime them for success.

#### *Notable Case*

Quinn provided a notable incident related to this area. She talked about the early stages of her global company’s deployment of their transformational initiative program. Quinn’s team of improvement professionals was offering their services to anyone who would pay for travel costs. A plant in Ireland that made older legacy products took them up on the offer. The plant in Ireland had long been neglected. Since it was making a legacy product, Quinn theorized the company’s position was, “It was like you’re making older stuff, just do it and just don’t break it.” After teaching a process improvement tool called Design of Experiment, Quinn noticed that an engineer from the plant attending the class was visibly upset. Afterward Quinn approached him, wondering if she had accidentally said something inappropriate or if he was having problems with the material. The engineer explained it was not her, it was the company. It was the first time in 15 years they had been taught any tools to improve their work at that plant. The participants in the class went on to apply the knowledge they acquired, and reconfigured the manufacturing process for the legacy product. This included an innovative idea surrounding the production process that had implications for the entire company.

There was a manufacturing step in all the company's products when they were coated with material, and then polished smooth. The polish used was costly and the process took considerable time. In the past, other plants had attempted to improve this process, trying different techniques to reduce the amount of polish or the time. Nothing succeeded. Yet the other plants kept at it, always focusing on the polishing step. The plant in Ireland, however, after some initial success with improvement projects, turned its attention to the issue. Analyzing the entire production line, they focused not on the polishing, but on the coating process. The Irish plant transformed the coating procedure, which reduced the amount of polishing needed. This ended up saving the plant over one million dollars a year, and was deployed throughout the company. Such success, according to Quinn, helped bolster the program.

The sharing of best practices that have come out of transformational initiatives was commonplace among the participants of this study. There were two aspects within this theme: how best practices engaged leaders and employees, and, secondly, how successful projects promote additional projects. Both these aspects had a direct bearing on the research question.

#### *Relation to the Research Question*

Obtaining the initial involvement of leaders and employees is crucial to fully engaging them. The participants told of how showcasing successful transformational initiative projects helped lead to engagement. Quinn, Hilda, and Edward all gave examples of successful projects sparking the interest of leaders. The leaders support the transformational initiative based on the successful projects. Their actions, as relayed by the reports, substantiate the influence that the projects had on the leaders' cognition.

Participants also shared reports of best practice sharing stimulating additional projects. Eight of the twenty-one participants gave examples of successful projects that helped launch additional projects or promoted the transformation initiative. Similar to improving leader cognition, the stimulation of new projects implied that others subsequently learned the value of the transformation initiative. Thus, the stories about the transformational initiative impacted the cognitive element of the organizations' social capital.

### *Relationship Element*

#### *Theme: Influence on Relations Element*

*“Asia and the U.S. were arguing before the event. The event got them talking... and having more level-headed discussions.”*

Participants' critical incident reports were often filled with examples relating to the relational element of social capital. It was common to hear of key variables such as networking, building teams, and the strengthening of bonds. The findings in this section discuss various aspects of the relational element.

#### *Getting People to Talk*

John was working with a company with facilities in Asia and the United States. Teams from the two facilities were not getting along, as can be seen from the above quote. Disagreements were on a variety of topics, but the underlying cause was a lack of experience in communicating with one another. This hampered the implementation of the company's transformation initiative. A team was working on a seemingly insignificant improvement project that was destined to have greater impact than they could have imagined. The team was working on supply chain issues that involved parts

being shipped from the United States to Asia for assembly. An apparently small problem of how the parts were shipped was uncovered. The workers in the U.S. would ship a large amount of little electronic components in a single large box. Upon receipt in Asia, the workers there would have to spend hours, sometimes days, sorting through all the small parts to properly count and inspect them. A simple fix of bundling similar parts in smaller boxes and nesting them into a larger box was implemented. According to John, this quick and simple victory helped bridge the gap between the two groups; relationships improved and communications became more level-headed. A major shift in relationships thus resulted from one small transformation project. Another success was evident in a story Barney told, of how an analyst made changes in the way he interacted with others as the result of an improvement project. According to Barney, the analyst would sit in a cubicle for the better part of the day. After participating in an improvement event, however, the analyst began getting out onto the production floor and would engage with the workers. This was not the only story of how transformational initiatives provoked direct changes in social relationships.

*Problems that would not have been Addressed*

Several participants had stories that told of problems that might never have been addressed had it not been for their company's transformation initiative. These projects resulted in employees being pulled from various work areas to serve on teams working together toward a common goal. These projects had influences upon relationships.

The critical incidents told of projects ranging from simple to very large and complex. Edward told of a simple fix on a production line that merely repositioned a piece of equipment to improve output. As simple that fix was, Edward stated it was not

something that would have been addressed if not for the transformational initiative at his company. The team would have never gathered and worked together otherwise. As discussed earlier, Inigo worked on a project for a telecommunication company to remove underutilized servers. It was a complex and difficult project that ultimately needed action by senior company officers for resolution. If it had not been for the transformation initiative, nobody would have looked across the functions and seen the need to execute the project. If it had not been for the project, the team comprised of members from various departments would not have been formed.

#### *Notable Case*

There was a notable case that showed how transformation tools were used to specifically improve relationships. Glenda was working to help improve a business consultant's operations. The consultant held regular networking dinner speeches and wanted to improve interaction among the guests. Glenda observed the networking dinner and gathered information from the participants regarding what they wanted from the gatherings. Using this data, Glenda made several recommendations. The first was to change the food and the plate size. Glenda suggested instead of big heavy dinners, to have lighter, easier to eat food. The big meal had the guests focused on the food and made it awkward to talk while eating large portions. Lighter fare, with smaller plates, shifted focus away from food, made it easier to talk, and increased interaction among guests as they went back for additional food.

Glenda also changed the schedule of the meeting. In the past, the time for networking had been the last item on the agenda. Many people would leave early rather than stay and network, which was the concern that had compelled the consultant to take

action in the first place. Glenda moved the networking time from the end of the meeting, to the time of the meal. The networking flowed more easily as people ate, and then stayed for the speaker. The meeting had the same components, but just flowed differently, and networking improved. The consultant was happy with the new arrangements, and comments from guests were positive as well. Glenda credited transformational initiatives when she said, “The only reason this was done was because we used Lean tools.” That Lean was used to improve a networking event seemed noteworthy for this study.

#### *Relation to the Research Question*

The participants provided critical incident reports directly linking participation in a transformational initiative to engagement in social capital in the relational element. John told of a project that got departments separated by the Pacific Ocean talking. Individuals were also influenced by transformational initiatives, seen in Barney’s story of how an analyst began getting out of his cubicle to interact more with others as a result of participating in a project. These were examples of changes in relationships, providing evidence that participants increased their engagement in their organization’s social capital after participating in a transformation initiative.

An interesting, and unexpected, aspect of this theme was how projects might have never happened if not for the transformation initiative. Participants related several instances of problems that might never had been addressed had it not been for their company’s program. Edward told of a simple project, but admitted it was not something that would have gotten any attention except that it was somebody’s transformational initiative project. Inigo had a similar situation but with a larger, more complex, problem

associated with significant savings for the company. The company's transformational initiative was the primary force in the start, and the end, of Inigo's project. Glenda recounted a notable incident of using transformational initiative tools to help improve networking. She mentioned how that project would not have occurred if not for her training and need to lead a project. These were examples of how transformational initiatives brought teams together, interacting on problems that otherwise would not have been addressed. These interactions had bearing on the individuals' relationships. By working together the individuals were forming new bonds or strengthening old ones.

*Theme: Sense of Community*

*"We were using the tools to address the hearts and minds of employees. Do they feel loved? Do they feel valued?"*

Several interviews turned to the issue of employees accepting the transformation initiative. A reply from Aaron could be considered a textbook answer. Aaron stated there was limited push back in accepting the program due to two reasons. First, the employees were engaged in solving the problem. Second, the problem was painful to everyone, so everyone had a stake in solving it. While other participants had similar comments, something unexpected was noticed in the data. When looking at program acceptance, it was noticed that there were anecdotes coming from the participants regarding leaders using their employees' sense of community to help implement transformational initiatives.

The critical incident that best illustrates this finding comes from Raleigh. He was with a team that had proposed a radical redesign of a company's work schedule. The company had workers on two shifts, six days a week, yet still faced increasing overtime



costs and were barely able to meet customer demand. Raleigh's team recommended a single twelve-hour shift, with the employee work schedule alternating between three- and four-day weeks. The plan would increase productivity, reduce overtime, and improve employee morale. Instead of working six days a week, they'd have regularly scheduled days off, with a three day weekend twice a month. This new schedule would not change their base pay. Yet there was skepticism, mainly from workers on the second shift, who enjoyed a certain degree of freedom they did not want to lose. Senior managers did not work the night shift, so the workers were not monitored as closely, nor held as accountable as the first shift. Raleigh knew the plan would only work if they had employee support, so his team began a marketing campaign. When faced with skeptical employees, Raleigh asked them, "Do you want every other weekend off? Do you want a more manageable schedule? If so, you have to help us help you." The team engaged the employees early on as a whole, addressing them as a community. Leveraging that sense of community helped the company to successfully implement the new schedule. Productivity increased and employee morale improved—except for one group. As Raleigh told it,

Another interesting outcome was... that the second shift...when they came to first shift, found out that they actually had to work. And we lost probably about 70% of the second shift employees who didn't want to work first shift and be held accountable when managers were there.

Raleigh's reason for the high attrition rate was unsubstantiated. There are likely a variety of reasons why personnel from second shift left with the new schedule. Raleigh's

case, however, was notable regarding the sense of community among employees, and it was not the only one.

The highly structured transformational initiative related by Kevin works because it has been ingrained in the community of employees. Even though it maintains a complex and widespread program, the company has minimal training opportunities when compared to other companies. Kevin mentioned the company only offers green belt training, an entry level certification, and has not offered advanced training for all employees. Instead, they have encouraged the use of transformational initiative tools to drive practical application rather than having individuals put their energy into certification. They set goals of everyone participating in monthly improvement events, seeking to have the employees collaborate and support one another. This encouragement of collaboration has helped reinforce a sense of community in the plants.

Others told similar stories. Fred mentioned how, when starting their transformation initiative, the company encouraged 5S events by making them similar to community service days. 5S is an acronym for the following five words: Sort, Straighten, Shine, Standardize and Sustain. It is a procedure for cleaning up, and putting everything in order. It is considered by many to be an essential first step in a transformation initiative. Fred said that by successfully engaging the employees to take part in the 5S community service type program, they were then able to get them to begin developing standard work. Liam's company turned to the Lean Start Up methodology to improve their human resource functions. This included career path planning, job definition, and job placement. As Liam said, "We were using the Lean Start Up tools to address the hearts and minds of our employees. Do they feel loved? Do they feel valued? That's what we were aiming

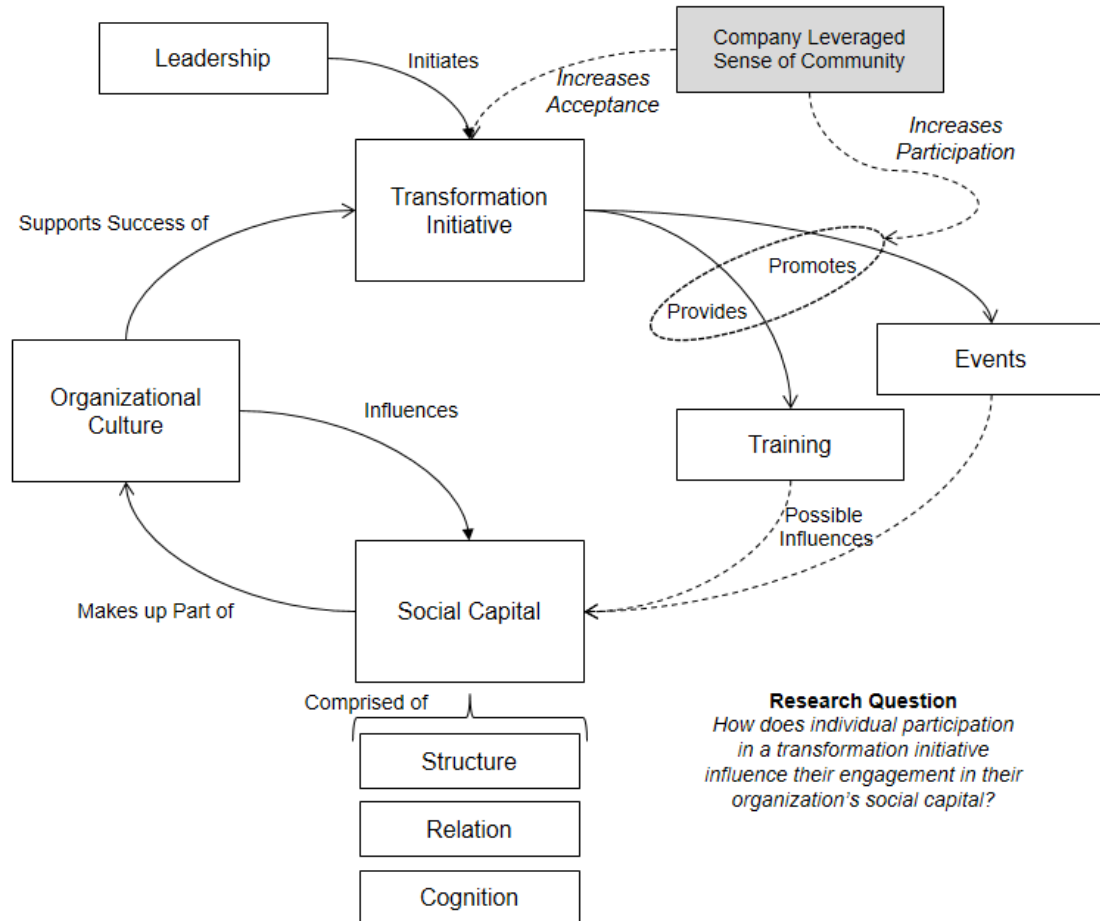
for.” This was an increasingly important issue for Kevin’s company, as premier competing companies in the industry were poaching their top talent. The company thus used a transformational initiative to improve the workplace in order to build a strong sense of community and loyalty among the employees. That companies appealed to the employees as a community to execute a transformational initiative was an unexpected finding in this study.

#### *Relation to Research Question*

The theme of community connects with two areas of the research question. The finding shows that a sense of community influences the initial implementation of a transformational initiative, which influences participation, which leads to engagement. This theme of using employees’ sense of community is intriguing and merits further discussion.

This theme first appeared in Raleigh’s critical incident report about how they radically redesigned the company’s work schedule. To mitigate employee resistance, the company engaged the employees, telling them the benefits of a more regular and manageable schedule. The company addressed the employees as a community and leveraged their sense of togetherness to guide them to acceptance of the new schedule. Similar examples emerged when analyzing the interview data, with Kevin, Fred, and Liam citing incidents that supported this theme. Fred talked about using a community service day format to help launch the transformation initiative, and how that then led to increased participation in using the tools. These examples illustrate not only how the companies helped drive acceptance of the transformation initiative, but also saw an

increase in participation in the initiative. Figure 9 is a graphic representation of how the sense of community fits within transformative initiatives.



**Figure 9: Company leveraging sense of community.**

As demonstrated in Figure 9, some of the participants' companies capitalized on the relationship they had with the employees, and that the employees had with each other. In a circular fashion, the company used relationships to drive a program that inspired changes in relationships. This finding impacted two areas of the research question. It impacted both the initial deployment of a program, and also the continuing participation in training and projects.

### *Multiple Elements*

#### *Theme: Personal and Professional Development*

*“I’ve seen people use their Green Belts as springboards for their careers.”*

Participants related incidents that revealed that many people have used transformational initiatives as part of a program of self-improvement. Some have used the program to expand their knowledge of their company. Others have used it to acquire new skills. Some have undertaken the training to help themselves professionally, while others did it for personal growth.

#### *Voluntary Attendance*

Deena was a prime example of this finding. She sought to challenge herself personally and professionally, and originally got involved in her company’s transformational initiative to receive additional training and skills she thought would help her later in her career. When Deena was asked to select a project as part of her training program, she purposefully chose one that was outside of her work area. Deena half-jokingly admitted one reason she did so was that improving that selected area would help improve her own area and make her life easier. She also felt it would help her learn more about the business by working in another area. Deena reported that her project was successful, and she improved both the outside area and her own.

Deena was not the only participant who mentioned such actions during interviews. Glenda took a course in Lean methodology, and then volunteered to do an improvement event outside of her organization altogether. Glenda applied her training to a small company both to help them and to get some experience out of the process. Glenda spoke of her training and work with great passion and energy. She was excitedly looking

forward to doing more projects. Hilda has always worked in Human Resource areas with manufacturing companies. In the 1980s, as Total Quality Management began appearing on the American business scene, she became a believer in the theories and concepts. Hilda has been a supporter ever since, promoting transformational initiatives in every company at which she has worked. Ulysses stated “I’ve seen people use their green belts as springboards for their careers.” They parleyed their training into new positions or promotions. Ulysses has also seen certification in a transformational initiative method be a key hiring factor.

#### *Mandated Attendance*

Some companies encouraged individuals to participate in the transformation initiative. Kevin explained that his company expected senior leaders to engage in transformational initiatives, write charters, support projects, and include change metrics in goals. Kevin commented that because the transformational initiative was so ingrained in the company, it did not seem as if people were being coerced—it was just part of their job. Participants Aaron, Oscar, Peter, and Ulysses all told of companies that had certification as a condition of employment. Employees were required to have Six Sigma green belt certification, and also had to maintain it by doing an annual project. Several of them also told of a company that required an individual to obtain the advanced certification of black belt in Six Sigma in order to be promoted into leadership ranks. Whether it was purely voluntary, or, as Ulysses said, “volun-told,” individuals engaged in transformational initiatives and acquired skills and experience.

### *Relation to the Research Question*

This finding of individuals using transformational initiatives for personal development crosses all elements of social capital found in the research question. Reports from participants tell of several instances of people using transformational initiatives who improved their cognition, developed and strengthened relationships, and changed their positions within the structure of the organization. In many cases, involvement in the programs was voluntary, made up of individuals seeking self-improvement. In other instances, the company mandated participation in the initiative. Regardless of which it was, similar results occurred: increased knowledge, skills, and abilities. The participation also led to increased interactions among various teams. It could make for an interesting future study to investigate if there is a difference between those who voluntarily seek out the training versus those who are told to do it.

### *Theme: Existing Social Capital Influences*

*“The company was small and the team members already knew each other. This actually gave them a big jump on their project.”*

Participants related many variables that impacted projects. A theme common to several stories was the existing social structure.

#### *Know your Team Members*

Charley had told of an incident regarding a project in a small company. When asked about team work and relations, he gave the above quote. Many other accounts of teamwork concerned teams already acquainted with one another. Participants Aaron, Charley, Edward, Oscar, Satchel, and Ulysses all made references to teams that knew each other before their projects. This implied very little activity regarding building new

relationships. Many participants related how it provided an advantage for the project. Prior relations help the team move more quickly into the work of the project instead of going through the phases of getting to know one another and forming a team.

Other aspects of social structure influenced the execution of transformational initiative projects. Hilda told of how a coworker from another area in the company came to observe an event Hilda was facilitating. The coworker had attended because his friendship with Hilda sparked his curiosity, and he wanted to find out more about these improvement events Hilda was always discussing. The coworker quickly was drawn into the event. He began participating, identifying waste, and helping to problem solve. It was an example of an informal relationship leading to an individual's engagement into transformational initiatives. Mike told of how a quality manager at a new plant was not supporting the company's transformation initiative. Others joined him in his opposition to the initiative, and improvement work was stymied. It was not until the factory owner came to a project meeting that he realized the situation. The owner then took the lead, directed everyone to pay attention to the initiative, and personally followed up to ensure it happened. Mike's incident was an example of the influence a strong opposing network can have. Along this same line, Barney told of what he called "accidental disconnects." These included such things as not having appropriate members on teams, having inappropriate members on team, and teams working on projects without realizing the impact on other areas. These disconnects were so common that they made the entire initiative suffer.

Nicholas's organization realized the potential pitfalls of networks. As they embarked on a reengineering of their business, careful preparations were made. After the



senior leader settled on new vision, he sought to engage his senior leadership team to help drive changes. The new direction was explained and expectations of them outlined.

After the new vision was explained, approximately half of the senior leadership team left. Nicholas related how difficult the upheaval was, but noted it was required for the drastic change in direction.

Internal networks were not the only relationships that came up in critical incident reports. Peter told of a project to improve capabilities at customer sites. It required complex electronic equipment to be installed and test runs to be conducted, which was inconvenient to the operations of customers. Peter explained how strong prior relationships with the customers allowed him, and his team, to get access to the customers' facilities and receive their cooperation. The issue of external relationships appeared in additional interviews.

In two instances, participants brought in external resources to help with their transformational initiatives, partly due to the desire for additional expertise. Both participants also mentioned it was due to the absence of prior relationships among the team members. The lack of prior relationship provided a perception of credibility to an external provider. The teams had no knowledge or relationship with this external provider, but were told they were experts. With the leadership billing the external provider as an expert, the team had no reason to doubt the claim. Both Aaron and Hilda confided that they had confidence in the expertise of the external provider, but still played up the introductions to provide more credibility. This aspect of bringing in external consultants based on current relationships is another variable to be considered.

*Relation to the Research Question*

Any company has a starting point from which they launch a transformation initiative. The starting point chosen by the company has an impact upon the implementation of the initiative, which then influences individual participation. In several cases related during interviews, the existing social capital had a bearing on the transformation initiative. Per participants' reports, the base of knowledge, the established structure, and existing relationships: all played some role in the launch of transformational initiatives. The current social capital of a company influenced the starting point of the initiative.

*Theme: Deployment Influences: Negative*

*"They found it so painful, they wouldn't even talk to us."*

Not all of the participants' transformational initiatives were equally implemented. There were some differences based on methodology, but there was more variability on how the leadership decided to roll it out. Were consultants brought in to drop in their program or was it developed in house? Was it deployed all at once or installed piecemeal? To what extent was infrastructure developed to support the initiative? Participants had reports on all these variables and the consequences that occurred because of them. That deployment of transformational initiatives influenced the social capital was common within the interviews.

According to the participants of this study, differing deployment strategies resulted in differing impacts. Some of the stories were positive in nature, others were not. Barney told of one initiative that was deployed in a very haphazard manner. Support was

provided in a random manner; while some areas got training, others did not. Experts were brought in for initial support at some sites, but not at others. This approach did not build enough support to make the program self-sustaining, and, according to Barney, "...it never did make an impact." Terri also told of similar piecemeal deployment. In her interview she told of different teams that were faced with the same problem. But the transformational initiative was so convoluted that different teams in the company were using different methods. This stifled the overall advancement of the total initiative. Oscar told of an opposite approach. The company tried to do it all at once; they "tried to boil the ocean." Unfortunately, the company did not have the full support of leadership, nor engagement among the employees. Consequently, the initiative failed. According to Oscar, this caused a strain on relationships and networks in the workplace. The project was over a year in the making, so failure was especially painful. These stories illustrate different approaches, all failing to achieve desired results, and impacting social capital.

Quinn told a story of a more personal nature. She told how she had a master's degree in engineering, so she was brought onto a team that was leading the transformational initiatives. The team thought Quinn would be a good fit, as she could help bridge the gap between manufacturing and engineering. This was important to the team, as in the past the program had been very poorly rolled out at the manufacturing locations. According to Quinn, "[Manufacturing] found it so painful, they wouldn't even talk to us." Quinn spent a lot of time marketing the benefits of the transformational initiative to get various sites to give her a chance to work with them.

Ulysses had a case on the other end of the spectrum. It was a transformational initiative that was trying too hard to be the perfect program. An administrator audited a

Lean principles course, and afterwards sought to implement an improvement program. She arranged to have some small projects done to test the concept, and they succeeded. The administrator leveraged this success to launch a large scale program. The problem was, according to Ulysses, that the administrator based all future work strictly on what worked for the pilot projects. Ulysses tried telling her that not all problems were the same; that size, scope, people, and problem would differ in every project. As such, the administrator was advised to create a program to allow for flexibility. But she dictated adherence to the prescribed methodology. Ulysses provided the following unsubstantiated observation:

It bordered on the ridiculous. I mean, one of the early projects owed its success, umm, well part of its success, to an elevator speech. An actual elevator speech. A guy on the project gets on the elevator with a Vice President. He sees some books or binders for the project. It's got titles on it, and the Vice President asks the guy about it. So they get to talking. Turns out the VP is in an area dealing with their project. The guy hooks the project leader up with the Vice President, and he basically, umm, pushes the thing through. So, because of that [leader name] tells all of her project teams to develop elevator speeches...short, like 30 second speeches. I was mentoring a group and she attended a meeting. On her timeline, she had down they should be working on elevator speeches. I told her they hadn't even defined the problem yet. But it didn't matter to her. She had them actually tape an outline of an elevator on the floor and, umm, do [expletive] role-play. And they didn't even know what the problem was. That program was doomed."

Ulysses' claimed his prediction held true. Within two years the initiative was folded into another program and effectively ended. Ulysses lamented over what a shame it was. The project had cross functional team membership that brought people together who had never worked together previously. The demise of the program meant the loss of these networking opportunities. Thus, poorly implemented transformational initiatives impacted the chances of success, or failure, of the program, and therefore of the social capital. Fortunately, not all the stories told of failure. There were stories of positive implementation as well.

*Theme: Deployment Influences: Positive*

*“So we went from a state of, ‘I’m really not sure if this going to work for us ‘cause we’re special,’ to ‘Oh my God, this is the only way I want to do my job.’”*

The above quote from Quinn is the antithesis of her quote from the previous section “They found it so painful, they wouldn’t even talk to us.” These two quotes were polar opposites, but they illustrated a notable case that Quinn had witnessed. She told how her team renovated a company’s transformation initiative, helping it to recover from an earlier failure and become a highly functioning program. While not all stories were quite so dramatic, other participants also had positive incidents of deployments.

During her interview Quinn told of how her team deployed a transformation initiative. The team decided to address the issue of the unpopularity of improvement programs and to correct the poor reputation of previous team members. Quinn summed up their success, “We’ve deployed CPI (Continuous Process Improvement) where it’s been welcomed. We haven’t forced it. Because of that we’ve developed pockets of success.” She continued,

We started with teaching green belt and black belt courses to the plants that would sponsor...pay our travel cost. One was making older products. We taught...umm...and spent time with them, and they took to it. We spent a lot of time with them...and on the phone with them...helping them. Then...as they began seeing success, and, they were...umm...getting rewarded for it, the other plants took notice. These were plants making new products and...umm... felt superior because they made the new stuff. They began taking notice.

Quinn credited the team's persistence in finding willing groups as the main factor in turning the program around.

Other participants described deployment strategies that helped their programs grow. Hilda told of how her company, at the start of the implementation of a transformation initiative, would fly people around from various sites. They flew the experts around to help with leading projects, but they also flew others to participate in the projects. According to Hilda, this had several positive consequences. It provided standard expertise throughout the global company. Different plants were getting consistent messaging and support. By bringing in others, it provided fresh perspectives to projects and helped to disseminate knowledge and best practices to all the sites. It also greatly expanded employee networks, causing them to interact with others in the company they might not otherwise have ever met. Lastly, it showed everyone the company's commitment to the initiative. The company's willingness to allocate the resources of people and travel expenses indicated the company was serious about the initiative. Hilda recognized the strong initial support as a critical element in the initiative's success.

Inigo conveyed a case that demonstrated a flexible approach to help drive implementation. With several sites doing similar work but each doing it a different way, Inigo was faced with the issue on how to get them all on the same page. He was having trouble doing so. There were issues with differing cultures, unions, and other assorted hindrances. Inigo's team developed a management model, a framework that could be placed around any organization. It provided guidance without mandating. It drove common behavior and compelled standard operations. It provided the company standards on which to build improvement, while allowing the centers to retain their structures and relationships. The model has become fairly well known in the transformational initiative field, and has been adopted by other companies.

The last critical incident on implementation was described by Terri. The project she talked about concerned implementing the Agile methodology. It is a method the company was still implementing at the time of this research. The company was taking its time in deploying this new product development method; some of the company's managers had been trained, and were trying Agile with a few teams. The teams that have used it have shown success, and the success had been noticed by other teams. Terri said, "If we had everyone using it, we would have much greater impact than what we have now." Terri expanded upon that by explaining that they had to take things slow to make sure everyone understood the tool. The company wants the program to succeed because of the early results, especially the positive customer reactions. Agile is a radical change in the flow of product development. It brings team members together earlier in the process, thereby changing structure and impacting relationships. If the program progresses, it has potential to be a huge paradigm shift for the company.

*Relation to the Research Question: Both Negative & Positive*

Both the negative and positive examples of how a transformational initiative deployment impact social capital were examined in the context of the research question. Participants illustrated that how a transformational initiative was deployed was a large factor in the success of the initiative. If successful, then individuals could participate, and engage in social capital. If unsuccessful, then individuals were not afforded the opportunity to participant, and then there was no engagement in social capital.

The successful deployment was not connected to methodology. Barney told of a Six Sigma program used as a transformational initiative that failed because of a haphazard approach to launching it. Oscar told of a Six Sigma program that was ingrained in his company's culture because of continual driving by leadership and dedication of resources. The deployment theme focused on how the company provided training and promoted participation in events. How the company did this had bearing in the participants' stories regarding the success, or failure, of their respective implementations.

*Theme: Strategic Alignment*

*"It's a pretty complex web."*

During the interview with Satchel, the discussion turned to strategy, leadership, and the importance they have in a transformation initiative. He reflected that there are two perspectives to transformational initiatives, that of leadership and that of the individual. He believes that the two go hand in hand. Leadership needs to establish the vision and



create the strategic plan. This then drives improvement opportunities. While it may appear pretty straightforward, he said; “It’s a pretty complex web.”

A theme developed around the issue of how strategic alignment and deployment influenced social capital. Several participants mentioned issues of strategy, discussing how strategy drove implementation. The participants also told of how strategy helped create prioritization of work needed to execute the initiative. They also talked about the consequences of when there was not a clear strategic vision.

Nicholas’ report dealt with an organization changing its strategy due to a revision of its mission and vision statement. The company used Business Process Reengineering to drive the change and to ensure the strategy was properly developed and aligned. Nicholas credits BPR with a successful deployment of the new strategy. There was churn as a good amount of leadership left the company, but it was not because of how the strategy was deployed. Nicholas believed the leaders left because they disagreed with the strategy, or were unwilling to change. The leaders’ reasons were not substantiated. Regardless, it was evident the new strategy impacted every aspect of the organization.

Other incidents also illustrated the importance of strategic alignment and deployment. Inigo told of how his company’s strategic plan helped his project. This was the project that was to remove underutilized equipment to save money, but experienced disagreement over funding. One department was to incur the cost, another would reap the benefit. The issue went all the way to senior leadership, who looked to their strategic plan. The plan provided them guidance to make the decision that the project should be a top priority and the funding issues would be made equitable between the two departments. Quinn told how the lack of communicating a strategic plan impacted

perception. She said, "... people downstream don't have access to strategic plan, and the information that drove it. Without that it makes it look like the decision making process is all f'ed up." The lack of deploying or communicating a strategic plan, or not having one, or not having it properly aligned throughout the organization, was an issue brought up by some participants. Charley told of issues with poor strategic alignment. The strategy was not clear throughout the organization, so it was not providing any guidance regarding the transformation initiative. This lack of clarity allowed issues to be shuffled from one project to another. Instead of completing a project, any remaining work was rolled into a new project. This lack of clarity impacted more than just the transformation initiative; it ultimately impacted every aspect of the company. Ulysses chuckled at mention of strategy, and told of a company he had once known. The company was a business unit of a larger corporation. According to Ulysses, the whole corporation was not very good at strategic alignment and deployment. The business unit held their strategic planning in August, but the corporate leadership held their strategic planning in September. The results of the September meeting voided the results of the August meeting. The whole thing was made moot when in October the corporation announced a major restructuring and replaced the business units with functional groups. Ulysses talked of the lack of communication and planning, and how it resulted in increased confusion, decreased morale, and wasted money. Such stories point to the importance of good execution of strategic alignment and deployment.

#### *Relation to the Research Question*

From the participants' critical incident reports, strategic vision and mission were described as the very core of the company. Satchel was adamant about the importance of

leadership and strategy, and how complex it is. Inigo, Quinn, Charley, and Ulysses all gave examples of how strategy played a role in their critical incidents, sometimes positive, sometimes not. For Inigo, the company's strategic vision provided senior leadership guidance on how to make a decision on a transformational initiative project. For Quinn, Charley, and Ulysses, there were issues around poor strategic deployment that had negative ramifications. The participants' reports show that strategy defined what the company did and where it wanted to go. It determined if a company produced paperclips or jet engines. It also set the foundation for whether the company pursued a transformation initiative. As such, the companies' strategy created the foundation for any operations of the company. By creating this foundation it impacted how, or even if, a transformational initiative was implemented. This then influenced individual participation, which then affected the individuals' ability to engage in the organization's social capital.

### *Summary*

This chapter presented findings from participants' critical incident reports. As the participants provided their reports of critical incidents regarding an improvement project they were involved with, they illustrated multiple facets of the transformational initiative and social capital relationships. Once analyzed and grouped, findings aligned with the structural, relational, and cognitive elements of social capital. Many of the participant reports had various aspects that overlapped several of the themes and social capital elements. The participants were surprisingly forthcoming and candid in telling their stories. When the researcher asked for stories, participants were encouraged to talk about whatever project they felt was significant. It was anticipated that many participants

would highlight success stories, as the researcher thought the participants would want to showcase their accomplishments. So it was a bit unexpected when several participants presented projects that did not achieve desired results, or failed outright. In hindsight, it should not have been a surprise. Recalling from the literature, there was a 70% failure rate for transformational initiatives (Kotter, 1996). So it should have been expected to have some critical incidents of projects that did not achieve success. The qualitative data gathered by interviews provided greater understanding of the experiences of the participants as they worked on transformational initiative projects.

## Chapter Five: Summary, Implications, and Recommendations

### *Introduction*

The purpose of this qualitative interpretivist study was to examine how an individual's participation in a transformational initiative influences their engagement in their organization's social capital. The problem of the high failure rate of companies implementing transformational initiatives was the basis for instigating this study. Twenty-one individuals who had received training, and had participated in, transformation imitative projects were interviewed using the critical incident reporting technique. Participants were asked to relate a story of a transformational initiative project in which they had participated. They were asked to tell how the need for the project was identified, what actions were taken, and what the results were. This chapter presents a summary of the thematic findings, identifies implications drawn from the findings, compares findings to the literature, discusses the limitations of the research, and makes recommendations for future studies.

### *Summary of Findings*

From the data analysis, twelve themes emerged from the critical incident reports. These are captured in Table 9.

<b>Structural Element</b>	
<b>#</b>	<b>Theme</b>
1	Influence of Structural Element
2	Organizational Structures: Hinder
3	Organizational Structures: Facilitate
<b>Cognitive Element</b>	
<b>#</b>	<b>Theme</b>
4	Improve Cognitive Element
5	Best Practices Affect Cognitive Element
<b>Relationship Element</b>	
<b>#</b>	<b>Theme</b>
6	Influence Relations Element
7	Sense of Community
<b>Multiple Elements</b>	
<b>#</b>	<b>Theme</b>
8	Personal and Professional Development
9	Existing Social Capital Influences
10	Deployment Influences: Negative
11	Deployment Influences: Positive
12	Strategic Alignment

**Table 9: Summary of Themes**

To illustrate how the findings address the research question, a graphic representation of the themes was created. This is presented in Figure 10. The graphic shows the themes developed from participants' critical incidents and their relationship to the research question. The grey boxes represent the findings, with the numbers in the corners corresponding to the numbers found in Table 9.

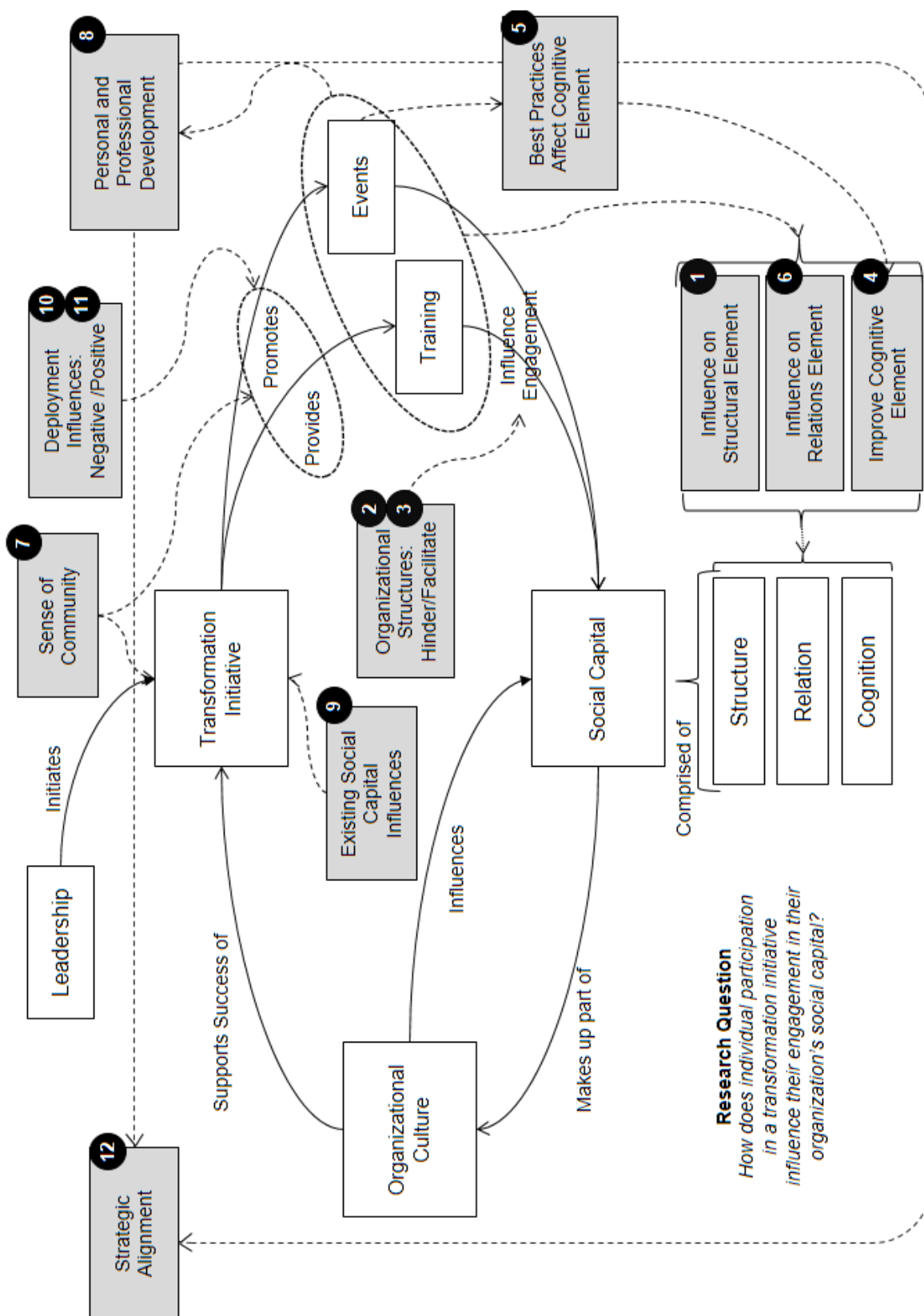


Figure 10: Findings related to research question.

The findings derived from the participants' reports showed the research question was answered. For those interviewed, individual participation in a transformational initiative *did* influence their engagement in their organization's social capital. The discussions in the findings began to illuminate *how* their engagement was influenced. To establish a foundation for discussion, the thematic findings as illustrated in Figure 10 will be reviewed before moving onto the implications. Starting at top left corner and moving clockwise:

Strategy is primary. The themes of strategic alignment and deployment overlay the entire scope of the transformation initiative. It is the core of the company, and is the foundation for its very existence.

Existing social capital has influence, as it provides a starting point for any initiative. The existing structure, relations, and cognition determine the current state of a company.

This study uncovered examples of how companies leveraged employees' sense of community to launch an initiative. Besides influencing the launch, the sense of community was seen to encourage individuals to participate in the initiative.

How the company provides training and promotes events is *how* they deploy the initiative. Participants' reports demonstrated that how the initiative is deployed can have a positive or negative influence upon the engagement in social capital.

Individuals drew personal and professional development opportunities from the training and the transformative projects. Some voluntarily participated, others were required.

A company's structure has influence upon individual engagement in the transformation. If the structure is too restrictive or, conversely, does not provide enough



guidance, engagement is hindered. Participants told of organizational structures that facilitated the individual engagement.

Participants related instances in which best practices came out of training events. When disseminated, these improved the cognitive element, as well as encouraged more events.

Lastly, the participants' critical incident reports provided examples of direct influence on participation and engagement in the three elements used to define social capital for this study: structure, relationship, and cognitive.

### *Discussion & Implications*

The themes that were derived from the participants' critical incident reports have implications for individuals involved in implementing transformational initiatives. There is an implication regarding the complexity of the entire subject of transformational initiatives. Another implication involves the unknown aspects of implementing a transformation initiative. A third implication involves the passion the participants demonstrated while relating their critical incidents. The fourth implication looks at the lack of data from the participants regarding training. Lastly, when all four implications were taken together, a larger implication emerged regarding executing a transformation initiative. All of these will be presented and discussed in this section.

*Implication: There are a multitude of elements regarding the successful implementation of a transformation initiative.*

*“When things were going wrong, leadership was saying, ‘That’s an anomaly.’ After watching things for six months, we were able to say to the owners, ‘That’s not an anomaly, that’s the way things are.’” --Raleigh*

Almost every study presented in the literature review hinted at the complexity of a transformation initiative. There were studies specifically looking at the difficulty of implementation. Some studies postulated the need for comprehensive planning to ensure the factors of success were in place (Al-Mashari, 2001; Guimaraes, 1999). Other studies focused on specific aspects of the implementation. There were several that concentrated on the cultural aspects (Dennison & Mishra, 1989; Gordon & DiTomaso, 1992; Holland & Kumar, 1995). Marcoulides and Heck tried to quantify the cultural aspect: creating a multi-level, multi-variant model to determine "...how an organization's culture affects organizational performance" (1993, p. 209). Despite all the studies, there are continuing calls for more research along the lines of Deter, Schroeder, and Mauriel (2000), who summarized that there was a lack of a comprehensive framework for defining and measuring organizational cultures. The literature regarding the multitude of variables regarding implementing a transformational initiative is a large body of work, because the topic is so broad and complex. This study adds to the growing body of work on transformative initiatives, as the participants' critical incident reports have given some additional insight into this complexity. As the participants illustrated, there is a complex web that needs to be developed and integrated in order to successfully launch a transformation initiative. Study participants indicated there were many influences within the implementation process. It is more than the *cut, copy, and paste* approach seen in the how-to books in the business section.

The themes from the data suggest there are inter-relational issues among areas as well; transformational initiatives impact social capital, and existing social capital impact transformational initiatives. The participants were describing a systemic issue that

required holistic thinking to address. The participants' data also showcased that implementing a transformation was an ongoing endeavor, that an action in one area has a bearing upon another, that interaction must be realized, and it must be monitored. This was supported by Kwak and Anbari's case study that indicated Six Sigma implementations are successful by continuously refining the organizational culture (2004). As the quote from Raleigh at the start of this section implied, the monitoring and determination of what is working is not an easy task. Raleigh's quote also implied these initiatives take time.

Another aspect of complexity within a transformative initiative was the issue of starting points. During interviews, participants mentioned various factors that had bearing upon the foundation of the company. Participants discussed existing structural, relational, and cognitive elements that made up the existing social capital. Also discussed was the existing organizational structure and its impact as the foundation of a company. The participants also talked of the companies' strategy, of the current course, and the envisioned future course. Social capital, organizational structure, and strategy all share a role in the starting point for participants' companies' transformation initiatives. When the ongoing execution, continuing adjustments, and constant internal and external changes are considered, it is clear this implication is accurate, as it tells of a multitude of elements regarding the successful implementation of a transformation initiative.

*Implication: There are lesser known, or unknown, elements that have a bearing on a company's transformational initiative and social capital.*

*"There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy." --William Shakespeare, Hamlet*

The thematic findings of this study were more varied than anticipated. The participants were asked to provide reports on a critical incident of a project in which they had participated. It was thought that the focus would be on the training, the project, and the aftermath with regard to social capital. The participants did provide critical incident reports that showed transformational initiatives influence structural, relational and cognitive elements of social capital.

The question of how the transformational initiative worked was not as simple, nor as linear as expected.

Additional themes on strategy, existing structure, and existing social capital emerged. These were not unknown in the field of study; aspects of these themes have been covered in the research literature (Dow, Samson, & Ford, 1999; Kanter, 1983; Melé, 2003). It was intriguing, though, that these issues came through in the participants' interviews.

What was more interesting was the emergence of the following themes from the participants' interviews:

- Employee's sense of community is leveraged by the company to implement Transformation Initiatives
- Participants use Transformation Initiatives projects for personal and professional development
- How the Transformation Initiative is deployed determines how Social Capital is impacted

Despite some reference to these themes in the literature, the themes have not been fully developed. There was some research on parts of these themes, such as the

employees' sense of community. Hagen stated "...the implementation process frequently relied too heavily on measurement and results, and lacked the appropriate actions in terms of focus on employee involvement and motivation" (2010, p. 795). Another study supported the focus on the human factors. Researchers found that implementation focused heavily on tools and techniques was not as likely to succeed (Dahlgaard & Dahlgaard-Park, 2006). These studies do not mention capitalizing on employees' sense of community as a method to involve or motivate them, indicating a gap in the literature. These studies do not address the issue of motivation, of employees using training and projects as development tools.

A recognized Six Sigma training model was developed by Choo, Linderman, and Schroeder (2007). In their study they created four contexts to drive Six Sigma to a sustainable state. These include:

1. Provide support through leadership
2. Ensure resource availability
3. Set challenging work
4. Organizational context built on trust

While these four points establish a foundation for the learning environment, they do not address what would motivate an individual to participate in the training. Neither was the issue of voluntary or mandated participation addressed. There is a gap between the literature and this study's finding of individuals using transformational initiatives for development.

The literature regarding how an initiative is deployed has a different focus than this study's findings. Some studies stated the importance of planning and ensuring the

presence of success factors before implementing a transformational initiative (Al-Mashari, 2001; Guimaraes, 1999). Other studies focused on the significance of culture and leadership (Barney, 1986; Caulcutt, 2001; Detert, Schroeder, & Mauriel, 2000; Holland & Kumar, 1995). These studies focused on how culture and leadership influence deployment. The finding in this study discusses how deployment influenced social capital. The relationship is different, and indicates a gap.

Adding to the unknown is how companies can have similar situations but see such differing impacts. Some participants reported loose organizational structures that hindered transformational initiatives. Other participants reported loose organizational structures that facilitated transformational initiatives. A similar situation presented itself with rigid organizational structures. Some participants reported rigid structures hindering, while others reported rigid structures helping. This implies that the unpredictability results not just from the presence of unknown elements; there is also an issue of not knowing even how the known elements will influence the transformational initiative and the company.

Taken all together, the themes led to an implication that there are more unknowns surrounding transformational initiatives than originally thought. First, the interviews from the participants show a wide array of situations and variables with regard to implementation, as implied by the previous implication about the complexity of transformational initiatives. Secondly, lesser known aspects of transformational initiatives, such as individuals seeking to improve themselves, may have a differing role than imagined. Lastly, given some of the unexpected themes revealed by the participants

of this study, there may be elements impacting transformational initiatives, and social capital, of which we are not fully aware.

*Implication: People take pride in participating in transformational initiatives.*

*“People are eager to do a good job...” --W. Edwards Deming (1986, p. 36)*

This implication was drawn from the actions of the participants interviewed. The fact that so many were so willing, without any incentives, to spend time being interviewed was an indication that those who have participated take pride in their work. Not only does this include the twenty-one whose interviews were included in this study, but the three who did not qualify and were used as test interviews, and even the two whose interviews did not meet standards. There were others as well; those who volunteered but did not qualify and those who did not qualify but referred others to the researcher. There was also a slight flood of volunteers that came too late in the data collection phase, and could not be interviewed in time. The very act of volunteering was an indication of their pride.

The interviews themselves showcased the pride of the participants. The candid excitement in their voices, the openness about their projects, and the side discussions that occurred...all showed a genuine passion for this work. This was evident with those who have been at this only a short amount of time and with those who have been doing this for decades. There were indicators throughout the interviews of the passion the participants have for working in the area of transformational initiatives.

This implication may be substantiated by the finding in this study that companies leveraged the employees' sense of community to implement transformational initiatives.

The participants' enthusiasm for this work may be part of the desire of employees to help and improve. There was nothing in the literature review on this topic, as it was not anticipated to be a topic of discussion. Deming, however, wrote relevant observation many years ago. The twelfth of his *Fourteen Points* was "Remove barriers to pride of workmanship" (Walton, 1986, p. 81). With this point, Deming made the case that workers want to be proud of the work they do, but are often blocked from doing so by poor processes, inadequate training, inferior leadership, and a host of other obstacles. The excitement demonstrated by participants as they talked and the ability of companies to engage employees by increasing their enthusiasm, provide additional evidence for Deming's insight.

This implication also indicates that there may be benefits to identifying individuals with high levels of enthusiasm. Perhaps implementation could be assisted by better identifying, training, and utilizing employees who have such passion for improvement work. This implication could also impact transformational initiative training programs by providing guidance in how trainees could be selected on personality and competency. There could be potential for further exploration of this implication.

*Implication: Training was Not Seen as Important as had been Expected.*

*"Training is golden and must be held above all else." --Satchel*

During his interview, Satchel stressed the importance of training in launching his transformation initiative. He started a discussion on the topic with the quote above.

Satchel was, however, one of the few to broach the topic. There was little mention made



by the participants regarding the aspect of training. The participants' lack of discussion about training was noteworthy.

Training was foreseen as a major factor in this study. Training of leaders and managers was studied by several (Hagen, 2010; Buchanan, 1974; Dale & Cooper, 1994). Levitt and March's (1988) literature review on organizational learning provided a variety of ideas. There were even the more esoteric studies: Cr  mer's study on culture, for example, delved into the capacity of humans to process knowledge. It was anticipated that training would be prominent point of discussion with the participants.

Training was an integral part of the study. The study protocol required that companies have training programs in place, and that individuals had attended training. The topic of training was included in the structured interview guide and questions were asked. During data analysis, however, no thematic groupings surrounding training emerged during affinitization. Training was relegated to a check box item; either the company had a program or it did not. Individuals either attended training or had not.

This implication on training is unlike the other implications in this study. This implication is based on the absence of data, thereby making it more difficult to discuss. Despite having questions on the interview guide, the discussions on training were minimal. Participants focused their conversations on their projects and the surrounding issues. Perhaps the participants saw limited relationship between training and execution of projects. It could be that training was a smaller component of success than originally thought.

To gain additional insight, two participants, Charley and Ulysses, were contacted with follow up questions regarding training. They were asked for their views on training

as it related to employees getting involved in the transformation initiative. They had different backgrounds, but ended up giving similar replies. Charley had volunteered for training that was provided by an external vendor, seeing it as an opportunity for professional development. Charley wanted to augment his current set of skills. Ulysses was in a company that mandated the training, but he went willingly. Ulysses said he would have volunteered if it was not required, he was that interested in learning about the methods and tools. When talking about the role of training in execution, they brought up the same topics. They both related the training was good, but a person did not really learn anything until you were involved in a project. Ulysses said:

They can teach you all about tools and let you practice. But using a practice data set in the classroom isn't like anything that happens in real life. In a real project, you don't have data handed to you, and it isn't ever that pretty.

Given this additional information, it is implied that training has a smaller role, and that individual learning occurs more so by execution of projects rather than attending classes. Given the lack of data on training, and the reflection as to the causes for that lack of data, this implication should be considered for a future study. Such research could aid in development future training for transformational initiatives.

*Implication: The Combined Implications of this Study indicate the need for a more Individualized Holistic Approach to Implementing Transformation Initiatives.*

*“There is no instant pudding.” – W. Edwards Deming*

Deming, when asked if he just could not put a program into place at a company would state, “It does not happen all at once. There is no instant pudding.” It was not as simple as opening a package, pouring in water, and stirring. Compiling the four

preceding implications led to a larger and more extensive implication that echoes Deming's observation. The findings from the participants' critical incidents convey that implementation of a transformational initiative is complex, situationally dependent, frequently changing, and full of pitfalls. This larger implication is contrary to many of the popular business management how-to books. It is also contrary to some of the literature that advocates best practice sharing.

The academic literature was varied on the subject. There were articles published that provided case studies of transformational initiatives and implied that their best practices could be imitated (Choi, Rungtusanatham, & Kim, 1997; Caron, Jarvenpaa, & Stoddard, 1994; Childs, 1989; Hammer M., 2001; Rehder, Hendry, & Medaris Smith, 1985). On the other end of the spectrum, there were articles that state implementation of transformation is complex and implied programs cannot just be dropped into place (Al-Mashari, 2001; Liker & Rother, 2010; Shortell, et al., 1995; Zbaracki, 1998). This study indicated there is a gap in the literature and a need for more research surrounding this implication.

The implications of this study demonstrate the described complexity of transformative initiatives. This included the implications concerning the multitude of elements and the implication stating there are lesser known, or unknown, factors. With so many variables acting upon the implementation, and with so many points at which a company may start; the combinations are incalculable. It is inconceivable that a single roadmap, or multi-phased approach, from a text would be able to address all the issues to successfully implement a transformation. Even the implication on training programs within transformative initiatives supports this implication. Many of the books and

articles noted earlier discussed the importance of training and how vital it is for success. Yet that did not come through in the participants' reports. What little they did discuss about training during interviews indicated something else. They mentioned the training was useful to learn the tools, but they gained the valuable experience by participating in an event. Compiling all the implications presents the participants' view that implementing a transformational initiative is an immeasurably complex endeavor.

The findings of this study show all the potential areas for differences in situations between companies. These fuel the complexity just discussed. Study findings that impact implementation include the company's strategy, existing social capital, organizational structure, how the initiative is deployed, and the degree of influence there is upon the social capital from the initiative. Furthermore, as inferred from Figure 10, the entire initiative is cyclical. Successful events will have a different impact on the overall initiative than unsuccessful events. The overall implementation is dynamic and constantly changing. Add to this the implication discussed about there being lesser known or unknown elements, and this larger implication suggests there is added complexity to the execution aspect of implementing a transformation initiative. The initial situation must be assessed, the ongoing dynamics must be monitored, and contingencies will have to be planned for to achieve success.

From the findings and implications drawn from the participants' experiences, it was seen that implementing a transformational initiative is complex and dependent upon changing conditions. This would imply there is a need to take a more individualized, holistic approach when implementing transformational initiatives. Better initial assessment of current situations to create customized implementation plans could help.

Constant monitoring of the shifting situation, with adjustments taken as needed, could also help. This larger implication is contrary to what is found in many business management books and in some peer reviewed research articles.

### *Recommendations for Future Studies*

Based on the findings of this study, a number of recommendations for future research were made.

Longitudinal studies of individuals and of companies are needed. Since few longitudinal studies exist, it would be advantageous to study a company that was just embarking on a transformative initiative and to follow both the individuals involved and the company over a long period of time.

Research is needed to compare the results of mandating participation in transformative initiatives versus inviting voluntary participation in them. Researchers could create a survey for employees participating in transformative initiatives, gauging their satisfaction with the training, the extent of their participation in projects, and the results that they achieve. Comparing employees who were mandated to participate with those who voluntarily participated could provide insight into implementation strategy for transformational initiatives.

The employee's sense of community and how that is leveraged by the company to implement transformational initiatives could be an area of future research. From the critical incident reports in this study, it is unclear if those companies that leveraged the sense of community were purposefully doing so, or if it was an unplanned activity that happened to have a positive bearing. As such, further research is warranted. Included in this area is further research on how to better leverage the varying levels of interest and

passion certain individuals have for improvement work. Can there be additional benefits realized by better selection and training methods?

### *Limitations*

Just as recommendations were noted in the author's research journal, so were notes on limitation. During the course of the study, actions were taken to mitigate as many limitations as possible. For example, the sample size was increased after discussions implied it might have been too small. Other limitations were inherent to the study, and are presented here.

Participants' memory was a possible limiting factor in this research. This study was based upon a single interview with participants after they had received training and participated in a project as part of their company's transformation initiative. This placed a burden upon the participants' memory. They had to remember situations before they attended training and participated in an event. Additionally, because there were no limits placed on the projects, there was another possible issue with memory. Some participants reported on recently completed projects or added additional commentary from current transformational initiative events. Other participants however, went back several years for their critical incident. While it did not appear to have any bearing on the outcome of the study, the issue suggests a possible future study that avoids such heavy reliance upon memory and a single interview.

A diverse sample was purposefully sought for this study. Participants with differing levels of experience and with different backgrounds provided a variety of perspectives. Companies of differing sizes, producing dissimilar goods and services, and choosing assorted methodologies, contributed to the rich qualitative data compiled for this study.

While all of this boded well for this research, it was wondered if there might have been any merit in collecting a more homogenous sample. While reducing the richness of data, it could provide focus on specific attributes that could lead to greater insight. Perhaps if the sample size was increased, and the interviews tagged with participant and company sources, a future study could examine and compare differing combinations.

The purposeful sampling technique used in this study may have resulted in some limitations. The method used to gather participants seemed to result in a sample of individuals who were highly passionate about transformational initiatives. Those willing to take the time to be interviewed, and with the background and participation, would indicate a high level of interest in the field. The findings and implications derived from the participants are valid and worthwhile, but even greater insight could be realized by gathering a wider, more diverse sample.

As a qualitative study with a small sample size, the findings presented are not able to be generalized. This is not a limitation per se for the outcome of this study. Perhaps it is the merely the researcher's process improvement background, of wanting to continually make things better, but being unable to apply findings to the general population is personally limiting. As such, there is a desire to continue and expand this study; to examine the possibilities of increasing sample size or combining the qualitative data with quantitative research. It is the author's desire to continue to provide better understanding throughout the world of transformational initiatives.

#### *Final Remarks*

The purpose of this study was to provide greater insight to the implementation of transformational initiatives. The data, findings, and implications did that. There was,

however, a greater sense of accomplishment that derived from this work; it came from working with the participants. Many who work in the field of continuous process improvement do so because they have a passion for it. They enjoy the challenge, the variety, the tools, and the history. Every day they seek to improve things. This joy and passion came through during the discussions, and it was truly a pleasure for the researcher to encounter it. It was in this spirit that this study was conducted, and hopefully this study served to give a voice to the passion of the participants.



## References

- Abilla, P. (2007, May 7). *shmula*. Retrieved October 14, 2011, from Six Sigma, Lean, and Executive Satisfaction: <http://www.shmula.com/six-sigma-lean-and-executive-satisfaction/399/>
- Adler, P. S., & Kwon, S.-W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17-40.
- Ahire, S. L., Golhar, D. Y., & Waller, M. A. (1996). Development and validation of TQM implementation and constructs. *Decision Sciences*, 27(1), 23-31.
- Ahmadjian, C. L., & Lincoln, J. R. (2001, Nov-Dec). Keiretsu, governance, and learning: Case studies in change from the Japanese automotive industry. *Organization Science*, 12(6), 683-701.
- Aiken, C., & Keller, S. (2003). The irrational side of change management. *The McKinsey Quarterly*(2), 101-109.
- Aitken, A. (2012). *Lean: Concepts and realities*. Warwickshire, England: Lanner Group.
- Allen, R. S., Helms, M. M., Takeda, M. B., White, C. S., & White, C. (2006). A comparison of competitive strategies in Japan and the United States. *SAM Advanced Management Journal*, 71(1), 24-34.
- Al-Mashari, M. (2001). Business process reengineering is very much well and alive! (Editorial). *Business Process Management Journal*, 7(5), 370-372.
- Altinkemer, K., Ozcelik, Y., & Ozdemir, Z. D. (2011). Productivity and performance effects of business process reengineering: A firm-level analysis. *Journal of Management Information*, 27(4), 129-161.
- American Heritage Dictionary*. (1980). Boston, MA: Houghton Mifflin Company.

- American Society for Quality. (2011). *Six sigma black belt certification - Is it right for you?* Retrieved October 17, 2012, from American Society for Quality:  
<http://prdweb.asq.org/certification/control/six-sigma/right-for-you>
- Anthony, J. (2004). Some pros and cons of six sigma: An academic perspective. *The TQM Magazine*, 303-306.
- Anthony, J. (2006). Six sigma for service processes. *Business Process Management Journal*, 12(2), 234-248.
- Barney, J. B. (1986, July). Organizational culture: Can it be a source of sustained competitive advantage? *The Academy of Management Review*, 11(3), 656-665.
- Barrett, A., & O'Connell, P. J. (2001). Does training generally work? The returns to in-company training. *Industrial and Labor Relations Review*, 54(3), 647-662.
- Bartel, A. P. (1995, July). Training, wage growth, and job performance: Evidence from a company database. *Journal of Labor Economics*, 13(3), 401-425.
- Bauer, J., Falshaw, R., & Oakland, J. (2005, June). Implementing business excellence. *Total Quality Management*, 16(4), 543-553.
- Bell Systems. (2012). *Western electric: A brief history*. Retrieved July 9, 2012, from Bell System Documents:  
[http://wedophones.com/TheBellSystem/pdf/western\\_electric.pdf](http://wedophones.com/TheBellSystem/pdf/western_electric.pdf)
- Berger, A. (2003). *Smart things to know about six sigma*. Oxford, England: Capstone Publications.
- Bernard, R. H. (2000). *Social research methods: qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

- Bhuiyan, N., & Baghel, A. (2005). An overview of continuous improvement: From the past to the present. *Management Decision*, 43(5), 761-771.
- Black, K., & Revere, L. (2005). The roots of six sigma are found in total quality management. *Southwest Region Decision Sciences Institute* (pp. 517-525). Dallas, TX: Decision Sciences Institute.
- Block, E. S., & Erskine, L. (2012). Interviewing by telephone: Specific considerations, opportunities and challenges. *International Journal of Qualitative Methods*, 11(4), 428-444.
- Bloom, N., & Van Reenen, J. (2010). *Why do management practices differ across firms and countries?* London, England: Centre for Economic Performance.
- Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research in education: An introduction to theory and methods* (3rd ed.). Boston, MA: Allyn and Bacon.
- Bolman, L. G., & Deal, T. E. (2003). *Reframing organizations: Artistry, choice and leadership*. New York: Addison-Wesley Publishing.
- Bourdieu, P. (1980). Le capital social: Notes provisoires. *Actes de la recherche en sciences sociales*, 2-3.
- Boxman, E. A., De Graaf, P. M., & Flap, H. D. (1991). The impact of social and human capital on the income attainment of Dutch managers. *Social Networks*, 13, 51-73.
- Boyne, G. A., & Walker, R. M. (2002, December). Total quality management and performance: An evaluation of the evidence and lessons for research on public organizations. *Public Performance & Management Review*, 26(2), 111-131.
- Bradley, J. (1993). Methodological issues and practices in qualitative research. *The Library Quarterly*, 63(4), 431-449.

- Brady, J. E., & Allen, T. T. (2006). Six Sigma literature: A review and agenda for future research. *Quality and Reliability Engineering International*, 335-367.
- Brass, D. J., & Burkhardt, M. E. (1993). Potential power and power use: An investigation of structure and behavior. *Academy of Management Journal*, 36(4), 441-470.
- Brennan, N. (1994). *Lessons learned by Baldrige winners*. New York, NY: Conference Board.
- Buchanan, B. (1974). Building organizational commitment: The socialization of managers in work organizations. *Administrative Science Quarterly*, 19(4), 533-546.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Businessweek. (2000, May 15). "And the Shingo Goes to...". *Businessweek*, p. 38b.
- Cameron, K. S., & Freeman, S. J. (1991). Cultural congruence, strength and type: Relationships to effectiveness. *Research in Organizational Change and Development*, 5, 23-58.
- Capgemini Consulting. (2010). *Lean for the long-haul*. New York, NY: Capgemini Consulting.
- Caron, J. R., Jarvenpaa, S. L., & Stoddard, D. B. (1994). Business reengineering at CIGNA corporation: Experiences and lessons learned from the first five years. *MIS Quarter*, 233-250.
- Carrillo, J. E., & Gaimon, C. (2000, Feb.). Improving manufacturing performance through process change and knowledge creation. *Management Science*, 46(2), 265-288.

- Carter, S. (2006). Labor. In S. B. Carter, S. S. Gartner, M. Haines, A. R. Olmstead, R. Sutch, & G. Wright (Eds.), *Historical statistics of the United States, millennial Edition*. New York, NY: Cambridge University Press.
- Caterpillar Corporation. (2005). *Caterpillar 2004 annual report*. Peoria, IL: Caterpillar Corporation.
- Caulcutt, R. (2001). Why is six sigma so successful. *Journal of Applied Statistics*, 28(3 & 4), 301-306.
- Chakravorty, S. S. (2012, June 14). Where process improvement projects go wrong. *Wall Street Journal*, R6.
- Childs, B. (1989, August). New United Motor: an american success story. *Labor Law Journal*, 453-460.
- Choi, T. Y., Rungtusanatham, M., & Kim, J.-S. (1997, November-December). Continuous improvement on the shop floor: Lessons from small to midsize firms. *Business Horizons*, 45-60.
- Choo, A. S., Linderman, K. W., & Schroeder, R. G. (2007, March). Method and psychological effects on learning behaviors and knowledge creation in quality improvement projects. *Management Science*, 53(3), 437-450.
- Cohen, D., & Prusak, L. (2001). *Good company: How social capital makes organizations work*. Cambridge, MA: Harvard Business Press.
- Commerce, U. S. (2013, April 13). *Statistics of U.S. Businesses: Definitions*. Retrieved August 6, 2013, from United States Census Bureau: <http://www.census.gov/econ/susb/definitions.html>

- Considine, M., & Lewis, J. M. (2007, October). Innovation and innovators inside government: From institutions to networks. *Governance: an international journal of policy, administration and institutions*, Vol 20(No. 4), pp. 581-607.
- Corbally, J. E. (1956, March 14). The critical incident technique and educational research. *Educational Research Bulletin*, 35(3), 57-62.
- Creech, B. (1994). *The five pillars of TQM*. New York, NY: Penguin Books.
- Crémer, J. (1993). Corporate culture and shared knowledge. *Industrial and Corporate Change*, 3(3), 351-386.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA, CA: Sage Publications.
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Creswell, J. W., & Plano Clark, V. L. (2006). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications.
- Criger, E. M. (1993). *Exploring TQM : Circular questioning as a new methodology to study organizational culture change*. San Jose, TX: San Jose State University.
- Cringley, R. X. (2000, May 25). *The Pulpit: Weekly Column*. Retrieved September 2, 2011, from Stranger in a strange land: How Homer Sarasohn brought industrial quality to Japan and why it took Japan so long to learn:  
[http://www.pbs.org/cringley/pulpit/2000/pulpit\\_20000525\\_000408.html](http://www.pbs.org/cringley/pulpit/2000/pulpit_20000525_000408.html)

- Cusumano, M. A. (1994). The limits of "lean". *Sloan Management Review*, 27-32.
- Dahlgaard, J. J., & Dahlgaard-Park, S. M. (2006). Lean production, six sigma, tqm and company culture. *The TQM Magazine*, 18(6), 263–281.
- Dale, B. G., & Cooper, C. L. (1994). Introducing tqm: The role of senior management. *Management Decision*, 31(1), 20-26.
- Davidson, P. (2009, November 3). *Lean manufacturing helps companies survive recession*. Retrieved February 2, 2011, from USA Today:  
[http://www.usatoday.com/money/industries/manufacturing/2009-11-01-lean-manufacturing-recession\\_N.htm](http://www.usatoday.com/money/industries/manufacturing/2009-11-01-lean-manufacturing-recession_N.htm)
- Deal, T. E., & Kennedy, A. A. (1982). *Corporate cultures*. Reading, MA: Addison-Wesley.
- Deming, W. (1986). *Out of the crisis*. Cambridge, MA: MIT Center for Advanced Engineering.
- Denison, D. R. (1984). Bringing corporate culture to the bottom line. *Organizational Dynamics*, 13(2), 5-22.
- Dennison, D. R., & Mishra, A. K. (1989). Organizational culture and organizational effectiveness: A theory and some preliminary empirical evidence. *Academy of Management Proceedings*, 168-172.
- Dennison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organizational Science*, 6(2), 204-223.
- Denzin, N. L. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

- Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review*, 25(4), 850-863.
- Dow, D., Samson, D., & Ford, S. (1999). Exploding the myth: Do all quality management practices contribute to superior quality performance? *Production & Operation Management*, 8(1), 1-27.
- Drennan, D. (1992). *Transforming company culture: Getting your company from where you are now, to where you want to be*. London, England: McGraw-Hill.
- Drucker, P. (1974). *Management: Tasks, responsibilities, practice*. New York, NY: Harper & Row.
- Easton, G. S., & Jerrell, S. L. (1988). The effects of total quality management on corporate performance: An empirical investigation. *Journal of Business*, 71(2), 253-307.
- Elenkov, D. S., Judge, W., & Wright, P. (2005, July). Strategic leadership and executive innovation influence: An international multi-cluster comparative study. *Strategic Management Journal*, 26(7), 665-682.
- Farr, J. (2004, February). Social capital: A conceptual history. *Political Theory*, 32(1), 6-33.
- Feigebaum, A. V. (1983). *Total quality control*. New York, NY: McGraw-Hill.
- Ferdousi, F., & Ahmed, A. (2011). Supporting factors for the implementation of lean - A study on manufacturing firms. *Journal of Banking Financial Services*, 1-21.
- Fine, B. (2008). Social capital versus social history. *Social History*, 33(4), 442-467.



- Flanagan, J. C. (1954, July). The critical incident technique. *Psychological Bulletin*, 51(4), 327-357.
- Fowler, M., & Highsmith, J. (2001). The agile manifesto. *Software Development*, 9(8), 28-35.
- Freiesleben, J. (2009). The quest for quality as guided evolution. *Total Quality Management*, 20(11), 1263-1271.
- Gabbay, S. M., & Zuckerman, E. W. (1998). Social capital and the opportunity in corporate R&D. *Social Science Research*, 27, 189-217.
- Galbraith, J. R. (1977). *Organization design*. Reading, MA: Addison Wesley Publishing Company.
- George, M. L. (2005). *Lean six sigma: combining six sigma quality with lean production speed*. New York, NY: McGraw Hill.
- Gerlach, G. (1992). *Alliance capitalism: The social organization of Japanese business*. Berkeley, CA: University of California Press.
- Goffee, R., & Jones, G. (1998). *The character of a corporation: How your company's culture can make or break your business*. New York, NY: Harper's Business.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-607.
- Goldratt, E. M., & Cox, J. (1984). *The goal: A process of ongoing improvement*. Great Barrington, MA: North River Press.
- Gordon, G. G., & DiTomaso, N. (1992). Predicting corporate performance from culture. *Journal of Management Studies*, 29(6), 783-798.

- Grix, J. (2001). Social capital as a concept in the social science: The current state of the debate. *Democratization*, 8(3), 189-210.
- Guimaraes, T. (1999). Field testing of the proposed predictors of bpr success in manufacturing firms. *Journal of Manufacturing Systems*, 18(1), 53-65.
- Hagen, M. (2010, August ). The wisdom of the coach: A review of managerial coaching in the Six Sigma context. *Total Quality Management*, 21(8), 791–798.
- Halachmi, A., & Bovaird, T. (1997). Process reengineering in the public sector: learning some private sector lessons. *Technovation*, 17(5), 227-235.
- Hammer, M. (1990, July/August). Reengineering work: Don't automate, obliterate. *Harvard Business Review*, 104-112.
- Hammer, M. (2001, September). The superefficient company. *Harvard Business Review*, 82-91.
- Hammer, M. (2003). *Reengineering the corporation*. New York, NY: Harper Collins.
- Hammer, M., & Champy, J. (1993). *Reengineering the corporation: A manifesto for business revolution*. London, England: Harper Collins.
- Hashmi, K. (2010). *Introduction and implementation of total quality management*. Retrieved December 2, 2010, from iSixSigma.com:  
[http://www.isixsigma.com/index.php?option=com\\_k2&view=item&id=1489:introduction-and-implementation-of-total-quality-management-tqm&Itemid=263&tmpl=component&print=1](http://www.isixsigma.com/index.php?option=com_k2&view=item&id=1489:introduction-and-implementation-of-total-quality-management-tqm&Itemid=263&tmpl=component&print=1)
- Hedley, T. P. (1998). Measuring public sector effectiveness using private sector methods. *Public Productivity & Management Review*, 21(3), 251-258.

- Hendricks, K. B., & Singhal, V. R. (2000). *The impact of total quality management (TQM) on financial performance: evidence from quality award winners*. Retrieved December 7, 2011, from Lean Manufacturing Strategy - Statigos: [http://www.strategosinc.com/downloads/total\\_quality\\_payoff-dl1.pdf](http://www.strategosinc.com/downloads/total_quality_payoff-dl1.pdf)
- Hofstede, G. (1986). The usefulness of the organizational culture concept. *Journal of Management*, 23(3), 253-258.
- Holland, D., & Kumar, S. (1995). Getting past the obstacles to successful reengineering. *Business*, 3, 79-85.
- Holt, A. (2010). Using the telephone for narrative interviewing: a research note. *Qualitative Research*, 10(1), 113-121.
- Holzer, H. J., Block, R. N., Cheatam, M., & Knott, J. H. (1993, July). Are training subsidies for firms effective? The Michigan experience. *Industrial and Labor Relations Review*, 46(4), 625-636.
- Hossain, M. M. (2008). Development of statistical quality control: Evolution or revolution. *Decision Sciences Institute 2008 Annual Meeting* (pp. 1961-1966). Baltimore, MD: Decision Sciences Institute.
- Hsu, S. (2007). Human capital, organizational learning, network resources and organizational innovativeness. *Total Quality Management*, 983-998.
- Hull, C. H. (Ed.). (1899). *The economic writings of Sir William Petty*. Cambridge, MA: Cambridge University Press.
- Inspector General of the United States Air Force. (1987). *Operational readiness inspection report of the 74th tactical control flight*. Langley Air Force Base, VA: Inspector General: Tactical Air Command.

- Irvine, A. (2010). *Realities toolkit #14: using phone interviews*. Manchester, England: National Centre for Research Methods.
- Ittner, C. D., & Larcker, D. F. (1997). The performance effects of process management techniques. *Management Science*, 3(4), 522-534.
- Ittner, C. D., Nagar, V., & Rajan, M. (2001). An empirical examination of dynamic quality-based learning models. *Management Science*, 47(4), 563-578.
- Juran, J. M. (1989). *Juran on leadership for quality*. New York, NY: Free Press.
- Juran, J. M. (1992). *Juran on quality by design: The new steps for planning quality into goods and services*. New York: The Free Press.
- 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* (pp. 69-85). Mahwah, NJ: Lawrence Erlbaum.
- Kalton, G., & Anderson, D. W. (1986). Sampling rare populations. *Journal of the Royal Statistical Society*, 149(1), 65-82.
- Kanigel, R. (1997). Taylor-made. *The Sciences*, 37(3), 18-23.
- Kanter, R. (1983). *The change masters: Innovation and entrepreneurship in the american corporation*. New York, NY: Simon & Schuster.
- Kepner, C. H., & Tregoe, B. B. (1965). *The rational manager: a systematic approach to problem solving and decision making*. New York, NY: McGraw-Hill.
- Knowles, M. S., Holton, E. F., & Swanson, R. A. (2005). *The adult learner*. London, England: Elsevier.
- Kotter, J. P. (1995). Leading change; why transformation efforts fail. *Harvard Business Review*, 2-10.

- Kotter, J. P. (1996). *Leading change*. Cambridge, MA: Harvard Business School Press.
- Kotter, J. P., & Heskett, J. L. (1992). *Corporate culture and performance*. New York, NY: The Free Press.
- Kwak, Y. H., & Anbari, F. T. (2004). Benefits, obstacles, and future of six sigma approach. *Technovation*, 1-8.
- Lascelles, D. M., & Dale, B. G. (1990). Quality management: The chief executive's perception and role. *European Management Journal*, 8(1), 67-75.
- Layton, M. C. (2012). *Agile project management for dummies*. Hoboken, NJ: John Wiley & Sons.
- Lean Enterprise Institute. (2007). *New survey: Middle managers are biggest obstacle to lean enterprise*. Cambridge, MA: Lean Enterprise Institute.
- Leana, C. R., & Van Buren, H. J. (1999). Organizational social capital and employment practices. *Academy of Management Review*, 538-555.
- Levitt, B., & March, J. G. (1988). Organizational learning. *Annual Review of Sociology*, 14, 319-340.
- Liker, J., & Rother, M. (2010). *Why lean programs fail*. Cambridge, MA: Lean Enterprise Institute.
- Lin, N. (1999). Building a network theory of social capital. *Connections*, Vol. 22(No. 1), pp. 28-51.
- Lin, N. (2000, November). Inequality in social capital. *Contemporary Sociology*, 29(6), 785-795.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hill, CA: Sage.

- Lines, R. (2005). The structure and function of attitudes toward organizational change. *Human Resource Development Review*, 4(1), 8-32.
- Loury, G. (1977). A dynamic theory of racial income differences. In P. A. Wallace, & A. M. La Mond (Eds.), *Women, Minorities, and Employment Discrimination* (pp. 153-186). Lexington, MA: Heath.
- Loury, G. (1992). The economics of discrimination: Getting to the core of the problem. *Harvard Journal for African American Public Policy*, 91-110.
- Lucier, G. T., & Seshadri, S. (2001). GE takes six sigma beyond the bottom line. *Strategic Finance*, 41-46.
- Maak, T. (2007). Responsible leadership, stakeholder engagement, and the emergences of social capital. *Journal of Business Ethics*, 74, 329-343.
- Malterud, K. (2001). Qualitative research: Standard, challenges, and guidelines. *The Lancet*, 483-488.
- Manimala, M., Jose, P., & Thomas, K. (2006, January-March). Organizational constraints on innovation and entrepreneurship: Insights from the public sector. *Vikalpa*, 49-60.
- Mann, R., & Kehoe, D. (1995). Factors affecting the implementation and success of TQM. *International Journal of Quality and Reliability Management*, 12(1), 11-23.
- Marchwinski, C. (2009). *New survey: Middle managers are biggest obstacles to Lean enterprise*. Cambridge, MA: Lean Enterprise Institute.
- Marcoulides, G. A., & Heck, R. H. (1993). Organizational culture and performance: Proposing and testing a model. *Organization Science*, 4(2), 209-225.

Marr, K. (2011, August 16). *Newt Gingrich: Nix supercommittee for lean six sigma*.

Retrieved September 7, 2011, from Politico:

<http://www.politico.com/news/stories/0811/61481.html>

Mathison, S. (1988). Why triangulate? *Educational Researcher*, 17(2), 13-17.

McKinsey and Company. (1989). Management of quality: The single major important challenge for Europe. *European Quality Management Forum*. Montreux, Switzerland: McKinsey and Company.

McNally, D. (1990). *Political economy and the rise of capitalism: A reinterpretation*. Berkeley, CA: University of California Press.

Mehta, V., & Shah, H. (2005). Characteristics of a work organization from a lean perspective. *Engineering Management Journal*, 17(2), 14-20.

Melé, D. (2003, June). Organizational humanizing capital: Do they generate social capital. *Journal of Business Ethics*, 45(1/2), 3-14.

Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco, CA: Jossey-Bass.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Miller, R. (2010, July 9). Bob Miller interview with Mike Wall. (M. Wall, Interviewer)

Montgomery, D. C., & Woodall, W. H. (2008). An overview of six sigma. *International Statistical Review*, 76(3), 329-346.

Moran, P. (2005, December). Structural vs. relational embeddedness: social capital and managerial performance. *Strategic Management Journal*, 26(12), 1129-1151.

- Moran, P., & Ghoshal, S. (1999). Markets, firms, and the process of economic development. *Academy of Management Review*, 38(2), 242-266.
- Morita, H. (2005). Multi-skilling, delegation and continuous process improvement: A comparative analysis of US-Japanese work organizations. *Economica*, 72(285), 69-93.
- Morse, J. M. (1994). Designing funded qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 220-235). Thousand Oaks, CA, CA: Sage Publications.
- Murphy, E. (1994). Cultural values, workplace democracy and organisational change: Emerging issues in european businesses. In C. Coulson-Thomas, *Business process reengineering: myth & reality* (pp. 201-210). London, England: Kogan Page.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Nohria, N., & Eccles, R. G. (1992). *Networks and organizations: structure, form, and action*. Cambridge, MA: Harvard Business School Press.
- Nonthaleerak, P., & Hendry, L. (2008). Exploring the six sigma phenomenon using multiple case study evidence. *International Journal of Operations & Production Management*, 28(3), 279-303.
- Odom, R. Y., Boxx, W. R., & Dunn, M. G. (1990, Winter). Organizational cultures, commitment, satisfaction, and cohesion. *Public Productivity & Management Review*, 14(2), 157-169.



- Orlansky, J. (1986). The productivity of training. In J. Zeidner (Ed.), *Human productivity enhancement: Training and human factors in systems design* (Vol. 1, pp. 9-55). New York, NY: Praeger Publishers.
- Orlikowski, W., & Baroudi, J. (1991). Studying information technology in organizations: research approaches and assumptions. *Information Systems Research*, 1-28.
- Osborne, D., & Gaebler, T. (1992). *Reinventing government*. New York, NY: Addison-Wesley Publishing.
- Ott, J. (1989). *The organizational culture perspective*. Chicago, IL: Dorsey Press.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32, 38-48.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Pay, R. (2008, May 1). Everybody's jumping on the lean bandwagon, but many are being taken for a ride. *IndustryWeek*, pp. 3-6.
- Peters, T., & Waterman, R. (1982). *In search of excellence: Lessons from America's best-run companies*. New York, NY: Harper & Row.
- Plochg, T., & Zwieten, M. v. (2002). *Guidelines for quality assurance in health and health care research*. Amsterdam: Qualitative Research.
- Podolny, J. M. (1998). Network forms of organization. *Annual Review of Sociology*, 24, 57-76.
- Podolny, J. M., & Baron, J. N. (1997). Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 62(5), 673-693.

- Portes, A. (1998). Social capital: Its origins and applications in modern society. *Annual Review Sociology*, 24, 1-24.
- Portes, A. (2000, March). The two meanings of social capital. *Sociological Forum*, 15(1), 1-12.
- Powell, W. (1990). Neither market nor hierarchy: Network forms of organizations. In B. M. Staw, & L. L. Cummings (Eds.), *Research in Organizational Behavior* (pp. 295-336). Greenwich, CT: JAI Press.
- Putnam, R. D. (1993). *Making democracy work, civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 3, 65-78.
- Ramias, A. (2005). *The mists of six sigma*. New York, NY: BPTrends.
- Rao, A., Carr, L. P., Damolena, I., Kopp, R. J., Martin, J., Rafii, F., & Fineman  
Schlesinger, P. (1996). *Total quality management: A cross functional perspective*. New York, NY: John Wiley & Sons.
- Reeves, C. A., & Bednar, D. A. (1994). Defining quality: Alternatives and implications. *Academy of Management Review*, 19(3), 419-445.
- Rehder, R. R., Hendry, R. W., & Medaris Smith, M. (1985, December). NUMMI the best of both worlds? *Management Review*, 36-41.
- Rigby, D., & Bilodeau, B. (2007). *Management tools and trends 2007*. Boston, MA: Bain and Company.

- Robertson, P. J., & Seneviratne, S. J. (1995). Outcomes of planned organizational change in the public sector: A meta-analytical comparison to the private sector. *Public Administration Review*, 55(6), 547-558.
- Romo, F. P., & Schwartz, M. (1995). Structural embeddedness of business decisions: A sociological assessment of the migration behavior of plants in new york state between 1960 and 1985. *American Sociological Review*, 60, 874-907.
- Rowley, T., Behrens, D., & Krackhardt, D. (2000). Redundant governance structures: An analysis of structural and relational embeddedness in the steel and semiconductor industries. *Strategic Management Journal, Special Issue*, 21, 369-386.
- Safford, H. F. (1989). The US army ordnance department's use of quality control. *Quality Engineering*, 1(3), 371-372.
- Sanders, J. H. (2010, March). Six sigma myths busted. *Industrial Engineer*, 41-46.
- Schein, E. H. (1990, February). Organizational culture. *American Psychologist*, 45(2), 109-119.
- Schiff, M. (1992). Social capital, labor, mobility, and welfare: The impact of uniting states. *Rationality and Society*, 4, 157-175.
- Schroeder, R. G., Linderman, K., Liedtke, C., & Choo, A. S. (2007). Six sigma: Definition and underlying theory. *Journal of Operations Management*, 26, 536-554.
- Schwandt, T. A. (1998). Constructivist, interpretivist approaches to human inquiry. In N. K. Denzin, & Y. S. Lincoln (Eds.), *The landscape of qualitative research: Theories and issues* (pp. 221-259). Thousand Oaks, CA: Sage Publications.

- Seidman, I. E. (1991). *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. New York, NY: Teachers Press.
- Shear, M. D., & Kumar, A. (2009, April 9 19). Obama picks technology and performance officers. *The Washington Post*, pp. C-2.
- Sherman, J. D., Repenning, N. P., & Kofman, F. (1997). Unanticipated side effects of successful quality programs: Exploring a paradox of organizational improvement. *Management Science*, 583-594.
- Shortell, S. M., O'Brien, J. L., Carman, J. M., Foster, R. W., Hughes, E. F., Boerstler, H., & O'Connor, E. J. (1995). Assessing the impact of continuous quality improvement/total quality management: concept versus implementation. *Health Services Research*, 30(2), 377-400.
- Sila, I., & Ebrahimpour, M. (2002). An investigation of the total quality management survey based research published between 1989 and 2000: A literature review. *The International Journal of Quality & Reliability Management*, 19(6/7), 902-971.
- Sirkin, H. L., Keenan, P., & Jackson, A. (2005, October). The hard side of change management. *Harvard Business Review*, 41-53.
- Smith, A. (1976). *An inquiry into the nature and causes of the wealth of nations*. Chicago, IL: University of Chicago Press.
- Smith, B. (2003). Lean and six sigma - A one-two punch. *Quality Progress*, 37-41.
- Sousa, R., & Voss, C. (2002). Quality management re-visited: A reflective review and agenda for future research. *Journal of Operations Management*, 20, 91-109.

- Sterman, J. D., Repenning, N. P., & Kofman, F. (1997). Unanticipated side effects of successful quality programs: Exploring a paradox of organizational improvement. *Management Science*, 583-594.
- Steyn, H. (2000). An investigation into the fundamentals of critical chain project scheduling. *International Journal of Project Management*, 20, 363–369.
- Stiles Associates. (2009). *Pulling away: Lean leadership survey*. New London, NH: Stiles Associates.
- Strong America Now. (2011). *Strong America now voter guide 2012 major republican candidates*. Retrieved November 5, 2011, from Strong America Now: [http://strongamericanow.org/sites/default/files/Strong\\_America\\_Now-Voter\\_Guide-2012.pdf](http://strongamericanow.org/sites/default/files/Strong_America_Now-Voter_Guide-2012.pdf)
- Stuelpnagel, T. (1993). Deja vu: TQM returns to detroit and elsewhere. *Quality Progress*, 26(9), 91-5.
- Tang, Z., Chen, X., & Wu, Z. (2010, December). Using behavior theory to investigate individual-level determinants of employee involvement in TQM. *Total Quality Management*, 21(12), 1231–1260.
- Tanz, J. (2003, October 1). *A brief history of management*. Retrieved February 2, 2011, from CNN money: [http://money.cnn.com/magazines/fsb/fsb\\_archive/2003/10/01/353427/index.htm](http://money.cnn.com/magazines/fsb/fsb_archive/2003/10/01/353427/index.htm)
- Taylor, F. W. (1911). *Shop management*. New York, NY: Harper & Brothers.
- Taylor, F. W. (1911). *The principles of scientific management*. New York, NY: Harper & Brothers.

- TBM Consulting Group, Inc. (2011). *Tying inventory levels to customer demand: case study*. Durham, NC: TBM Consulting Group, Inc.
- The Shingo Prize. (2011). *The Shingo prize: awards*. Retrieved Feb 8, 2011, from The Shingo Prize for Operational Excellence: <http://www.shingoprize.org/the-shingo-prize.html>
- The World Bank. (2011). *Social capital*. Retrieved March 11, 2012, from The World Bank: Working for a World Free of Poverty: <http://go.worldbank.org/VEN7OUW280>
- Thinkexist.com. (2012). *W. Edwards Deming quotes*. Retrieved June 6, 2011, from Thinkexist.com: [http://thinkexist.com/quotation/learning\\_is\\_not\\_compulsory-neither\\_is\\_survival/12332.html](http://thinkexist.com/quotation/learning_is_not_compulsory-neither_is_survival/12332.html)
- Troy, K. L. (1991). *Quality training: What top companies have learned*. New York, NY: The Conference Board.
- Tsai, W. (2000). Social capital, strategic relatedness and the formation of intraorganizational linkages. *Strategic Management Journal*, 925-939.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal*, 41(4), 464-476.
- Ueno, A. (2008, September). Is empowerment really a contributory factor to service quality? *The Service Industries Journal*, 28(0), 1321–1335.
- United States Department of Commerce. (2013, May 13). *North American Industry Classification System*. Retrieved August 6, 2013, from United States Census Bureau: <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012>

- Upadhye, N., Deshmukh, S. G., & Garg, S. (2010). Lean manufacturing for sustainable development. *Global Business and Management Research: An International Journal*, 2(1), 125-137.
- Ven den Steen, E. (2005). *On the origin of shared beliefs (and corporate culture)*. Cambridge, MA: MIT Sloan School of Management.
- Vera, D., & Crossan, M. (2004). Strategic leadership and organizational learning. *The Academy of Management Review*, 29(2), 222-240.
- Walker, G. (1998). Strategy and network formation. In J. Baum (Ed.), *Advances in Strategic Management* (Vol. 15, pp. 149-165). Greenwich, CT: JAI Press.
- Walker, G., Kogut, B., & Shan, W. (1997). Social capital, structural holes and the formation of an industry network. *Organization Science*, 8(2), 109-125.
- Walton, M. (1986). *The Deming management method*. New York, NY: Perigee Books.
- Weisbord, M. (1987). *Productive workplace: Organizing and managing for dignity, meaning and community*. San Francisco, CA: Jossey-Bass Publishers.
- Welch, J. (2002). *Jack: Straight from the gut*. New York, NY: Warner Books.
- Wells, H. G. (1922). *A short history of the world*. New York, NY: The Macmillan company.
- Wenpin, T. (2000). Social capital, strategic relatedness and the formation of intraorganizational linkages. *Strategic Management Journal*, 21, 925-939.
- White, S. (2008). Siemens A&D customer support increases customer satisfaction through effective training and coaching. *Industrial and Commercial Training*, 40(1), 29-33.

- Wilkins, A., & Ouchi, W. G. (1983). Efficient cultures: Exploring the relationship between culture and organizational performance. *Administrative Science Quarterly*, 28, 468-481.
- Williams, M. (2000). Interpretivism and generalisation. *Sociology*, 34(2), 209–224.
- Wince, R. (2010). *Lean six sigma makes a comeback and finds favor in the service sector*. Mesa, AZ: Guidon Performance Solutions.
- Womack, J. P., Jones, D. T., & Roos, D. (1990). *The machine that changed the world*. New York, NY: Rawson Associates.
- Woodbury, R. (1960). The legend of Eli Whitney and interchangeable parts. *Technology and Culture*, 1(3), 235-253.
- Woolcock, M. (1998). Social capital and economic development: toward a theoretical synthesis and policy framework. *Theory and Society*, 27, 151-208.
- Zatzick, C. D., Moliterno, T. P., & Fang, T. (2012). Strategic (MIS)FIT: The implementation of tqm in manufacturing organizations. *Strategic Management*, 1002-1012.
- Zbaracki, M. J. (1998, September). The rhetoric and reality of total quality management. *Administrative Science Quarterly*, 43(3), 602-636.
- Zeithaml, V., Parasuraman, A., & Berry, L. (1990). *Delivering quality service*. New York, NY: Free Press.
- Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, 53(1), 107–128.



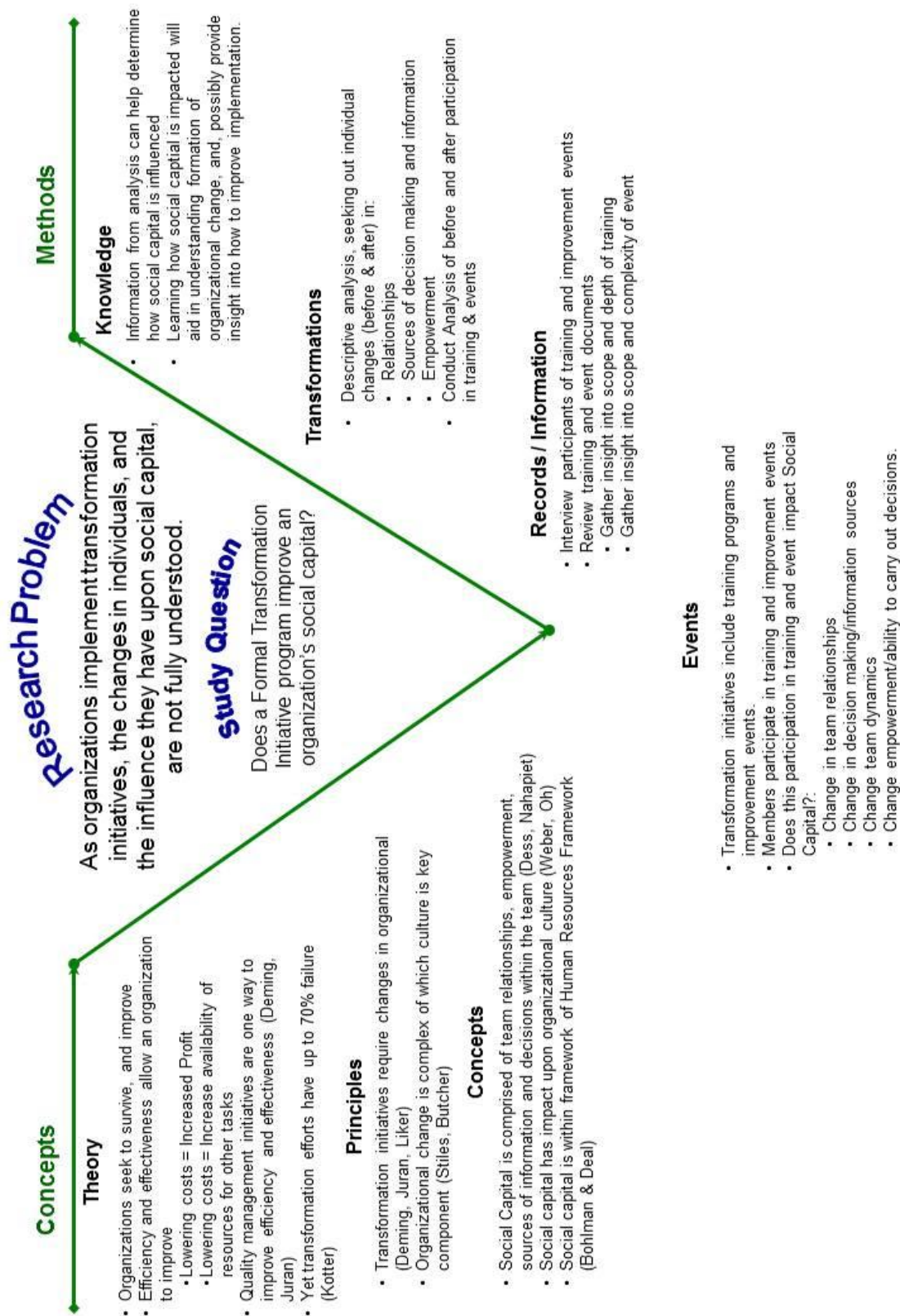
Zhen, W. (2010). A social capital perspective of innovation from individuals to nations:

Where is the empirical literature leading us? *International Journal of*

*Management Reviews*, 151-183.

## Appendices

### Appendix A: Vee Diagram



*Appendix B: Original Interview Guide*

**Introduction:**

Thank you for agreeing to participate in this study and allowing me to interview you. You've read and signed the consent form; do you have any questions regarding the form or your consent? Also, you are aware that this discussion will be audio recorded and later transcribed, with the recording and transcription under my protection and not released to anyone? Are you ready to begin?

**Background Information:**

**Company Background:**

1. Tell me about your company?
  
2. What can you tell me about the company's transformation initiative?

**Individual Background:**

3. Tell me about your role in the company?

**Training and Participation:**

**Training:**

4. Tell me about the training you've taken?

**Event Involvement:**

5. What did you see in the event(s) in which you've participated?

**Perceptions and Opinions:**

**Perceptions of Changes in Operations:**

6. After the training and the event; what happened back in your section/division regarding using what you learned?

**Perceptions of Changes in Relationships**

7. After the training and the event; what happened back in your section/division regarding the way people acted?

**General Questions:**

8. What surprised you most about the transformation initiative?
  
9. If you were Supreme Ruler for a day...what would you do regarding the transformation initiative?

That is all the questions I have. Do you have any questions regarding this study for me? I will be taking the audio recording from this discussion, transcribing it, and compiling it with other interviews. From that I will be conducting an analysis for my dissertation. I may be in contact with you again for follow-up questions or if there's a need to clarify any points. Is that agreeable? Thank You.

## *Appendix C: Original Interview Guide with Author Notes*

### Overall Notes:

- *While vetting company, determine preferred method (Lean, Six Sigma, Theory of Constraints, etc.) and use instead of “transformation initiative.”*
- *Do not state aloud section headers in bold; those are only for reference.*
- *Strive for specific examples, especially those that demonstrate actions before training/participation and those after training participation.*

### **Introduction:**

Thank you for agreeing to participate in this study and allowing me to interview you. You’ve read and signed the consent form; do you have any questions regarding the form or your consent? Also, you are aware that this discussion will be audio recorded and later transcribed, with the recording and transcription under my protection and not released to anyone? Are you ready to begin?

### **Background Information:**

**Company Background:** *Intent: Understand organization historical and current environment.*

1. Tell me about your company?

*Notes: Try to capture the following:*

- *Product Type*
- *Size of Company*

2. What can you tell me about the company’s “transformation initiative?”

*Notes: Try to capture the following:*

- *Year Initiative Started*
- *Determine methods/tools used (i.e. Lean, Six Sigma, BPR, etc. or a combination?)*
- *Opinion on how prevalent the initiative is: How well communicated, How widespread, how well accepted, etc.*

**Individual Background:** *Intent: Understand background/experience of individual*

3. Tell me about your role in the company?

*Note: Try to draw out roles & responsibilities as related to the transformational initiative (i.e. do they direct people to participate in training/events? Are they in an area that is heavily subjected to change?)*

### **Training and Participation:**

**Training:** *Intent: Determine what training they’ve taken. Depth, scope and type of training.*

4. Tell me about the training you've taken?

*Notes: Try to capture the following:*

- *What's the attitude of the company towards the training?*
- *What did they like/dislike about the training?*
- *What did they take away from the classes?*
- *Have they applied anything they learned?*
- *Have they shared the concepts and tools they've learned?*
- *Would they recommend the training? Why? Or Why Not?*

**Event Involvement:** *Intent: Determine what type of events in which they've participated. Helps clarify methods used. Also, types of events can help gauge organization's commitment to transformation (if big complex events=more commitment, if little insignificant event=less commitment) Also, if individual participates in more than one event, indicates individual's commitment.*

5. What did you see in the event(s) in which you've participated?

*Notes: Try to capture the following:*

- *What's the attitude of the company towards the event?*
- *Was event meaningful or just something used to "check the box?"*
- *Is what's being taught in the classroom being applied to the event?*
- *How did team member interact? Were people engaged or just wanting to get done?*
- *Was the experience of doing the event worthwhile?*

**Perceptions and Opinions:**

**Perceptions of Changes in Operations:** *Intent: This is a key factor. Seeking to gauge change in individual's actions, knowledge, and behavior. Also to gather insight into any changes in their team/organization/culture as well as relationships.*

6. After the training and the event; what happened back in your section/division regarding using what you learned?

*Notes: Try to capture the following:*

- *Changes in Behavior and attitude*
- *Changes in Communication and Flow Information*
- *Decision making changes: more/less empowerment*
- *Applying methods and tools from training to real world*
- *Sharing of knowledge*
- *Comments on training and event participation after the fact*
- *Any additional training requested?*

**Perceptions of Changes in Relationships:** *Intent: This is another key factor. Seeking to gauge changes in relationships: who they deal with and why. Are there any changes from before and after?*

7. After the training and the event; what happened back in your section/division regarding the way people acted?

*Notes: Try to capture the following:*

- *Changes in Behavior and attitude*
- *Relationships: More engaged? More informal?*
- *Changes in Communication and Flow Information*
- *Decision making changes: more/less empowerment*
- *Noticeable differences between before and after the initiative/training*

**General Questions:** *Intent: To spark any additional thoughts or examples that may not have been made during previous questions.*

8. What surprised you most about the “transformation initiative?”

9. If you were Supreme Ruler for a day...what would you do regarding the “transformation initiative?”

That is all the questions I have. Do you have any questions regarding this study for me? I will be taking the audio recording from this discussion, transcribing it, and compiling it with other interviews. From that I will be conducting an analysis for my dissertation. I may be in contact with you again for follow-up questions or if there's a need to clarify any points. Is that agreeable? Thank You.

### *Appendix D: Revised Interview Guide*

#### **Introduction:**

- Thank you for agreeing to participate in this study and allowing me to interview you.
- Do you have any questions regarding the consent letter?
- Just a reminder that no individual or company names will be published.
- Do give your consent to have this interview audio recorded?
- Are you ready to begin?

#### **Demographics:**

How long have you worked at the company?

What's your current role?

What training have you taken?

Have you participated in any events? How many?

#### **Critical Incident Questions:**

Can you tell me about a process improvement project on which you've worked?

- How was the issue identified?
- How was the issue addressed?
- What was the result?

#### **Follow-on question(s) (relating to structural, relational or cognitive aspects mentioned):**

- You mentioned \_\_\_\_\_ can you expand upon that?

#### **Conclusion:**

- That is all the questions I have. Do you have any questions for me?
- I will be taking the audio recording from this discussion, transcribing it, and compiling it with other interviews. From that I will be conducting an analysis for my dissertation.
- I may be in contact with you again for follow-up questions or if there's a need to clarify any points.
- Is that agreeable?
- Thank You.



*Appendix E: IRB Informed Consent Letter*

Dear (Name),

You are invited to participate in a research study, entitled *A Study of Transformational Initiatives and Social Capital*. The study is being conducted by Craig Plain, a doctoral student at the University of Wisconsin - Milwaukee.

The purpose of this study is to examine the relationship between an individual's actions during the implementation of a transformational initiative (such as Lean, Six Sigma, Total Quality Management, etc.) and that change in the organization's social capital (to include interpersonal relationships, individual empowerment, changes in decision making and changes in sources of information.). Additionally, the information gathered in this study will contribute to the body of knowledge as to why transformational initiatives fail or succeed. Approximately 12 people will be asked to be participants in this study. If you agree to participate, you will be asked to participate in an interview: either in person, or via telephone. It should not take more than one or two hours of your time.

Risks that you may experience from participating are considered minimal. There are no costs for participating. Benefits of participating include the opportunity to reflect upon your motivators for learning about, and participating in, transformational initiative training and events. It may also provide reflection on how the knowledge and skills obtained from participating in a transformational initiative may fit into your career goals.

Your information collected for this study is completely confidential and no individual participant will ever be identified with his/her research information. Data from this study will be saved on password protected computer for one year. Only Craig Plain will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review your records to protect your safety and welfare.

Your participation in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with the University of Wisconsin Milwaukee.

If you have questions about the study or study procedures, you are free to contact the investigator at the address and phone number below. If you have questions about your rights as a study participant or complaints about your treatment as a research participant, contact the Institutional Review Board at (414)229-3173 or [irbinfo@uwm.edu](mailto:irbinfo@uwm.edu).

To voluntarily agree to take part in this study, you must be 18 years of age or older. By signing the consent form you are giving your consent to voluntarily participate in this research.

Thank you!

Craig Plain

(Adult & Continuing Education, UWM School of Education, P.O. Box 413, Milwaukee, WI, 53201, Phone 414-467-1162, E-mail [craigplain@gmail.com](mailto:craigplain@gmail.com))

## Curriculum Vitae

Craig Plain

Place of birth: Milwaukee, WI

### Education

B.B.A., University of Wisconsin-Whitewater, December 1984  
Major: Economics

M.A., University of Oklahoma, August 1993  
Major: Economics with Emphasis in Management

Dissertation Title: A Study of Transformational Initiatives and Social Capital

### Non-Degree Education and Certification:

Black Belt Certification, US Air Force, 2007.

Air Command & Staff College: US Air Force Master's Leadership Course, 2005.

General Electric Project Leadership Certification, 2003.

General Electric Six Sigma Green Belt Certification, 2000.

Squadron Officer School, US Air Force Graduate Level Leadership Course, 1987.

### Research Experience:

- Original research work on *Impact of Student Surveys on Instructors' Development*. This qualitative study examined how Faculty use information from end of course student surveys for professional development. Presented at American Association for Adult and Continuing Education's conference.
- Original research work: *Evaluating Corporate Training: Using Qualitative Research Techniques to Analyze End-of-Course Surveys*. This study took qualitative data from 17 different surveys and applied thematic coding to create a process to allow for data comparison. Presented at Academy of Human Resource and Development (AHRD) International Conference and selected for publication.
- Conducted three Return on Investment Studies for GE Healthcare to investigate the relationship between the amount of technical training received and worker performance. These quantitative studies sought focused primarily on the performance of those trained to service specific systems and those not trained.

### Publications:

- Article, *Using Affinity Diagrams*, selected by peer reviewed *Quality Progress* Magazine. Published in March 2007.
- Article based on original research as presented at international conference of Academy of Human Resource Development, *Use of Qualitative Methodology to Analyze Corporate Training*, selected for a special practitioners' edition of *Advances in Human Resource Development Journal*.

- Book review of *Nation Building* by Walter B. Jung published by peer reviewed *Strategic Studies Quarterly*, Spring 2009.
- Book review of *Thinking about Causes: From Greek Philosophy to Modern Physics* edited by Peter Machamer and Gereon Wolters published by Air Force Research Institute Outreach program, June 2010. ([http://afri.au.af.mil/review\\_full.asp?id=254](http://afri.au.af.mil/review_full.asp?id=254))
- Over 40 columns on training, education and leadership published as regular Columnist for both Southwest Wisconsin and Southcentral Chapters of the American Society for Training and Development Chapter Newsletters.

#### Presentations

- October 2009: Presented “Using Lean/Six Sigma to Improve an Organization” for University of Wisconsin-Madison’s Leadership & Management Conference.
- May 2009: Keynote Speaker for South Central Wisconsin’s Project Management Institute’s Professional Development Days Conference.
- November 2008. Presentation to Madison Area Quality Innovation Network on quality initiatives of the Air Force Smart Operations for 21<sup>st</sup> Century program.
- Commencement Speaker for 2007 Joint Reserve Officer Training Corps Commission Ceremony at Marquette University
- 2006 International Conference of American Association for Adult and Continuing Education’s. Presented original research work on *Impact of Student Surveys on Instructors' Development*
- 2005 Academy of Human Resource and Development (AHRD) International Conference. Presented original research work: *Use of Qualitative Methodology to Analyze Corporate Training*
- Poster Presentation at 2005 Midwest Research to Practice Conference in Adult, Continuing, and Community Education: *How the Practical Application of Qualitative Research Methods Transformed a Broken Evaluation Process into a Functional Quality Initiative*
- 2004 University of Wisconsin at Milwaukee’s School of Education Annual Research Conference. Presented original research work: *Evaluating Corporate Training: Using Qualitative Research Techniques to Analyze End-of-Course Surveys*
- 2003 Southwest Wisconsin Chapter of American Society for Training and Development Chapter Meeting. Presentation on Current and Future states of eLearning
- 1998 presentation of “History of Quality” for American Society of Quality’s professional development program at their global headquarters in Milwaukee, Wisconsin.

#### Associations & Membership:

- American Society of Quality
- Toastmasters
- American Society for Training & Development
  - Served on communications committees
  - Regular columnist for two area chapters
- Association for Human Resource & Development