IDEA IMPLEMENTATION FROM AN INTER-ORGANIZATIONAL NETWORK

A thesis presented by

Dawn Michele Hess

to

the School of Education

In partial fulfillment of the requirements for the degree of

Doctor of Education

In the field of

Education

College of Professional Studies
Northeastern University
Boston, Massachusetts
June 2018
Community colleges are seeking operational efficiencies and related cost savings or cost avoidance strategies to compete in today’s competitive higher education marketplace (American Association of Community Colleges, 2014; Amey, 2010; Educause, 2014; Phelan, 2014). One way to realize operational efficiencies is to enhance organizational knowledge through participation in inter-organizational networks (Amey, 2010; Educause, 2014; Geithner & Schulz, 2010; Oelze, Hoejmöse, Habisch & Millington, 2016; Schulz & Geithner, 2010). However, it is unclear how organizational learning occurs, what learning barriers and enablers exist and how they interrupt the organizational learning process at a community college participating in an inter-organizational network. If organizational learning is hindered by barriers, and efficiencies and cost savings are not realized, the focus of the community college may be directed away from the core mission of teaching and student success to economic survival. The purpose of this research was to explore organizational learning, learning barriers and learning enablers within a community college. The community college participates in an upstate New York inter-organizational network seeking organizational performance improvement strategies to remain competitive in today’s challenging market driven environment of higher education.

Keywords: barriers, organizational learning, community college, inter-organizational network, higher education, enablers
Dedication

I’d like to thank my committee chair, Dr. Tova Sanders, for her patient support and endless guidance throughout this process and for her ability to see the big picture in this research. I’d also like to thank committee members Dr. Margaret Gorman and Dr. Jennifer Schneider, without whom this work would not have been possible. My lifelong friend, Bonny Minick, put her decades of middle school English teaching to work by dedicating her time to reading and editing this entire document – she is an amazing, kind and giving person to whom I cannot thank enough. Most importantly, I need to thank my adult child, David Collins, for his intellect, humor and for always believing in me more than I believed in myself; and, my daughter, Mia Huber, who gave up 5 years of bedtime stories so that I could complete this work. My sister, Tara Amyx, is my best friend and my rock. I cannot thank her enough for listening and offering her constant, consistent, practical support and guidance throughout all of life’s endeavors. I’d be remiss not to thank my mother, Debra Donmoyer, who was there when I needed her, especially during a major medical crisis in the middle of this work. And last, but not least, thank you Scott Huber – we survived.
# Table of Contents

## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>4</td>
</tr>
<tr>
<td>List of Figures</td>
<td>9</td>
</tr>
<tr>
<td><strong>Chapter One: Introduction</strong></td>
<td>10</td>
</tr>
<tr>
<td>Introduction/Problem Statement</td>
<td>10</td>
</tr>
<tr>
<td>Research Question</td>
<td>11</td>
</tr>
<tr>
<td>Significance of the Research</td>
<td>12</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>14</td>
</tr>
<tr>
<td>4I sub-processes of organizational learning</td>
<td>14</td>
</tr>
<tr>
<td>Barriers</td>
<td>16</td>
</tr>
<tr>
<td>Summary</td>
<td>18</td>
</tr>
<tr>
<td><strong>Chapter Two: Literature Review</strong></td>
<td>20</td>
</tr>
<tr>
<td>Community Colleges</td>
<td>22</td>
</tr>
<tr>
<td>Completion</td>
<td>24</td>
</tr>
<tr>
<td>Accountability</td>
<td>24</td>
</tr>
<tr>
<td>Funding</td>
<td>25</td>
</tr>
<tr>
<td>Tuition</td>
<td>26</td>
</tr>
<tr>
<td>Increased enrollment</td>
<td>26</td>
</tr>
<tr>
<td>Inter-Organizational Networks</td>
<td>27</td>
</tr>
<tr>
<td>Inter-organizational networks and higher education</td>
<td>28</td>
</tr>
<tr>
<td>Network structure</td>
<td>28</td>
</tr>
<tr>
<td>External link</td>
<td>30</td>
</tr>
<tr>
<td>Goal of inter-organizational networks</td>
<td>30</td>
</tr>
<tr>
<td>Organizational Learning</td>
<td>31</td>
</tr>
<tr>
<td>Strategic renewal</td>
<td>32</td>
</tr>
<tr>
<td>Multi-levels &amp; sub-processes</td>
<td>34</td>
</tr>
<tr>
<td>Feedforward and feedback</td>
<td>35</td>
</tr>
<tr>
<td>Barriers to Organizational Learning</td>
<td>36</td>
</tr>
<tr>
<td>Barrier forms</td>
<td>38</td>
</tr>
<tr>
<td>Conclusion</td>
<td>38</td>
</tr>
<tr>
<td><strong>CHAPTER THREE: RESEARCH DESIGN</strong></td>
<td>40</td>
</tr>
<tr>
<td>Qualitative Research</td>
<td>40</td>
</tr>
</tbody>
</table>
Institutionalizing .............................................................................................................................. 110

Phase III: Data Interpretation and Overarching Themes ........................................................................... 112

Theme 1. Intuiting was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler ................................................................. 115

Theme 2. Inflexible culture and competing goals were barriers while having a common goal was an enabler to interpreting ...................................................................................................................... 116

Theme 3. Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to integrating ........................................................................................................................................ 119

Theme 4. Inflexible culture, ineffective communication, unreliable knowledge, lack of support and lack of implementation ownership were barriers to institutionalizing while effective communication, support and implementation leadership were enablers to institutionalizing ............................................................ 121

Summary of Findings ............................................................................................................................ 124

Chapter Five: Conclusions .................................................................................................................... 126

Interpretations and Conclusions ............................................................................................................ 126

Implications to Theory .......................................................................................................................... 127

Schilling and Kluge (2009). .............................................................................................................. 127

Crossan, Lane and White (1999). ...................................................................................................... 129

Crossan, Lane and White (1999) coupled with Schilling and Kluge (2009). ................................. 130

Implications to Practice ......................................................................................................................... 131

Implication 1. To improve community college stakeholder buy-in, barriers to organizational learning from an inter-organizational network must be addressed .................................................... 131

Implication 2. Although practitioner participation in an inter-organizational network removes barriers to intuiting, barriers to other sub-processes must be removed ............................................. 132

Implication 3. Inter-organizational network ideas must have implementation owners and leadership. .......................................................................................................................................................... 133

Implication 4. Inter-organizational networks must be designed to counteract barriers to organizational learning ..................................................................................................................... 133

Recommendations for Future Research ................................................................................................ 134

Recommendation 1. Types of inter-organizational networks. ............................................................. 134

Recommendation 2. Impact of time on participants ............................................................................. 135

Recommendation 3. Impact on other inter-organizational network participants. ............................. 135

Recommendation 4. Types of barriers and 4I sub-processes .............................................................. 135

Recommendation 5. Inter-organizational network learning ............................................................... 136

Recommendation 6. Mixed methods ................................................................................................. 136
List of Tables

Table 1.1 Interrelated Blocks of Organizational Barriers within the Intuition Process
......................................................................................................................18

Table 3.1 Data Types and Examples per Level of Analysis........................................48

Table 3.2 Document Review and Data........................................................................53

Table 4.1 Structure of Chapter Four: Research Findings..............................................80

Table 4.2 Data from Document Review ........................................................................83

Table 4.3 Linking Data from Idea Implementation Across Interviews and Levels ..........86

Table 4.4 Observations Related to Successful Idea Implementation..............................88

Table 4.5 Categories of Codes and Initial Themes.........................................................90

Table 4.6 Schilling and Kluge’s (2009) Complex of Barriers linked to Inductive Initial Themes............................................................................................................103

Table 4.7 Schilling and Kluge’s (2009) Complex of Barriers to Intuiting linked to Inductive Initial Themes............................................................................................................107

Table 4.8 Schilling and Kluge’s (2009) Complex of Barriers to Interpreting linked to Inductive Initial Themes............................................................................................................108

Table 4.9 Schilling and Kluge’s (2009) Complex of Barriers to Integrating linked to Inductive Initial Themes............................................................................................................110

Table 4.10 Schilling and Kluge’s (2009) Complex of Barriers to Institutionalizing linked to Inductive Initial Themes............................................................................................................112

Table 4.10 Barriers to Organizational Learning by 4I Sub-process at the Community College............................................................................................................114
List of Figures

Figure 1.1  Organizational Learning as a Dynamic Process............................................15
Figure 1.2  The Expanded 4I Model of Organizational Learning Incorporating Barriers......17
Figure 3.1  Inter-organizational Network Active Functional Groups.............................51
Figure 3.2  Organizational Chart of Interviewees .........................................................56
Figure 4.1  The Expanded 4I Model of Organizational Learning Incorporating Themes ....102
Chapter One: Introduction

Introduction/Problem Statement

While some critics have stated that community colleges are trying to be “all things to all people” (Blanchard, Casados & Sheski, 2009; Gonzalez, 2012; Hagedorn & Kuznetsova, 2016; Phelan, 2014), others assert that community colleges have demonstrated a commitment to their mission of access (McClenny, 2013) and affordability (Mellow & Heelan, 2014) and have remained vital to our nation’s and their own state’s economic development throughout times of prosperity or recession (Friedel, Salinas, & Thornton, 2015; Salinas & Friedel, 2016). However, pressures to increase accountability and improve completion rates (American Association of Community Colleges, 2014; Hagedorn & Kuznetsova, 2016; Salinas & Friedel, 2016) have not been accompanied by significant increases in resources from policymakers (Bailey, Jaggers, & Jenkins, 2015; Phelan, 2014). Indeed, a growing reliance on tuition, fees and additional funds from students have not compensated for reduced state and local support (Archibald & Feldman, 2012; Bailey et al., 2015; Cochrane, 2015; Ehrenberg, 2012; Gonzalez, 2012; Mitchell, Leachman & Masterson, 2016), threatening the survival of the institution (Phelan, 2014).

To compete in today’s higher education marketplace, institutions are increasingly cultivating collaborative relationships between themselves in order to maximize value through economies of scale and develop performance improvement strategies (Burns, Crow & Becker, 2015; Educause, 2014; Phelan, 2014). Prior research demonstrates that participation in inter-organizational networks can lead to increased operational efficiencies (Burns et al., 2015; Proenza & Church, 2011) and enhanced organizational learning (Geithner & Schulz, 2010; Oelze, Hoejmose, Habisch & Millington, 2016; Schulz & Geithner, 2010). Many researchers have stated that organizational learning affects the performance of an organization (Crossan,
Lane & White., 1999; Fiol & Lyles, 1985; Kim, 1993; March, 1991; Schilling & Kluge, 2009; Schwandt, 1994, 1997; Weinzimmer & Esken, 2017). Therefore, the ability of an organization to participate in organizational learning is vital to its performance and existence (Kirwan, 2016).

Unfortunately, organizational learning may be inhibited by challenges (Şahin & Cemaloğlu, 2015; Wang, Arnett, & Hou, 2016). As community colleges look for greater efficiency in the use of resources (Dowd & Shieh, 2014) and are guided to participate in external networks to enhance organizational knowledge while seeking to develop performance improvement strategies (American Association of Community Colleges, 2014), barriers may exist that prevent or impede organizational learning. Within the organizational learning process, challenges to learning may include barriers at the individual, group and organizational levels (Şahin & Cemaloğlu, 2015; Schilling & Kluge, 2009). Consequently, the focus of the community college may be directed away from the core mission of teaching and student success to institutional survival (American Association of Community Colleges, 2014).

It is unclear how learning occurs at a community college participating in an inter-organizational network, what learning barriers and enablers exist and how they may impact the organizational learning process; therefore, the purpose of this research was to better understand how learning occurs, what learning barriers and enablers exist and how they impact the organization’s dynamic social learning process at a community college participating in an inter-organizational network.

**Research Question**

This study was driven by the following primary research question:

*How does organizational learning occur at a community college during idea implementation resulting from participating in an inter-organizational network?*
Significance of the Research

Challenges facing higher education today include a current market-oriented environment (Phelan, 2014) where customer satisfaction is the rule for survival (Guilbault, 2017: Sahney, Banwet & Karunes, 2004). Community colleges are also under societal pressure (Kirwan, 2016) to increase accountability and improve completion rates (American Association of Community Colleges, 2014; Hagedorn & Kuznetsova, 2016; Salinas & Friedel, 2016). These challenges, combined with diminishing state support and constrained local resources (Archibald & Feldman, 2012; Bailey, Jaggars & Jenkins, 2015; Boyce, 2003; Phelan, 2014), increased tuition (Ehrenberg, 2012; Evans, 2013; Mitchel, Palacios & Leachman, 2014), and increased enrollment (Mason, 2015; Merisotis & Wolanin, 2015; Salinas & Friedel, 2016; Strauss, 2015) have created operating conditions that compel community colleges to plan for increased efficiency (Cochrane, 2015; Dowd & Shieh, 2014), and cost reductions or cost avoidance in nontraditional ways (American Association of Community Colleges, 2014; Educause, 2014; Phelan, 2014).

Recognized for improving performance and thereby enhancing competitiveness, both public and private institutions are increasingly involved in inter-organizational collaborative efforts (Burns, Crow & Becker, 2015; Hakansson & Snehota, 1995; Knight, 2002; Provan & Milward, 1995) seeking to find opportunities to reduce or avoid costs (Educause, 2014). Across the country, higher education institutions are developing collaborative relationships between themselves in order to maximize value through economies of scale (American Association of Community Colleges, 2014; Burns et al., 2015; Educause, 2014; Johnson, Adams Becker, Estrada & Freeman, 2015). Researchers assert that higher education institutions spend time and commit resources to inter-organizational networks with the expectation that shared knowledge
gained from collaboration (Proenza & Church, 2011) results in learning, leading to positive organizational performance outcomes (Sita Nirmala Kumaraswamy & Chitale, 2012).

An inter-organizational network extending beyond organizational boundaries can offer an external link for organizations to exchange knowledge, discuss issues and develop concepts directly related to their operational practices (Loebbecke, Van Fenema & Powell, 2016; Popp, MacKean, Casebeer, Milward & Lindstrom, 2014; Schulz & Geithner, 2010). Additionally, inter-organizational network collaborations can provide an important foundation for organizational learning (Wang, Arnett & Hou, 2016). Indeed, a vital outcome of inter-organizational networks is learning (Knight, 2002; Mozzato & Bitencourt, 2014).

As learning is a social process, it is a collaborative effort where individual organizational members create new ideas and contribute to the learning of organizations by sharing their knowledge through interaction with others (Engeström & Kerosuo, 2007; Holmqvist, 2003; Aponte & Zapata, 2013). However, prior research has identified possible barriers to organizational learning (Argyis, 1990; Bain, 1998; Berends & Lammers, 2010; Inkpen & Crossan, 1995; Larsson, Bengtsson, Henriksson & Sparks, 1998; March & Olsen, 1975; Morgan, 1986; Nieminen, 2005; Schilling & Kluge, 2009; Silverman, 1975; Smolarczyk & Hauer, 2014; Van de Ven & Polley, 1992). Although many studies emphasize potential challenges to organizational learning, with the exception of the investigation by Shilling and Kluge (2009) there has been little research utilizing the 4I framework focusing on learning barriers (Crossan, Maurer & White, 2011). Therefore, further work is needed for a better understanding of how organizational learning occurs, what learning barriers exist and how they impact the 4I organizational learning cycle (Crossan et al., 2011).
Theoretical Framework

The theoretical framework informing this doctoral thesis was Crossan, Lane and White’s (1999) 4I model of organizational learning coupled with Schilling and Kluge’s (2009) extension of the 4I model with categorized barriers to organizational learning. Using an organizational learning framework as a basis for exploring learning barriers and enablers within a community college, this study sought a better understanding of idea implementation within and across the 4I learning sub-processes.

4I sub-processes of organizational learning. Crossan, Lane and White (1999) support their learning framework with four assumptions: organizational learning creates a tension between the concurrent processes of integrating new knowledge (feed forward) and taking advantage of (exploiting) what has already been learned (feedback); learning occurs across the three organizational levels of individual, group and organization; the 4I social processes of intuiting, interpreting, integrating and institutionalizing link the three organizational levels; and, throughout the 4I social processes there is an interactive relationship between understanding and action. This model (Figure 1) identifies the four sub-processes of organizational learning which feed forward knowledge from the individual to the organization and emphasize interpretation and integration. Socialization transfers tacit and explicit knowledge from individuals to the organization and vice versa.
For Crossan, Lane and White (1999) the concept of tension between exploration for and exploitation of critical resources is central to strategic renewal. The centrality of this tension is demonstrated in the feed forward and feedback loop processes of their 4I model (Real, Roldan & Leal, 2014). Feed forward relates to exploration processes as the transfer of new knowledge from individuals and groups that becomes embedded or institutionalized in the organization (Crossan et al., 1999; Crossan et al., 2011; Jones & Macpherson, 2006). New knowledge flows through the organization from the individual to the group and the organizational levels (Crossan...
et al., 1999, 2011). Concurrently, feedback processes occur when knowledge that has already been learned is exploited (Crossan et al., 1999; Jones & Macpherson, 2006; Real et al., 2014).

Crossan, Lane and White (1999) posit that change is incremental and the result of the continual non-linear, iterative learning of the 4I social processing. While three organizational levels create the structure for learning, the natural progression of the 4I processes allows the knowledge to flow and holds the structure together (Crossan et al., 2011); however, not every process occurs at every level (Crossan et al., 1999). *Intuiting* is an individual level of “preconscious recognition” (Crossan et al., 1999, p. 525) that only affects others when they socially interact. *Interpreting*, as an explanation of an idea through words or actions, may occur at the individual level but may also extend to the group level (Crossan et al., 1999; Crossan et al., 2011; Jones & Macpherson, 2006; Lawrence, Mauws, Dyck & Kleyson, 2005; Schilling & Kluge, 2009). Likewise, *integrating* as a form of developing a mutual understanding and taking an organized action links the group and organizational level (Crossan et al., 1999, 2011; Jones & Macpherson, 2006; Lawrence et al., 2005; Schilling & Kluge, 2009). When the coordinated action becomes the norm, it has been *institutionalized* at the organizational level (Crossan et al., 1999, 2011; Curry, 1992; Huysman, 1999; Jones & Macpherson, 2006; Lawrence et al., 2005; Schilling & Kluge, 2009). Once institutionalized, the customs and rules that comprise an organization exist independently of any one individual although individuals and their actions are affected by these rules and customs; therefore, knowledge directs actions just as actions apprise knowledge (Crossan et al., 1999; Jones & Macpherson, 2006).

**Barriers.** Schilling and Kluge (2009) have built upon previous work and extended the 4I model to include categorized individual and organizational barriers to organizational learning (Crossan et al., 2011; Lawrence et al., 2005). Their extended model incorporates prior research
on sociopolitical processes of influence, force, discipline and dominance and integrates these into Crossan, Lane and White’s (1999) 4I model of organizational learning (Crossan et al., 2011; Lawrence et al., 2005) as well as identifies and incorporates additional learning barriers within the dynamic social learning process (Figure 2).

![Figure 1.2. Schilling and Kluge (2009, p. 342). The Expanded 4I Model of Organizational Learning Incorporating Barriers.](image)

From their systematic review, Schilling and Kluge (2009) extended the 4I model by grouping barriers to organizational learning according to their interrelated forms: action – personal which are characterized by individual or self-interested action, structural-organizational
which are characterized by routines and structures, and the societal-environmental which relate to the relevant social and material world, or the background of the organization. The barrier forms are structured around Crossan, Lane and White’s (1999) four learning sub-processes so that each sub-process has an applicable cluster of barrier forms: action-personal, structural-organizational and societal-environmental barriers. For example, in addition to other categorized learning barriers, Schilling and Kluge (2009) found the learning sub-process of intuition may be hindered by structural-organizational forms that lack clear, measurable goals and performance feedback (Table 1). Similarly, the model proposes clustered forms of learning barriers between each of the other three learning sub-processes: interpretation, integration and institutionalization.

Table 1.1

Interrelate Blocks of Learning Barriers within the Intuition Process

<table>
<thead>
<tr>
<th>Form</th>
<th>Barriers</th>
<th>Central Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action-personal</td>
<td>Biases and deficiencies of employees in their function as sensors of the organization</td>
<td>Huber, 1991: McCracken, 2005</td>
</tr>
<tr>
<td>Structural-organizational</td>
<td>Lack of clear, measurable goals and performance feedback</td>
<td>Edmondson and Moingeon, 1996</td>
</tr>
<tr>
<td>Societal-environmental</td>
<td>Branch with unclear criteria of success</td>
<td>Edmondson and Moingeon, 1996; Kim, 1993</td>
</tr>
</tbody>
</table>

Note. From Shilling and Kluge (2009, Table 2, rows 1, 2, 3, 11 & 19).

Summary

This theoretical construct served as a frame in which to answer the research question which guided this research and a lens in which to view the overall process of organizational learning, as well as learning at the individual, group and organizational levels. Focus was on exploring barriers to the overall 4I learning process and sub-processes at all levels of analysis within the context of a community college participating in an inter-organizational network. The
literature in the next chapter explores the challenges facing community colleges, the nature of collaborative inter-organizational relationships in higher education, organizational learning, associated barriers and evolution of thought within the field.
Chapter Two: Literature Review

Responding to today’s competitive higher education marketplace, community colleges are guided to participate in inter-organizational networks to seek much needed organizational knowledge and performance improvement strategies (American Association of Community Colleges, 2014; Educause, 2014). Individual, group and organizational barriers within the dynamic social learning process may prevent or impede anticipated organizational learning (Schilling & Kluge, 2009). Consequently, barriers to the social learning process may thwart participating institutions’ efforts to enhance organizational learning, improve organizational performance and compete in today’s higher education marketplace.

Organizational learning is the primary concept addressed in this literature review. Prior research demonstrates that organizational learning is enhanced and operational efficiencies are gained through participation in inter-organizational networks (Oelze et al., 2016; Proenza & Church, 2011; Schulz & Geithner, 2010). However, it is unclear how learning occurs, what learning barriers and enablers exist and how individual, group and organizational barriers and enablers impact organizational learning within a community college that participates in an upstate New York inter-organizational network seeking organizational performance improvement strategies.

This research focused on one community college participating in an inter-organizational network seeking operational efficiencies and related cost-savings or cost-avoidance strategies by implementing ideas and enhancing organizational knowledge from collaboration and exposure to external resources. The term inter-organizational network is defined as a system of loosely bonded groups of organizations connected by geographical proximity, common interests or activities, or participation in a common service delivery with an emphasis on interconnectedness.
rather than active collaboration for joint action (Knight, 2002). For the purposes of this work, operational practices are defined as activities associated with operating the organization as a business, including but not limited to all facilities and infrastructure suitable for supporting an academic institution’s mission and ancillary activities. Barriers to learning are defined as individual, group or organizational behaviors that prevent or impede organizational learning which is understood to be a social process resulting in the transfer of knowledge for performance improvement (Schilling & Kluge, 2009).

This review begins by exploring the range of challenges facing community colleges today which have created the need to improve operational performance and realize cost savings (American Association of Community Colleges, 2014; Educause, 2014; Phelan, 2014). To address challenges, higher education institutions are developing collaborative relationships; therefore, the literature on these relationships is also discussed (American Association of Community Colleges, 2014; Burns et al., 2015; Educause, 2014; Johnson et al., 2015). Since the expectation of higher education institutions from participation in collaborative inter-organizational networks is organizational improvement from knowledge sharing (Burns et al., 2015; Proenza & Church, 2011) and enhanced learning (Sita Nirmala Kumaraswamy & Chitale, 2012), literature on inter-organizational networks is also explored.

Prior work linking inter-organizational networking and organizational learning (Jones & Macpherson, 2006; Schulz & Geither, 2010; Wang et al., 2016) is presented. Included is an overview of the considerable theoretical research on organizational learning as a social process involving individuals and groups which can affect the performance of an organization (Berta, Cranley, Dearing, Dogherty, Squires & Estrabrooks, 2015; Crossan, Lane & White, 1999; March, 1991; Nonaka, 1994; Real et al., 2014; Schwandt, 1994, 1997; Schilling & Kluge, 2009).
However, the focus of this review is on Crossan, Lane and White’s (1999) 4I framework of organizational learning.

When researching organizational learning, many researchers suggest that barriers should be considered (Crossan et al., 1999; Schilling & Kluge, 2009; Smolarczyk & Hauer, 2014). Therefore, this review includes literature on prior research of barriers to organizational learning (Argyis, 1990; Bain, 1998; Inkpen & Crossan, 1995; Larsson et al., 1998; March & Olsen, 1975; Morgan, 1986; Nieminen, 2005; Schilling & Kluge, 2009; Silverman, 1975; Smolarczyk & Hauer, 2014; Van de Ven & Polley, 1992). Specifically, Schilling and Kluge’s (2009) extension of the 4I model with classification of barriers to the dynamic social learning process is explored. The intent of this review is to firmly establish from prior literature the necessity of a community college to participate in an external collaborative inter-organizational network to enhance learning while recognizing that there may be barriers to the 4I learning sub-processes which may impede the social processes of organizational learning and thwart community colleges’ efforts to gain operational efficiencies and associated cost savings.

**Community Colleges**

There is an expanding consensus about the importance of education today (Cochrane, 2015). A college education has been asserted to be the key to success in the 21st century (Ma & Baum, 2016). Community colleges enroll 42% of our country’s undergraduates and award the majority of associate degrees and undergraduate certificates (Cochrane, 2015). As a gateway to higher education for many students who may not have considered higher education otherwise (Ma & Baum, 2016), community colleges are vital to our nation’s future (American Association of Community Colleges, 2014).
The term community college has been used to describe a range of institutions that offer vocational diplomas, technical and pre-professional certificates and two-year associate degrees ("Community colleges", n.d.). As public institutions, community colleges represent an immense public investment, and society looks to them to provide access to higher education for many who face economic constraints (Dowd & Shieh, 2014), as well as, to provide various other community services such as workforce development, employee training (Ma & Baum, 2016) and remedial education (Bailey & Averianova, 1998; Blanchard, Casados & Sheski, 2009). Since their inception in the early 1900s, community colleges have experienced an evolution in their character, mission and purpose (Bailey & Averianova, 1998; Cohen, Brawer & Kisker, 2013). The earliest community colleges emphasized academic preparation for transfer to senior institutions, serving primarily as junior colleges, while today’s community colleges have developed into much more complex organizations which fill numerous needs and have multiple missions (Bailey & Averianova, 1998), including affordable tuition and open admission expectations (Cohen et al., 2013).

Challenges facing higher education today include a current market-oriented environment (Phelan, 2014) where customer satisfaction is the rule for survival (Guilbault, 2017; Sahney, Banwet & Karunes, 2004). Community colleges are also under societal pressure (Kirwan, 2016) to increase accountability and improve completion rates (American Association of Community Colleges, 2014; Hagedorn & Kuznetsora, 2016; Salinas & Friedel, 2016). These challenges, combined with diminishing state support and constrained local resources (Archibald & Feldman, 2012; Bailey et al., 2015; Boyce, 2003; Phelan, 2014), increased tuition (Ehrenberg, 2012; Evans, 2013; Mitchel et al., 2014), and increasing enrollment (Mason, 2015; Merisotis & Wolanin, 2015; Salinas & Friedel, 2016; Strauss, 2015) have created operating conditions that
compel community colleges to plan for increased efficiency (Cochrane, 2015; Dowd & Shieh, 2014), and cost reductions or cost avoidance in nontraditional ways (American Association of Community Colleges, 2014; Educause, 2014; Phelan, 2014).

**Completion.** In April 2012, following President Obama’s February 2009 goal of reclaiming the top college graduation rate worldwide by 2020 (Salinas & Friedel, 2016; Zumeta, 2013), the American Association of Community Colleges published their report commonly referred to as the Completion Agenda, *Reclaiming the American Dream*, which calls for a significant increase in the number of students graduating from community colleges. The reports states that community colleges should

…increase completion rates of students earning community college credentials (certificates and associate degrees) by 50% by 2020, while preserving access, enhancing quality, and eradicating attainment gaps… (American Association of Community Colleges, 2012, p. x).

Not only does the Completion Agenda advocate for more graduates, the report asserts that the preservation of American democracy is at risk due to poor economic growth from an undereducated American workforce (Harbour & Smith, 2016). Researchers agree that employees (Mitchell, Leachman & Masterson, 2016) and our nation will require more skilled labor in the future (Cochrane, 2015).

**Accountability.** President Obama’s assertion that in the future more jobs will require an education of at least an associate degree brought attention to community colleges (Scott, 2014). This attention from President Obama increased the federal government’s and the public’s scrutiny of community colleges as well as increased calls for greater accountability measures of them (Scott, 2014). The subject of accountability, defined by the American Association of
Community Colleges in 2017 as “whether institutions are achieving their goals consistent with publicly defined objectives”, is currently a major topic of higher education debate. One form of accountability is institutional accreditation through a regional accreditation organization (Scott, 2014). An institution is accredited if it is determined to meet minimum standards of quality (Scott, 2014). Institutional accreditation is required for institutions to be able to award federal financial aids to students (Scott, 2014).

Performance based funding, which links an institution’s enrollment and completion performance rates to state and federal funding programs, is yet another form of accountability (Nisar, 2015; Stuart, 2015). President Obama’s recent Pay for Performance initiative marks the first time the federal government adopted performance-based funding philosophies within the field of higher education (Nisar, 2015). Additionally, performance-based funding initiatives at the state level are spreading across the nation with anticipated increases in funding allocations tied to performance (Nisar, 2015) specifically for community colleges (Sponsler, Pingel & Anderson, 2015).

**Funding.** Despite the fact that community colleges must focus on increased demands, they continue to operate in difficult economic conditions (Bailey & Averianova, 1998; Boyce, 2003; Merisotis & Wolanin, 2015). A major source of funding for community colleges is state and local revenue (Mitchell et al., 2016); however, in 2014, almost all states reported funding higher education at 23 percent per student below pre-recession levels, with New York State funding down 11.1 percent (Mitchell et al., 2014). While most states have begun to restore funding, levels are still below what they were in 2008 with New York State funding still down 6.4 percent from 2008 to 2016, which equates to minus $670 per student after inflation adjustment (Mitchell et al., 2016). Similarly, community college local sponsors are resource
constrained (Merisotis & Wolanin, 2015). To compensate for decreased state and local funding levels, many community colleges have increased tuition, thereby modifying the definition of open access (Mitchell et al., 2016; Phelan, 2014).

**Tuition.** While tuition and fees constitute a relatively small percentage of a community college’s annual budget (Ma & Baum, 2016), years of declining state appropriations per full-time equivalent student (Archibald & Feldman, 2012; Ehrenberg, 2012; Evans, 2013; Mitchell et al., 2016) has left the student to fill the gap through increased tuition (Bandyopadhyay & Lichtman, 2007; Bidwell, 2015; Mitchell et al., 2016; Zumeta, 2013). All states increased tuition at community colleges in the years following the economic crisis of 2008 (Dowd & Shieh, 2014). Although public higher education tuition has substantially increased, these additional funds from the student have barely compensated for the reduction in state and local support (Archibald & Feldman, 2012; Bidwell, 2015). Nevertheless, tuition increases create an obstruction for some students to access higher education, in effect limiting the community college’s ability to fulfill its core mission of open access and affordable tuition (Blanchard et al., 2009; Dowd & Shieh, 2014; Mitchell et al., 2016).

**Increased enrollment.** Although states have chosen to reduce support for public colleges during the recession and slow recovery, community college enrollment has risen (Hagedorn, 2010; Mitchell et al., 2016; Salinas & Friedel, 2016) as some view school as a way to gain skills for employment or as a safe haven from a difficult economy (Bidwell, 2015). This has further increased expectations for community colleges to provide workforce development and employee retraining (Merisotis & Wolanin, 2015; Salinas & Friedel, 2016). Further increasing enrollment, at the White House Summit on Community Colleges in October 2010, President Barack Obama expanded the role community colleges play locally, regionally and
nationally through the American Graduation Initiative as he has called for more than five million American students to earn degrees and certificates (Hagedorn, 2010). Leading up to his 2015 State of the Union address, President Obama unveiled a plan to strengthen the United States workforce, making it more competitive globally and boosting economic growth, by offering a free community college education to qualifying students (Mason, 2015; Strauss, 2015).

While most colleges are making do with fewer resources (Zumeta, 2013), the public expectation for community colleges to do more with less is not sustainable (Cochrane, 2015; Salinas & Friedel, 2016). Researchers assert that during times of increasing enrollments and declining resources, community colleges need to accomplish more while decreasing expenses and sharing resources (Neal, 1998; Smith, Opp, Armstrong, Stewart & Isaacson, 1999). Indeed, pressure is increasing for improved efficiency (Phelan, 2014) in the use of public resources (Dowd & Shieh, 2014).

**Inter-Organizational Networks**

In response to market conditions, organizations are increasingly participating in the growing trend to collaborate and join inter-organizational networks (Davey & Powers, 2016). Both public (Popp et al., 2014) and private institutions are increasingly involved in inter-organizational collaborative efforts because they have been recognized for improving performance and thereby enhancing competitiveness (Burns et al., 2015; Hakansson & Snehota, 1995; Knight, 2002; Provan & Milward, 1995). Because there is no clear definition of inter-organizational networks (Najafian & Colabi, 2014) these non-traditional forms of organizing have been referred to as strategic alliances, coalitions, cooperative arrangements, collaborative agreements, and partnerships (Provan, Fish & Sydow, 2007). Simply, an inter-organizational network is one form of an external collaborative relationship (Schulz & Geithner, 2010) and
collaborations have been defined as “associations of two or more organizations” (Johnson, Adams Becker, Estrada & Freeman, 2015). However, physical proximity has been stressed as an important aspect of inter-organizational networking as it enables frequent interactions which promote the transfer of knowledge enabling learning (Eiriz, Goncalves & Areias, 2017). As stated previously, this research adopted Knight’s (2002) definition of a network as loosely bonded groups of organizations connected by geographical proximity, common interests or activities, or participation in a common service delivery with an emphasis on interconnectedness rather than active collaboration for joint action.

Inter-organizational networks and higher education. Across the country, higher education institutions are developing collaborative relationships between themselves in order to maximize value through economies of scale (American Association of Community Colleges, 2014; Burns et al., 2015; Educause, 2014; Johnson et al., 2015). These mutually beneficial partnerships may provide higher education institutions with a means to greater operational efficiencies (Johnson et al., 2015) and opportunities to reduce or avoid costs (Educause, 2014). Researchers assert that higher education institutions spend time and commit resources to inter-organizational networks with the expectation that the shared knowledge gained from collaboration results in organizational learning, leading to positive organizational performance outcomes (Sita Nirmala Kumaraswamy & Chitale, 2012).

Network structure. A key function of inter-organizational networks is knowledge flow and information exchange; therefore, the structure of the network is important (Popp et al., 2014). Network structure is defined as the design of interactions between organizations (Briscoe, 2005). Although there are many types of network structures (Amey, 2010; Briscoe, 2005; Popp et al., 2014) one arrangement of an external collaborative relationship was described
seminally by Schulz and Geithner (2010) as an inter-organizational network consisting of a platform level and an operational practice level. By design, the platform enables and facilitates knowledge exchange and support for idea implementation external to the boundaries of one single participating organization (Schultz & Geithner, 2010). It is the responsibility of individual members of the inter-organizational network platform to transfer collectively shared knowledge from the platform to the specific operational situation at their workplace (Schulz & Geithner, 2010). Ideally, individuals then transfer back experiences and knowledge from their operational implementation for further discussion on the platform (Schulz & Geithner, 2010). Hence, knowledge gained jointly with other organizations through external exploration may be internalized (and exploited) by single organizations (Eiriz et al., 2017; Holmqvist, 2003).

An important difference of focus exists between the platform level and the operational level (Schultz & Geithner, 2010). The platform level is characterized by goal-oriented cooperation from collective knowledge sharing for realization of efficiency and cost reduction ideas at the conceptual state, while daily work requirements are the focus of the operational practice level (Schultz & Geithner, 2010). At the platform level, collective goals inform decision making while at the operational practice level of participating organizations, individual interests drive the decision to either explore or neglect platform outcomes (Schulz & Geithner, 2010).

Learning occurs on both levels of an inter-organizational network (Popp et al., 2014; Schultz & Geithner, 2010). On the platform level, learning occurs during the idea generating process and at the operational level by transmission and adoption of these ideas (Popp et al., 2014; Schulz & Geithner, 2010). Learning on the platform may involve information exchanges that result in developing problem solving methods, solutions or concepts for planned minor or major changes (Schulz, 2005); whereas, operational practice level learning is mainly a result of
outcomes from the platform (Schulz & Geithner, 2010). Platform level learning moves through the participating organization’s social learning process to become institutionalized knowledge (Schultz & Geithner, 2010). In this way, individual learning is transformed into organizational learning (Sita Nirmala Kumaraswamy & Chitale, 2012). Ideas emerging on the platform may be rejected at the operational practice level of any single organization (Schulz & Geithner, 2010), eliminating the opportunity for learning to occur; therefore, scarce resources and time across both levels are invested without benefit to the organization.

**External link.** An inter-organizational network extending beyond organizational boundaries can offer an external link for organizations to exchange knowledge, discuss issues and develop concepts directly related to their operational practices (Loebbecke et al., 2016; Popp et al., 2014; Schulz & Geithner, 2010). In this way, inter-organizational networks can provide an important foundation for organizational learning (Wang et al., 2016). Indeed, inter-organizational networks and the resulting collaboration have been found to be an important source of organizational learning (Oelze et al., 2016). However, while collaborations may be beneficial, participation does not guarantee that collectively sharing knowledge results in improved performance (Engeström & Kerusuo, 2007) nor does access to external knowledge guarantee improved organizational performance (Bapuji, Loree & Crossan, 2011). Furthermore, the relationship between inter-organizational knowledge sharing and improved performance is not clear or always evident (Eiriz et al., 2015).

**Goal of inter-organizational networks.** The primary goal of an inter-organizational network is to stimulate communication and knowledge-sharing among member institutions (Briscoe, 2005; Kraatz, 1998; Neal, 1988). Therefore, a vital outcome of inter-organizational networks is learning (Knight, 2002; Mozzato & Bitencourt, 2014) and organizational learning
has been established as a social process (Crossan et al., 1999; Holmqvist, 2003; Kim, 1993; March, 1991; Nonaka, 1994; Schwandt, 1994, 1997; Weinzierl & Esken, 2017). Sita Nirmala Kumaraswamy and Chitale (2012) assert that the “only way to enable sharing of knowledge is by bringing people together through collaboration” (p.310). Indeed, organizational learning is integral to inter-organizational collaborations as they are established to learn how to address difficulties that individual organizations are unable to solve on their own (Popp et al., 2014).

**Organizational Learning**

Levitt and March (1988) defined organizational learning as socially constructed knowledge which has become institutionalized, influences and becomes a part of the organization’s own knowledge, becoming evident in routines, procedures, processes, practices, rules, belief structures, culture and strategies. Simon (1991) pointed out that “an important component of organization learning is internal learning - transmission of information from one organizational member or group of members to another” (p. 125). While Senge (1990) argued that becoming a *learning organization* is achieved through social collaboration among individuals leading to new developments and growth, Simon (1991) contended that organizations do not learn, rather, people do, as “All learning takes place inside individual human heads…an organization learns…by the learning of its members…” (p.125). Simon (1991) continued by stating that “Individual learning in organizations is very much a social, not a solitary, phenomenon” (p. 125). Therefore, organizational learning is a collaborative effort where individual organizational members create new ideas and contribute to the learning of organizations by sharing their knowledge through interaction with others (Aponte & Zapata, 2013; Engeström & Kerosuo, 2007; Holmqvist, 2003; Simon, 1991).
Most applicable to this research is the definition of organizational learning provided by Shilling and Kluge (2009) as:

…an organizationally regulated collective learning process in which individual or group-based learning experiences concerning the improvement of organizational performance and/or goals are transferred into organization routines, processes and structures, which in turn affect the future learning activities of the organization’s members (p. 338).

Crossan, Lane and White’s (1999) 4I framework of organizational learning does not provide a simple definition for organizational learning, rather they build their framework upon the main premise that organizational learning is required for strategic renewal and support their learning framework with four assumptions: organizational learning creates a tension between the concurrent processes of integrating new knowledge (feed forward) and taking advantage of (exploiting) what has already been learned (feedback); learning occurs across the three organizational levels of individual, group and organization; the 4I social processes of intuiting, interpreting, integrating and institutionalizing link the three organizational levels; and, throughout the 4I social processes there is an interactive relationship between understanding and action. Each of these aspects of the 4I framework are explored in the following sub-sections.

**Strategic renewal.** Crossan, Lane and White’s (1999) 4I framework identifies and focuses on March’s (1991) assertion that organizational learning must occur by both exploring and learning new ways while simultaneously exploiting what they have already learned. March, Sproull, and Tamuz (2003) posit that organizational learning is a result of exploring lessons learned where both “exploration and exploitation” (p.72) act to inform future decisions. This concurrent learning process is significant and central to the idea of strategic renewal (Crossan et al., 1999, 2011; Real et al., 2014). Crossan, Lane and White’s (1999) framework views an
organization as an open system with both an internal and external focus. From an organizational-level perspective, their main argument is that organizational learning is fundamental to an organization achieving strategic renewal (Crossan et al., 1999; 2011).

In general terms, exploitation refers to the capitalization of a firm on its existing knowledge and practices to maximize efficiency while exploration is the discovery of new knowledge and practices (Ho & Lu, 2015). March et al. (2003) state that exploitation is the process of capitalizing on past successes through redundancy while exploration emphasizes new ideas developed from the exchange of personal experiences with others. As exploration and exploitation are intertwined (Powell, Koput & Smith-Doer, 1996), organizational learning remains a function of both access to new knowledge as exploration and the ability to build on such knowledge as exploitation (Crossan et al., 1999; Ho & Lu, 2015; Holmqvist, 1999; March, 1991). Researchers state that a balance of both exploration and exploitation needs to be achieved in order for organizations to achieve success (Crossan et al., 1999; Holmqvist, 2003; March, 1991; Valaei, Rezaei & Ismail, 2017). Levinthal and March (1993) agree that organizations must “engage in sufficient exploitation to ensure its current viability and at the same time…devote enough energy to exploration to ensure its future viability” (p. 105). Later empirical research demonstrates the strategic renewal process by institutionalization of knowledge from external sources and asserts that external links to knowledge are a key to organizational learning (Jones & Macpherson, 2006). Vital to this research is the discussion by Powell, Koput and Smith-Doerr (1996) of the connection between the learning process and inter-organizational collaborations which stresses that organizations may learn how to fully benefit from inter-organizational collaborations by engaging in both exploration and exploitation of knowledge.
Multi-levels & sub-processes. The idea of renewal that is strategic expands the process of learning to encompass the entire organization; therefore, the 4I learning framework includes four sub-processes that link the three levels of an organization (Crossan et al., 1999). The sub-processes span the individual, group and organizational levels and include intuiting, interpreting, integration and institutionalizing (Crossan et al., 1999, 2011; Jenkin, 2013). The three learning levels create the structure for learning but it is the four sub-processes that join the structure together (Crossan et al., 2011). While three organizational levels create the structure for learning, the natural progression of the 4I processes allows the knowledge to flow and holds the structure together (Crossan et al., 2011); however, not every process occurs at every level (Crossan et al., 1999).

The *intuiting* sub-process occurs at the individual level and involves pattern recognition and insight development (Crossan et al., 1999). *Intuiting* is the practice of “preconscious recognition” (Crossan et al., p. 525) that only affects others when they socially interact. It is the sub-process of *intuiting* that begins the feed-forward movement of knowledge (Jenkin, 2013).

The sub-process of *interpreting* can occur with an individual or extend to the group level (Aponte & Zapata, 2013; Jenkin, 2013; Jones & Macpherson, 2006; Lawrence et al., 2005; Schilling & Kluge, 2009). *Interpreting* involves explaining the preconscious recognitions from intuiting to either one’s self or to others (Crossan et al., 1999, Crossan & Berdrow, 2003). *Interpreting*, through words or actions involves developing understandings and bringing out meanings to help organize information (Crossan et al., 1999; 2011).

The next sub-process, *integrating*, is a group process where shared understandings from interpreting are translated into coordinated action (Crossan et al., 1999, Crossan & Berdrow, 2003; Jenkin, 2013). *Integrating* links the group and organizational levels (Aponte & Zapata,
2013; Crossan et al., 1999, 2011). When new ways of thinking or doing are recurrent and significantly impact the organization through integration, the changes move on to institutionalization (Crossan et al., 1999, 2011).

At the organizational level is the final sub-process of institutionalizing (Crossan et al., 1999, 2011). Institutionalizing occurs when learning becomes embedded into routines (Crossan & Bedrow 2003). At this level, learning that has occurred at the individual and group levels becomes part of organizational systems, structures and strategy (Crossan & Berdrow, 2003). Once institutionalized, the customs and rules that comprise an organization exist independently of any one individual although individuals and their actions are affected by these rules and customs; therefore, knowledge directs actions just as actions apprise knowledge (Crossan et al., 1999; Jones & Macpherson, 2006).

**Feedforward and feedback.** From intuition to institutionalization, knowledge moves through the four sub-process and is gradually changed and shared between levels in a feedforward manner (Crossan et al., 1999; 2011; Jenkin, 2013). This feedforward process reflects how individual and group knowledge are institutionalized through the learning system (Crossan et al., 1999; Jenkin, 2013; Real et al., 2014). New knowledge flows through the organization from the individual to the group and the organizational levels (Crossan et al., 1999, 2011). Actions related to exploration gain meaning as they move through the 4I system (Crossan & Bedrow, 2003). Likewise, the process of feedback from the institutional and group levels to the individual demonstrate how existing knowledge guides learning at each other level (Crossan et al., 1999; Jenkin, 2013; Jones & Macpherson, 2006; Real et al., 2014). The feedforward route enables exploration of new knowledge, while the feedback process enables exploitation of knowledge already gained (Crossan & Berdrow, 2003). The feedforward and feedback loops
within the 4I framework are what create the tension of strategic renewal (Crossan et al., 1999; Crossan & Berdrow, 2003).

**Barriers to Organizational Learning**

The utility of the 4I organizational learning framework has resulted in several theoretical models and empirical studies (Aponte & Zapata, 2013: Berends & Lammers, 2010; Castaneda & Rios, 2007; Crossan & Berdrow, 2003; Crossan et al., 2011; Holmqvist, 2003; Jenkin, 2013; Lawrence et al., 2005; Mozzato & Bitencourt, 2014; Schilling & Kluge, 2009, Vera & Crossan, 2004; Zietsma, Winn, Branzei & Vertinsky, 2002). For example, the 4I framework provided the scaffolding for Crossan and Bedrow’s (2003) empirical study of strategic renewal at Canada Post Corporation and the challenge of managing the tension between exploration and exploitation of knowledge. Focusing on discontinuities in organizational learning, Berends and Lammers (2010) conducted a longitudinal case study by means of the 4I framework finding discontinuities disrupted institutionalization of learning in an international bank.

Many researchers of learning suggest that barriers should be considered (Crossan et al., 1999; Schilling & Kluge, 2009; Smolareczk & Hauer, 2014). Schilling & Kluge (2009) go so far as to state that understanding barriers is necessary to develop strategies to counteract them. However, neither Crossan, Lane and White (1999) nor Schwandt (1997) explore barriers to organizational learning in their theoretical models; although Schwandt (1997) asserts that dysfunction in one subsystem jeopardizes the effectiveness of the whole system as each subsystem requires inputs from the outputs of other systems for learning to occur. Other theoretical and empirical studies have focused on and explored potential particular challenges that may impede or suppress organizational learning (Argyis, 1990; Bain, 1998; Berends & Lammers, 2010; Inkpek & Crossan, 1995; Larsson et al., 1998; March & Olsen, 1975; Morgan,
Specifically, Huang and Shih (2011) extended the 4I model by including components of adult learning theory and single and double loop learning constructs; however, they also assert that the sub-process of intuiting is the most difficult. This assertion is based on the premise by Argyris and Schon (1978) that top managers are more likely to resist and have a low capacity for learning; therefore, Huang and Shih (2011) proposed that this characteristic acts as a barrier to the intuition sub-process of Crossan, Lane and White’s (1999) 4I model. Although many studies emphasize potential challenges to organizational learning, with the exception of the investigation by Shilling and Kluge (2009) there has been little development of the 4I framework focusing on learning barriers (Crossan et al., 2011).

Fortunately, Schilling and Kluge (2009) performed an overall structured review and extended the 4I model by integrating existing evidence and theory on specific barriers to each other and to the organizational learning process. Their extended model incorporates prior research on sociopolitical processes of influence, force, discipline and dominance and integrates these into Crossan, Lane and White’s (1999) 4I model of organizational learning (Crossan et al., 2011; Lawrence et al., 2005) as well as identifies and incorporates additional learning barriers within the dynamic social learning process. Key to this research is their assertion that the organization’s environment is relevant through all of the learning sub-processes (Schilling & Kluge, 2009) as participation in an inter-organizational network provides a community college with an external source of ideas and information. Supporting this assertion, Schilling and Kluge (2009) state that each of the learning sub-processes relies on data from the environment: new idea generation for intuiting, interpretation of these ideas by groups, followed by organizational integration and then institutionalization.
**Barrier forms.** Unfortunately, each of the four social learning sub-processes (intuition, interpretation, integration, and institutionalization) has associated clusters of learning barriers (action-personal, structural-organizational, societal-environmental); hence, the forms of barriers are separate and distinct from the level at which they operate (Schilling & Kluge, 2009). From their systematic review, Schilling and Kluge (2009) extend the 4I model by grouping barriers to organizational learning according to their interrelated forms: *action – personal* which are characterized by individual or self-interested action, *structural-organizational* which are characterized by routines and structures, and *the societal-environmental* which relate to the relevant social and material world, or the background of the organization. The barrier forms are structured around Crossan, Lane and White’s (1999) four learning sub-processes so that each sub-process has an applicable cluster of barrier forms: action-personal, structural-organizational and societal-environmental barriers (Schilling & Kluge, 2009).

**Conclusion**

This literature review identified a need for necessary cost reductions or cost avoidance strategies in community colleges and established participation in inter-organizational networks as a path forward to encourage exploration and enhance exploitation, thereby improving the organization’s learning processes. However, participation in inter-organizational networks may change the theoretically identified interrelated barrier clusters to organizational learning which may exist at each level of analysis: individual, group, organizational and environmental. If organizational learning is hindered and efficiencies and cost savings are not realized, the focus of the community college may be directed away from the core mission of teaching and student success to economic survival. This doctoral thesis investigated barriers and enablers to the
organizational learning process from voluntary participation in an inter-organizational network at a community college.
CHAPTER THREE: RESEARCH DESIGN

This purpose of this chapter is to discuss the methodology for this doctoral thesis. The chapter begins with an overview of the research project’s general methodological approach and includes a description of the research design and tradition, study participants, data collection and analysis and trustworthiness. As stated in the previous chapters, the purpose of this research was to better understand how organizational learning occurs, what learning barriers and enablers exist and how they impact the organizational learning process at a community college participation in an inter-organizational network through the lens of Crossan, Lane and White’s (1999) organizational learning model. The primary research question which guided this study was:

*How does organizational learning occur at a community college during idea implementation resulting from participating in an inter-organizational network?*

Qualitative Research

This research was conducted as a descriptive case study using qualitative methods since rich qualitative data gives insight into the complex social processes involved in organizational learning that are not easily revealed by quantitative data. As a qualitative research approach, case study has been cited as one of the most frequently used methodologies (Yazan, 2015). Three seminal authors, Yin, Stake and Merriam, have provided their insights for researchers when conducting case study research (Creswell, Hanson, Plano & Morales, 2007). While other researchers’ insights are explored, this research aligns with Merriam’s (1998) description of case as “an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit” (p. xiii).

Case study is utilized by researchers conducting empirical inquiries to answer “how or “why” questions about a phenomenon (Yin, 2002). The case study methodology allows for a
more complete understanding of a phenomenon within an authentic context from the perspective of those involved (Stake, 2005; Merriam, 1998; Yin, 2009). This case study of organizational learning at a community college was guided by Merriam’s (1988) description of the special characteristics which define this qualitative approach to research as “particularistic, descriptive, heuristic and inductive” (p. 11). Particularistic because it focuses on a particular phenomenon (Merriam, 1988), in this study the phenomenon of organizational learning. Descriptive because the research yields a “thick” description of the studied phenomenon (Merriam, 1988). Heuristic because the reader’s understanding of the phenomenon is enhanced, enriched or enlightened (Merriam, 1988). Case studies are inductive because they mostly rely on inductive reasoning from data grounded in the context of the bounded system (Merriam, 1988).

Organizational learning is a complex phenomenon that engages individuals, groups and entire organizations; therefore, Baxter and Jack (2008) support the case study approach when they posit that case study methodology permits a researcher to explore a complex phenomenon through individuals or organizations. Given that this research was focused on exploring a specific issue (organizational learning) within a bounded system (a community college participating in an inter-organizational network) it was appropriate to use descriptive case study as the methodological approach (Merriam, 1988).

This inquiry followed Merriam’s (1988) general description of a typical case study research plan which allows for any and all methods of gathering data and techniques for data analysis. By refusing to conceptualize the case study as a process, Merriam (1988) allows the researcher to remain open to discovery and insight and data to interpretation rather than hypothesis testing. A case study, using purposeful sampling enabled this researcher to explore the contextual factors impacting the nature of the phenomenon (Merriam, 1988) of
organizational learning to gain an in-depth understanding of how organizational learning occurs, what learning barriers and enablers exist and how they impact the organizational learning process at a community college participating in an inter-organizational network. The research plan included the following three phases: Phase I was data collection; Phase II focused on analysis of data collected; and Phase III involved interpretation of the data analyzed.

**Paradigm and role of researcher.** “A research paradigm sets the context for an investigator’s study,” (Ponterotto, 2005, p. 128). The researcher’s beliefs about the nature and production of knowledge are the foundation of their study as their epistemological commitment affects every aspect from their interest in a phenomenon to the structure of the final report (Yazan, 2015). Merriam’s (1998) constructivist epistemological stance that there are many, equally valid realities constructed in the mind of individuals experiencing the phenomenon rather than the existence of a single, objective reality informed this researcher’s role as she maintains that:

…the key philosophical assumption upon which all types of qualitative research are based upon is the view that reality is constructed by individuals interacting with their social worlds (p.6).

Within the constructivist-interpretivist paradigm, the researcher understands meaning is hidden and must be uncovered through deep reflection and interaction between the participant and the researcher (Biggerstaff, 2012). It is the researcher who helps bring awareness to the “lived experiences” with the phenomenon that participants hold in their minds (Ponterotto, 2005). Additionally, through these interactions and interpretations, the researcher acts as a co-constructor of findings (Biggerstaff, 2012; Ponterotto, 2005). A distinctive characteristic of constructivism-interpretivism is the centrality of the interaction between the participants/objects
of the investigation and the investigator (Ponterotto, 2005). As a qualitative researcher’s primary role is to understand the reality and meaning constructed by people, Merriam (1998) states:

“The researcher brings a construction of reality to the research situation, which interacts with other people’s constructions or interpretation of the phenomenon being studied. The final product of this type of study is yet another interpretation by the researcher of other’s views filtered through his or her own” (p.22).

In this study, the researcher was positioned closely to the constructivist paradigm, viewing knowledge as socially constructed and emerging from social practices. The researcher’s role was to encourage and bring to the surface the multiple constructed realities through interactive dialogue with participants during the interview process (Ponterotto, 2005). The approach of conducting semi-structured, one-on-one interviews with the participants was intended to help bring to the surface thick descriptions that convey an understanding of their reality that might otherwise be outside of their consciousness (Patton, 2002; Ponterotto, 2005). The desire to understand the barriers and enablers to learning and framing the learning process as a social interaction placed this study firmly in a social constructivist-interpretivist paradigm.

**Research Tradition**

Qualitative methodology is gradually being recognized as a valuable alternative to quantitative studies; however, qualitative methodology is a broad field (Ponterotto, 2005). Divergent definitions of case study and procedures for conducting case study research have been provided by three seminal authors: Yin, Stake and Merriam. Merriam’s definition of case study research is more comprehensive than either Yin’s or Stake’s as she defines “the case as a phenomenon of some sort occurring in a bounded context” (Merriam, 1998, p. 27).
Interestingly, Dawidowicz (2011) does not place emphasis on the differing views but instead asserts that case studies should be defined by the questions a researcher asks and the gap a researcher is attempting to fill rather than by the methods employed. Many other researchers would agree with Dawidowicz (2011) that case study research seeks to answer "How" and "Why" questions (Eisenhardt & Graebner, 2007; Meyer, 2001; Yazan, 2015; Yin, 1994; Zucker, 2009). Because this research sought to answer the question, 
How does organizational learning occur at a community college during idea implementation resulting from participating in an inter-organizational network? exploring the phenomenon of organizational learning in the bounded context of one community college through in-depth interviews with individuals, Merriam’s (1998) case study research methodology was most fitting for this study.

Research Design

This section describes the plan or research design that served as the guide for conducting this study and highlights the qualitative case study. For this study, both an inductive and deductive analysis process was used. As the research progressed, the inductive approach moved from specific observations to pattern or category detection (Bernard, 2011) as the researcher found connections between many small pieces of information (Lodico, Spaulding & Voegtle, 2010). From these patterns or themes, generalizations were developed (Lodico, et al., 2010). Therefore, inductive reasoning began with a phenomenon that the researcher then constructed an image of based upon observations, generalizations and relationships (Lodico et al., 2010).

Upon completion of Phase I, data collection, Phase II, data analysis, consisted of two parts, the first part followed an inductive process while the second part followed a deductive process. The initial themes identified during the first inductive part of Phase II, data analysis, were used in the second deductive part for comparison to, and characterized against, Shilling and
Kluge’s model (2009). Within this second part of Phase II, data analysis, Yin's (2009) method for explanation building was utilized. Phase III of this research involved interpretation of the data analyzed.

As stated previously, this research most closely followed Merriam’s (1998) guidance for the design of qualitative research which includes performing a literature review, identifying a theoretical framework, identifying a research problem, developing research questions and selecting the purposeful sample. This methodology allowed for exploration of organizational learning in a single setting by utilizing in-depth data collection methods from a variety of sources (Merriam, 1998). Data was collected from multiple sources including document review, observations and semi-structured, one-on-one, interviews with multiple stakeholders, and included rich data that emerged directly from the participants as they provided what Geertz’ (1973) terms as “thick descriptions” based on their personal reflections and recollections. These multiple data sources were also used to provide a fuller understanding of the context of the case (Creswell, 2012).

Research Site

The ability to view “the case as a thing, a single entity, a unit around which there are boundaries” (p. 27) is the defining characteristic of case study (Merriam, 1998). This study took place at a community college in upstate New York which celebrated its 50th anniversary in 2017. As part of the State University of New York (SUNY) network of higher education, the community college is accredited by the Middle States Commission on Higher Education, offering 60 associate degree and certificate programs designed to prepare students for employment or transfer to four-year colleges and universities upon graduation. Six thousand five
hundred and twenty-one full and part-time students from approximately 350 high schools in New York State and across the United States were enrolled in the Fall of 2016.

The college operates one main campus with on-campus housing and a daycare center, four satellite campuses and two experiential learning campuses. To compete in today’s higher education marketplace, the college is pursuing collaborative external relationships through an inter-organizational network with hopes of maximizing value through economies of scale. Based on Meriam’s (1998) guidance for a bounded context, this community college served as an appropriate example in which to study barriers and enablers to organizational learning from participation in an inter-organizational network.

Data Collection

Defining characteristics of case study, supported by Merriam (1998), Yin (2013) and Stake (2005) are the use of research question(s) to guide the data collection and the dependence of the researcher upon multiple sources of data. During Phase I, data collection, this research focused on three evidentiary sources referred to as: documentation, observation and interview. However, within the category of documentation, both current documentation and archival records were reviewed. Additionally, observations were made directly from the researcher, by participants and included physical artifacts. The researcher kept a journal to capture researcher insights as they developed.

Merriam’s (1998) case study design is flexible, and while she provides direction for design, she agrees with Yin that evidence should be systematically recorded for organization. Merriam’s (1998) extensive data collection guidance focuses on interviews as the most common form of data collection in case study research, while cautioning the use of subjective researcher
observations. Therefore, the data collection phase of this study, Phase I, followed Merriam’s (1998) flexible design for data collection by using non-sequential data collection methods.

While each type of data collection (See Table 3.1) was performed non-sequentially across three levels of analysis (individual, group and organization), the overall data collection process was iterative in that each type of data collected and then initially analyzed informed the direction for collection of the next piece of data. Utilizing documents, observations and interviews helped the researcher understand the experience that occurred between each 4I sub-process and thus answer the “how” question. Using multiple types of organized data allowed common themes to emerge so that analysis through the lens of Crossan, Lane and White’s (1999) 4I model could then be used to understand barriers and enablers to organizational learning at the community college as it seeks to improve performance.
<table>
<thead>
<tr>
<th>4I Sub-process</th>
<th>Data Types &amp; Examples</th>
<th>Documentation</th>
<th>Observation</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intuit</strong></td>
<td>Forms and other</td>
<td>Daily work</td>
<td>One-on-one, semi-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>documents used in</td>
<td>practices and</td>
<td>structured interviews</td>
<td></td>
</tr>
<tr>
<td></td>
<td>daily work practices</td>
<td>routines</td>
<td>with community college</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>employees, Department</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Directors, Senior Vice</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>President of</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Administration and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Finance</td>
<td></td>
</tr>
<tr>
<td><strong>Interpret &amp;</strong></td>
<td>Departmental level</td>
<td>Staff meetings</td>
<td>Interview with</td>
<td></td>
</tr>
<tr>
<td><strong>Integrate</strong></td>
<td>goals, departmental</td>
<td></td>
<td>community college</td>
<td></td>
</tr>
<tr>
<td></td>
<td>level contracts,</td>
<td></td>
<td>employees, Department</td>
<td></td>
</tr>
<tr>
<td></td>
<td>written SOPs,</td>
<td></td>
<td>Directors, Senior Vice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>departmental procedures,</td>
<td></td>
<td>President of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>email or other</td>
<td></td>
<td>Administration and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>communication,</td>
<td></td>
<td>Finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>departmental meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Institutionalize</strong></td>
<td>Written communications such as college-wide website, emails or marketing materials, policies, college wide procedures, President/Cabinet &amp; Board of Trustees meeting minutes, division level goals.</td>
<td>President/Cabinet &amp; Board of Trustees Meeting, College-wide Meeting or other type of Communication</td>
<td>Interview with community college Department Directors and Senior Vice President of Administration and Finance</td>
<td></td>
</tr>
</tbody>
</table>
**Data type: Document review.** Data collection began with a review of documents from the inter-organizational network and the community college. Both organizations’ publicly available websites were reviewed. Additional nonproprietary documentation was requested from, and provided by, participants of the inter-organizational network and the community college. Documents were selected for review if they potentially contained information that could lead to relevant data or if they specifically referenced either the inter-organizational network or an idea and/or initiative of the inter-organizational network.

In order to gain an initial understanding of inter-organizational network ideas and/or initiatives, the first six documents reviewed were the three end of the year inter-organizational network summary reports for 2014, 2015, and 2016. Since the 2017 annual summary report was not yet available, the first three quarterly reports for 2017 were reviewed. Documents and information from the inter-organizational network included the mission and vision statements, annual and quarterly reports, meeting agendas and minutes, conference proceedings, organizational tables, and participant lists.

The organizational structure of the inter-organizational network was reviewed to identify the functional units represented by the network: Auxiliary Services, Purchasing, the Controller’s Office, Facilities, Human Resources, Information Technology and Environmental, Health and Safety. Informing the direction of further data collection was the finding from the inter-organizational network documentation that the Purchasing and Auxiliary Services groups merged with the Controller’s Office group and had renamed themselves the Financial Matters functional group, while the Facilities group combined with the Environmental, Health and Safety functional group. It was noted that both mergers were meant to combine the less active Auxiliary Services,
Purchasing and Facilities groups with the more active Controller’s Office and Environmental, Health and Safety functional groups, respectively, both of which had documented successful idea implementation.

Documentation at the inter-organizational level for the Human Resources and Information Technology functional groups indicated that these functional groups were active within the inter-organizational network. Documents reviewed showed that the community college directors from both the Human Resources and Information Technology Departments initially participated in the inter-organizational network functional groups; however, no evidence was found in inter-organizational network documentation to indicate that either of these directors attempted to implement any ideas from the inter-organizational network. Inter-organizational network documents indicated that both of the community college Human Resources and Information Technology Directors eventually stopped participating in functional group meetings. Additionally, community college documentation made no reference to implementation of any of the ideas found in the inter-organizational network Human Resources or Information Technology functional group documentation other than the cyber security insurance idea which was ultimately implemented through the Controller’s Office at the community college. Because of the lack of inter-organizational network idea implementation and community college director participation, no documentation from either of these departments was reviewed for this study.

Figure 3.1 is a visual representation of the inter-organizational network and the active functional groups.
Key documents from the inter-organizational network such as meeting agendas and meeting minutes provided insight into the ideas that were discussed within the inter-organizational network. Meeting minutes and participant lists also served to document the directors from the community college who participated in those discussions. This information informed the selection of additional community college documents to review, which community college departmental meetings to attend, and the selection of manager, supervisor and employees to interview.

The mission and vision statements, annual reports, conference proceedings and presentations were treated as one group of documents at a higher level of analysis. All other inter-organizational network documentation and information was organized chronologically according to functional group. Following the document review and initial analysis of the inter-
organizational network’s annual summary and quarterly reports, the community college’s website and documentation were researched. Community college documents reviewed included the strategic plan, mission and vision statements, organizational charts, job descriptions, emails, meeting minutes, divisional and departmental goals, standard operating procedures and associated forms. Similar to the organization of the inter-organizational network documentation, these documents were also organized chronologically and by functional group.

Available documentation which could potentially contain information leading to relevant data from each of the community college's departments which participate in the inter-organizational network was also reviewed. Once it was found that the Purchasing, Auxiliary Services and Controller’s Office functional groups were combined at the inter-organizational level, the community college documentation from these areas was combined and reviewed as one functional group. Combining this documentation created a more complete picture of the path of idea implementation and the individuals involved in implementation at the community college. The same type of document organization and review by functional group was performed for the merged Facilities and Environmental, Health and Safety functional groups. Documentation concerning the organizational structure of the community college and each department was reviewed to identify potential interview participants within functional areas other than directors. Table 3.2 shows the document types and documents which were reviewed and the type of data that was collected from these documents.
Table 3.2

Document Review and Data

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Document</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inter-organizational Network</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td></td>
<td>Vision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission</td>
</tr>
<tr>
<td>Reports</td>
<td>Annual</td>
<td>Ideas Shared within the Network</td>
</tr>
<tr>
<td></td>
<td>Quarterly</td>
<td>Institutions Participating</td>
</tr>
<tr>
<td>Organizational Tables</td>
<td>Participant List</td>
<td>Community College Directors Participating</td>
</tr>
<tr>
<td>Conference Materials</td>
<td>Agenda</td>
<td>Ideas Shared within the Network</td>
</tr>
<tr>
<td></td>
<td>Presentations</td>
<td>Community College Directors Participating</td>
</tr>
<tr>
<td></td>
<td>Sign-In</td>
<td></td>
</tr>
<tr>
<td>Functional Group</td>
<td>Meeting Agendas</td>
<td>Ideas Shared</td>
</tr>
<tr>
<td></td>
<td>Meeting Minutes</td>
<td>Community College Directors Participating</td>
</tr>
<tr>
<td></td>
<td>Group Reports</td>
<td></td>
</tr>
<tr>
<td><strong>Community College</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td>Strategic Plan</td>
<td>Vision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission</td>
</tr>
<tr>
<td>Organizational Charts</td>
<td>Division Chart</td>
<td>Directors</td>
</tr>
<tr>
<td></td>
<td>Department Chart</td>
<td>Managers, Supervisors and Staff</td>
</tr>
<tr>
<td>Department Specific</td>
<td>Controller’s Office</td>
<td>Goals</td>
</tr>
<tr>
<td></td>
<td>Facilities</td>
<td>Meeting Minutes</td>
</tr>
<tr>
<td></td>
<td>Purchasing</td>
<td>Job Descriptions</td>
</tr>
<tr>
<td></td>
<td>Auxiliary Services</td>
<td>Standard Operating Procedures &amp; Forms</td>
</tr>
<tr>
<td></td>
<td>Environmental, Health &amp; Safety</td>
<td>Emails</td>
</tr>
</tbody>
</table>
These documents helped illustrate areas of alignment or interruption in the organizational learning process and potentially highlighted the differing learning barriers and enablers. This document review process is summarized in Appendix D, Document Review Process. The document review was intended to re-familiarize the researcher with inter-organizational network ideas, initiatives and information. Re-familiarization allowed the researcher to view the data through the lens of Crossan, Lane and White’s (1999) 4I model rather than as an employee/participant.

**Data type: Semi-structured interviews with key informants.** Semi-structured one-on-one interviews were conducted with key stakeholders within a two-month period. Specifically, this research focused on employees of the community college who had the opportunity to interact with the inter-organizational network and begin implementation of new ideas or initiatives that had been shared within the network, as well as, other managers, supervisors or employees of the community college who did not have direct contact with the inter-organizational network but had an opportunity to work with the ideas or initiatives after they were introduced to the community college by an inter-organizational network participating director.

Originally, there were seven directors at the community college who had directly interacted with the inter-organizational network representing the following departments: Purchasing, Facilities, Information Technology, Auxiliary Services, Human Resources, the Controller’s Office and Environmental, Health and Safety. An email invitation was sent to each director and the Senior Vice President of Administration and Finance requesting participation in the study, explaining the purpose of the study and the research process including specifying that each interview would last no more than 60 minutes and be audio recorded, asking permission to
interview the directors and key staff and observe an operational departmental meeting, communicating that participation was voluntary and that participant may withdraw at any time.

The Senior Vice President of Administration and Finance and all seven directors responded and were willing to participate; however, based on the inter-organizational network document review which indicated that the directors of Human Resources and Information Technology no longer participated in the inter-organizational network and were not a part of a successful idea implementation, only the Senior Vice President of Administration and Finance and a total of four directors participated in the study: the Controller, the Director of Purchasing, the Director of Auxiliary Services and the Director of Facilities.

Following the 4I sub-processes from intuition at the individual level to interpretation, integration and institutionalization, the organizational charts from the five departments within the community college that actively participated in the inter-organizational network were used to select six managers, supervisors or other employees as potential interview participants. Of these six, after initial direct contact, four individuals agreed to participate. One individual from the Controller’s Office and one individual from the Purchasing Department represented the combined Financial Matters functional group, while one individual from the Environmental, Health and Safety Department and one from the Facilities Department represented this combined functional group.

To follow the flow of knowledge, interviews began with the Senior Vice President of Administration and Finance, which informed the Directors’ interviews, which then informed the interviews of managers, supervisors or staff. The organizational chart created for this research to visually depict the reporting structure of the interviewees at the community college is shown in Figure 3.2.
The interviews were designed to provide detailed descriptions and rich data as to how individuals, departments and the organization encountered or exhibited barriers to, or enabled learning from, inter-organizational networking and collaboration. The interviews were considered the primary source of data used to inform this study as they came directly from participants providing their own “thick descriptions” about the learning barriers and enablers they encounter with inter-organizational learning. Each interview lasted no more than one hour and was conducted in a convenient location for the participant. Interviews were digitally recorded with a hand-held digital voice recorder while the researcher also took written notes. Notes were used to emphasize thoughts that were particularly significant or those that required a follow-up question and were used for reference with the transcribed document during the analysis stage. The researcher transcribed all of the interviews.

The semi-structured interview technique allowed for flexibility and spontaneous discussions to occur, which produces stronger interviews (Merriam, 2009). Two interview
protocols (Appendix B) were developed to guide the discussion with participants: one protocol was used for the Senior Vice President of Administration and Finance and department directors and a separate protocol was developed for managers, supervisors and all other community college employees. The Interview protocol for the Senior Vice President of Administration and Finance and the department directors contained seven primary questions and ten prompts, while the interview protocol for managers, supervisors and other employees contained four main questions and eight prompts (See Appendix B).

Prior to the interview, participants were provided a copy of the interview protocol which explained what would take place during the interview, the purpose of the study and asked participants to sign an informed consent document (Appendix C) which explicitly stated that participation was voluntary, participant information remained confidential and informed participants of their right to terminate participation at any time. Participants were also informed that they may be contacted for a brief follow up interview to provide clarity, if necessary. Each participant was provided with a copy of the signed consent document for their personal reference and to enhance trustworthiness of this research.

**Data type: Observations.** Observation data was not only used for initial data collection and analysis but also as a supplement to, and validation technique of, possible differing levels of implementation of inter-organizational ideas and/or initiatives and potential barriers or enablers to organizational learning in action. The intent of meeting observation was to help understand how organizational learning occurs, what barriers and enablers exist and how they impact the organizational learning process at the individual, group and organizational levels. When choosing which meetings to observe, ease of access as well as which groups were more likely to
have discussions about either the strategic direction of the community college or departmental operational communications were considered.

One organizational strategic meeting at the divisional level, conducted by the Senior Vice President of Administration and Finance was observed. Among others, in attendance were the directors from the Controller’s Office, Auxiliary Services and Facilities. For departments with directors performing a leadership role in the inter-organizational network, it was assumed that they would discuss and actively work toward supporting the collaboration-seeking strategic efforts of the community college, communicate this with their staff or have operational communications concerning inter-organizational initiatives. Requests were made to observe at least one operational meeting from each participating community college department: the Controller’s Office, Purchasing, Facilities, Auxiliary Services, and Environmental, Health and Safety; however, only a Facilities Department and a Controller’s Office meeting were observed.

During meetings, observations and notes were focused on when participants directly or indirectly referenced inter-organizational ideas and/or initiatives or work related to an inter-organizational idea and/or initiative using the Observation Protocol developed for this research (Appendix E). For all observations, notes were taken to ensure accuracy in reporting. Meeting notes were made available to meeting attendees so that they could provide feedback and validation. All notes were reviewed and initial themes were noted. The researcher remained non-participatory during meetings as an unobtrusive observer; however, many meeting attendees were aware of the academic study since advanced permission was attained to observe.

**Sampling and Participants**

Since the primary purpose of this research was to gather insights from practice, not test theory, Eisenhardt and Graebner (2007) assert that purposeful sampling was appropriate. This
study used purposeful sampling to identify participants. Purposeful sampling helped to ensure
that a representative mix of participants was recruited as a sample of the community college
population.

**Recruitment of participants.** A purposeful method was used to target and recruit
participants. Participants were recruited based on their potential for contributing in-depth
knowledge to the study and participation was voluntary. A variety of diverse stakeholders were
recruited in order to understand how they experienced the process of organizational learning
within the community college, as well as, to understand how the participant’s viewed and
experienced barriers and enablers to the organizational learning process. While the Senior Vice
President of Administration and Finance was chosen as a participant, each Director or Assistant
Director of a functional area (department) of the community college represented within the inter-
organizational network was also initially selected for participation: Auxiliary Services,
Purchasing, the Controller’s Office, Facilities, Human Resources, Information Technology and
Environmental, Health and Safety. In functional areas (departments) with more than one direct
report at least one other individual from within each functional area was also chosen to
participate. The community college’s organizational chart was used to identify potential
participants for the study. Input from the community college’s inter-organizational network
functional area department Directors was also used when selecting participants as it was
important to select personnel who had been working at the community college since the time the
college began participating in the inter-organizational network.

Confidentiality was maintained throughout the research project to protect the privacy of
the volunteer participants and the community college. Additionally, participants were asked to
sign an informed consent document (Appendix C) prior to the interview which explicitly stated
that participation was voluntary, that participant information remained confidential and informed participants of their right to terminate participation at any time. Each participant was provided with a copy of this signed document for their personal reference.

Except for the Senior Vice President of Administration and Finance, the recruitment for each stakeholder was similar and involved the following four steps:

- First, the organizational structure of the inter-organizational network was studied through a document review. This identified all of the functional units represented in the network: Purchasing, Facilities, Information Technology, Auxiliary Services, Human Resources, the Controller’s Office, and Environmental, Health and Safety.

- Second, the organizational structure of the community college was studied through a document review to identify potential participants other than Directors within each of the functional areas (departments).

- Third, an email (Appendix A) from the researcher was sent to the Senior Vice President of Administration and Finance and community college department directors representing each of the functional units as a means of introduction to the study, explaining the purpose of the study and asking permission to interview the directors and key staff and to observe an operational departmental meeting. Specifically, the email communication informed the individual that they had been selected to participate in the study, provided the potential participant with an overview of the study and the research process, and specified that each interview would take no more than 60 minutes, would be audio recorded, and communicated to them that participants had the opportunity to read the
transcription and provide feedback to the researcher. The email also stated that participation was voluntary and volunteers may withdraw at any time. Each participant was provided several dates and times from which to choose and asked to select one that is convenient for them.

- Fourth, potential participants that were not the Senior Vice President of Administration and Finance or community college department directors were contacted directly to solicit their interest in taking part in the study.

**Data Storage**

All collected data was managed by the researcher and only the principal investigator and the researcher had access to the data. Copies of documents reviewed, noted observations, digital audio recordings, interview transcriptions, coding and the researcher’s journal were maintained electronically on a secured password protected computer server that was only accessible to the researcher. The server has a secured redundant hard drive that backed-up all materials in the event of a hard drive failure. All paper-based field notes were scanned electronically and stored on the secured computer server. After scanning the field notes, paper copy notes were destroyed. To protect participants, materials were carefully marked using pseudonyms. An electronic database containing a master list of dates, times, and other relevant information was maintained by the researcher and stored on a secured server. All digital audio recordings were properly disposed of immediately following the conclusion of this study for the confidentiality and protection of all stakeholders. All other data will be securely maintained for three to five years and then properly disposed.
Data Analysis

This research used an iterative approach to data collection with one phase of data analysis supporting another. Simultaneous data collection and analysis is a central attribute of qualitative research (Merriam, 1998). Therefore, during Phase I of this research, data collection, Phase II began which focused on analysis of the data collected. This concurrent and interactive process allowed preliminary analysis of the data to lead to alterations in the other phases of the research (Merriam, 1998).

Merriam (1998) defines data analysis as

…the process of making sense out of the data. And making sense out of data involves consolidating, reducing and interpreting what people have said and what the researcher has seen and read – it is the process of making meaning (p. 178).

This study was both inductive and deductive in nature as data analysis used both inductive and deductive techniques. Phase I of this research, data collection, involved an initial inductive analysis of each piece of data collected to inform the collection of the next piece of data. Phase II, data analysis, consisted of two parts. The first part of Phase II, data analysis, consisted of an inductive analysis process guided by the processes proposed by Merriam (1998). The second part of Phase II, data analysis, consisted of a deductive process guided by Yin (2009) where the initial themes that emerged from the first part of Phase II were compared to the elements of Schilling and Kluge’s (2009) complex of barriers within the 4I learning process of Crossan, Lane and White’s (1999) 4I theoretical framework of organizational learning. Phase III involved interpretation of the data analyzed in Phase II.

Inductive analysis. The first part of data analysis was inductive, going from specific observations to broader generalizations and included the development of codes, words or short
phrases that represent salient attributes from the data, by the researcher, for use in subsequent analysis (Saldana, 2016). Merriam (1998) suggests that levels of data analysis include condensing the data by building categories, naming the categories, and creating systems for organizing the data. It is this intuitive process of data analysis and theorizing about the data that develops which is the core of the case study (Merriam, 1998). Saldana (2016) describes this type of inductive analysis as first cycle coding which includes in vivo and initial coding. In second cycle coding the researcher was focused on finding themes or concept similarities using pattern, focused and axial coding (Saldana, 2016).

All interviews were transcribed by the researcher. This allowed the researcher to once again engage with the complete interview, permitted the researcher the opportunity to review the details of each interviewee’s response and begin connecting with the interviewee’s language in order to fully embrace the technique of vivo coding.

After transcription and member checking, each interview was initially scanned and highlighted for key words or phrases. All key words or phrases were entered into an Excel spreadsheet and organized according to respondent and interview question. Each interviewee’s data was recorded on a separate spreadsheet. Next, data from the document review and observations from meetings were added to the individual interview spreadsheets based upon the functional area they represented. Since the Financial Matters functional group was represented by three different directors and each director spoke about different successful and unsuccessful initiatives, the data relating to the initiatives described by the director was added to their interview spreadsheet. The Director of Facilities and the Assistant Director of Environmental Health and Safety also spoke about different ideas that were implemented; therefore, the documentation relating to the initiative they described was included on their interview
spreadsheet. A separate spreadsheet was created for the Senior Vice President of Administration and Finance and data from the higher level of the inter-organizational network was added to this spreadsheet. Each individual spreadsheet was analyzed and initial codes were developed using either in vivo codes or codes were categorized and named according to their attributes.

To further analyze the data, all initial categorized color-coded key words and phrases and all seven initial themes from all spreadsheets were condensed into one master spreadsheet in order to create a visual representation of codes and initial themes with the ability to look across the data and the organization. Because the Senior Vice President of Administration and Finance and director interview questions were slightly different than the manager, supervisor and employee questions, the spreadsheet contained large areas of white space which made it difficult to “see” the broader initial themes developed from the initial categories of codes. To remove the “dead spaces” the initial data from key words or phrases from interviews, document review and meeting observations were then organized by initial code, color coded by category, or initial theme, and separated by query.

**Deductive analysis.** The second part of data analysis involved deductive analytical techniques to move from the general to the more specific. This part followed Yin’s (2002) principal of constant comparison between data analysis and the theoretical frame. Initial themes or concept similarities identified during the inductive process were compared and organized according to Schilling and Kluge’s model (2009). Yin (2009) describes this type of pattern matching technique as an explanation building method.

To help the researcher understand the experience that occurred between each 4I sub-process and thus answer the “how” question, the data was organized and maintained as analyzed in the following six step process:
• Inductive Coding
  o Step 1 began with inductive coding, including in-vivo, with the intent of building categories.
  o Step 2 consisted of creating one organized and separate location for data from each department and one for the Senior Vice President of Finance and Administration.
  o Step 3 included all types of data from a department/functional area and involved analyzing, interpreting and converging the data to develop categories.
  o Step 3 included all types of data from a department/functional area and involved analyzing the data for initial codes.
  o Step 4 involved interpreting and converging all of the data to develop categories or initial themes.

• Deductive Analysis
  o As initial themes emerged from the data, Step 5 consisted of linking them to Schilling and Kluge’s (2009) complex of barriers.
  o Step 6 involved reorganizing the data by Crossan, Lane and White’s (1999) organizational learning sub-processes (intuition, interpretation, integration and institutionalization) and by level of analysis (individual, group and organization), accordingly.
  o Step 7 involved examination of deductive analysis output to develop broad themes in relation to the research question.
Positionality Statement

Researching barriers to an organization’s social learning process at a community college participating in an inter-organizational network integrated many of my professional life experiences. According to Briscoe (2005), all researchers necessarily bring to their studies their own “horizons of meaning”, created by the experiences of the researcher, which are necessary to make sense of the world (p. 26). Conducting empirical research in a community college using a theoretical framework regarding organizational learning incorporated my experience as a management systems practitioner/auditor from the corporate and industrial arenas, my experience as a community college administrator and adjunct faculty member and my growing understanding of Crossan, Lane and White’s (1999) organizational learning theory. I found myself at the intersection of each of the key areas of my research, bringing with me affirming and threatening experiences from each: corporate management system structures, community colleges, higher education and organizational learning.

Briscoe (2005) states that it is likely for a researcher to perceive and represent a group in a manner that protects and serves the interest of the class when the researcher is a member of the group being studied. As a current community college administrator involved in an inter-organizational network, I recognized my membership in both of the larger groups of my research (the community college and the inter-organizational network) may generate potential bias toward each. Additionally, as the researcher I had the unique perspective of participant and observer. I had unrestricted access to the site and stakeholder participants through employment at the community college and because of my role within the inter-organizational network. I had been observing and actively participating in the inter-organizational network since 2014 and at the
time of the research, served as the chair for the environmental, health and safety and facilities combined functional group.

As a member of the community college and a peer of other administrators within the college, as well as a member of the inter-organizational network, it was my desire for my doctoral work to be respected by my colleagues and found to be valuable to both organizations. This aspiration may have caused me to overlook or even unconsciously exclude departments or individuals that I may have had prior experience with and may have believed to be difficult to work with or may have believed that these departments or individuals and their work were not typically respected or valued by others in the inter-organizational network or within the community college. Because this study was based on the assumption that individuals socially construct collective reality and Bougon, Weick and Binkhorst (1997) assert that what we believe to exist is determined by the instruments we use to research these beliefs, I intended to consciously and proactively work to limit the effect of this bias in my research by being inclusive and equitable throughout the inductive process, specifically with my purposeful choices of sampling.

Biases can be compensated for through careful introspection Machi and McEvoy (2016); therefore, it was prudent to reflect upon the potential role of power and politics in my research. It was my responsibility to recognize that the “very task as researchers moves us both to the center (in terms of the power to represent and write) and the periphery (in terms of belonging) of a community” (Bourke, Butcher, Chisonga, Clarke, Davies, & Thorn, 2009, p. 104). As an administrator and a leader within the inter-organizational network, I recognized that these positions carried with them potential power over those who do not fill such roles as well as potential political conflict with others who act in similar capacities. The role of doctoral
candidate researcher further contributed to this potential influence. Every aspect of this research had the potential to be influenced by both visible and invisible political forces and the power that emanated from them. Specifically, the research question for this study had been crafted so that potential preconceived judgments and references to expectations or power and politics were removed. As the researcher, I attempted to place myself firmly outside of both of the communities to which I belonged, accepting the duty and understanding the responsibility that came with the power of accurately and impartially representing the research participants.

While I wished to understand barriers and enablers to the organization’s social learning process from inter-organizational network participation, I did not seek to place blame for lack of organizational performance improvement onto either group, but rather identify what individual, group and organizational barriers and enablers exist and how they affect the learning sub-processes within the community college as an institution. If I was not transparent about the intent of my research, potential interview participants may have felt that I was seeking to place blame for current performance levels and consequently they may have chosen to withhold information. This could have caused my research to incorporate bias or to be incomplete. I acknowledged the possibility of bias and remained transparent and aware of the potential conflict presented by these group memberships.

My experiences in both business and academia have caused me to believe that there can be a balance between embracing a business-model of seeking cost reductions or savings while holding true to an academic mission. It is my opinion that community colleges may value elevated ideals; however, they must also operate efficiently to survive in today’s competitive marketplace. Affirming this belief is the existence of many versions of inter-organizational networks throughout the higher education system (Amey 2010; Smith et al., 1999), that function
primarily as mechanisms for consolidation and self-preservation, seeking strength in numbers
and a shared purpose (Smith et al., 1999).

Experience led me to believe that the internal organizational culture of an educational
environment typically values elevated ideals and academic freedoms and does not hold business-
model bottom-line focused processes in high regard. Furthermore, academic cultures are
generally critical of business cultures that perceive profit alone as a worthwhile endeavor (Kotler
& Murphy, 1981). Consequently, I assumed that the thrust to incorporate effective business
model methodologies into higher education is being led by unwelcome external influences, not
by the internal stakeholders that comprise a typical academic culture. This presumption
triggered a threat to my belief in necessary balance between adoption of a business model and
fulfillment of the academic mission. I recognized that I needed to understand how this
presumption about cultural influences and values might have affected my approach to research
and my interpretation of research results.

In the past, my corporate and industrial experience with inter-organizational networks
yielded exceptional, positive financial results when applied to various manufacturing and service
industries. Additionally, portions of my previous work have been published and regarded highly
by some of my engineering peers; therefore, I assumed that outcomes in academia would be
similarly positive and respected by my educational industry counterparts. This assumption of
affirmation could have affected my judgment and could have potentially resulted in a failure to
properly address Hargreaves’ (2008) pillars of successful organizational change as I might have
presumed greater initial acceptance of the proposed operational efficiency ideas and/or projects.

Since I lived and worked in fiscally struggling New York State, I believed that the current
climate of diminishing state support, coupled with constrained local resources, presented many
colleges with a survival problem, which created a readymade unifying purpose: continued existence. Operating under these conditions had become a “new normal,” whereby community colleges and other institutions of higher education must plan for increased efficiency while maintaining their focus on student success (Budd, 2011; Lumina Foundation, 2010). While creating a common purpose may have assisted in the recognition of a need for change, I postulated that embracing a business-model strategy would necessitate an organizational paradigm shift. However, it was my supposition that by recognizing and gaining an understanding of the effect of barriers and enablers on organizational learning, approaches to operational cost-savings could be adjusted accordingly and participation in the process may be increased throughout the college’s constituency base. Potential challenges resulting from examining my epistemological perspective include addressing my assumption that the current financial situation of higher education institutions would have granted me easier access to research subjects willing to try new organizational processes. As I conducted my research, I had to question all the “truths” that I had been taught to test them for latent prejudice.

Carlton Parsons (2008) agrees with Briscoe (2005) by asserting that a key principle of positionality is the idea that people develop their own individual understanding of the world and identify themselves as inhabiting a certain position within this self-constructed reality. Therefore, I approached my chosen subject matter with passion and enthusiasm toward my craft but with essential hesitancy, recognizing that my positionality could have quite possibly affected my perceptions as a researcher. Although Fennell and Arnot (2008) warn the researcher engaging reflexivity and positionality to be prepared for the consequences of becoming your own primary research instrument, I accepted that the point of this reflexivity was to make me aware of the potential effects, which may have been positive opportunities, of the values and interests I
have acquired based on my experiences. Additionally, it was my responsibility to consider not
only my own epistemology but also that of others involved in my research so that I did not
misinterpret information during this research. I accepted the challenge posed by Miles and
Huberman (1994) to “be explicitly mindful of the purposes of your study and of the conceptual
lenses you are training on it – while allowing yourself to be open and to be reeducated by the
things you didn’t know or expect to find” (p.56).

**Trustworthiness**

Thick descriptions, rich with detail, develop a trustworthiness that is a strength of
qualitative inquiry (Creswell, 2013). Frameworks for ensuring rigor in qualitative work have
existed for many years (Ponterotto, 2005). Since at least 1985, Lincoln and Guba have asserted
that there are four principals involved in increasing the trustworthiness of qualitative inquiry:
credibility, transferability, dependability and confirmability.

Of the approaches to increase credibility suggested by Lincoln and Guba (1985), this
research employed member checking and data analysis triangulation. Both triangulation and
member checking were used to corroborate evidence from different sources and develop themes
and perspectives (Merriam, 1998). Yin (2009) would support the use of these techniques as he
states that qualitative research can ensure credibility by adopting well-established research
methods. Due to the importance of participant data, member checking was used to confirm
transcription accuracy and reliability of interview data. A triangulate strategy of constant
comparison using different sources (document review, observation and interview) and several
points of data was applied to minimize bias from any one source and/or data point. Since
information was gathered from multiple sources, the ability to analyze data and produce a
credible report of findings was enhanced (Creswell, 2007; 2012). An iterative approach to data
collection served to minimize weakness of the study by the nature of one phase of data supporting another (Gorman, 2004). Merriam (1998) asserts that:

The qualitative study provides the reader with a depiction in enough detail to show that the author’s conclusions “make sense” (p.199).

For a case study approach to research, the process of data analysis involves handling data collected from multiple sources. Baxter and Jack (2008) suggest that these data are converged in the analysis process rather than handled individually because each data source serves as one piece of the “puzzle” and contributes to a researcher’s knowledge of the whole phenomenon. By validating data through cross verification, a research technique called source triangulation, the various threads of data were interwoven together to support a greater understanding of the case and strength was added to the findings (Baxter & Jack, 2008; Farquhar, 2012).

Triangulation occurred in both the inductive and deductive phases of analysis. Triangulation calls on the researcher to analyze and interpret and as Merriam (1998) asserts, the researcher is the primary instrument of data analysis. Yin (2009) states that the current trend for data triangulation involves collection and analysis of at least three and closer to six data sources to provide a more robust understanding of common themes that emerge. Triangulation may involve many techniques including pattern matching, linking data to propositions, explanation building and cross-case synthesis (Yin, 2005). This research performed data triangulation utilizing the Data Triangulation protocol (Appendix F) developed for this study and included pattern matching, linking data to Schilling and Kluge’s (2009) complex of barriers within Crossan, Lane and White’s (1999) 4I learning process, explanation building and cross-case synthesis.
This study used one-on-one interviews to capture participant’s “thick descriptions”. In vivo coding, using a word or phrase from the actual qualitative data, was also used to address researcher bias, assure impartiality and the integrity and richness of participant’s voice (Saldana, 2016) or “thick descriptions” as the study explored learning barriers and enablers and the phenomenon of organizational learning. Additionally, observations and interviews occurred at the community college to reflect the actual experiences of participants.

Merriam (2009) states that transferability is enhanced by maximum variation through purposeful sampling. Purposeful sampling in this study was designed to allow the researcher to gain as much insight as possible by selection of participants with diverse roles and different departments. Merriam (2009) supports this type of participant selection by asserting that purposeful sampling enables a researcher to gain deeper insight if the sample reflects diverse perspectives.

In qualitative research, rigor is also addressed by establishing dependability (Lincoln & Guba, 1985). Dependability in research is the capacity to demonstrate that the study findings are consistent and could be repeated (Lincoln & Guba, 1985). To ensure dependability, the research process ensured the findings were consistent with the methods used and not the product of “creative accounting” (Lincoln and Guba, 1985, p. 317).

The last technique for establishing trustworthiness in qualitative research is confirmability (Lincoln and Guba, 1985). Confirmability involves maintaining neutrality to the greatest extent possible by addressing researcher bias, motivation or interest (Lincoln & Guba, 1985). The previous Positionality section of this work attempted to reveal known researcher bias, motivation and interest in an effort to provide insight into areas that the researcher understood required proactive impartiality. The use of triangulation as described above also
served to establish credibility by minimizing researcher bias. Additionally, the audit trail including raw data, data collection tools developed and used for this research, in vivo coding used to minimize biases in interpretation, theme development, notes on methodology, personal notes, including a reflexive journal were used to make evident the systematic approach to this research. This audit trail was intended to provide a comprehensive description of evidence to support this research and its findings.

Furthermore, Miles and Huberman (1994) suggest that objectivity can be increased by the following: (1) describing general methods and procedures in detail, (2) writing so that one is able to follow the process of analysis, (3) explicitly linking conclusions with data displays and exhibits, and (4) making the data from the study available for reanalysis by others. Therefore, this research was described in understandable detail within this thesis, conclusions were visually displayed when possible and a journal was kept throughout the research study and used when writing the final report. The journal may be used as an audit trail for future research (Patton, 1990).

While it was important for the overall study including findings and conclusions to have credibility, validity and trustworthiness, it was also important for participants in the study to have trust in the research as it was occurring. Participant trust was enabled by providing them with a description of the study, research question, and a brief explanation of the theoretical lens in which the study was viewed. As a practitioner, and a member of the inter-organizational network and community college, certain understandings and beliefs were held by the researcher before engaging in the study and clearly stated within the Positionality section of this thesis. One of the researcher’s beliefs as well as the assertion by Rubin and Rubin (2012) was that sharing commons interests, such as membership in the inter-organizational network, with
participants help to build trust and rapport; therefore, the researcher’s experience within the community college and the inter-organizational network was considered useful to this study.

**Protection of Human Subjects**

Before beginning data collection, approval for this research was granted through Northeastern University’s and the community college’s Institutional Review Boards (IRB). Application for IRB approval included detailing the proposed research process and outlining ethical and confidentiality considerations.

Although all of the participants of this study were staff members of the community college and legal adults over the age of eighteen, each participant was informed of the risks and potential benefits of participating in the study and provided with an informed consent form which stated that participation was voluntary and may be withdrawn at any time (Appendix C). Prior to interviews and in order to avoid ethical issues or concerns, participants were made aware of the purpose of the study, how much of their time was expected, asked to consent to the digital recording of their interviews, given an opportunity to review a transcription of their interview and provide feedback or make any corrections. Participants were also reminded that the researcher was acting at all times during this study as a doctoral student and not an employee of the community college or representative of the inter-organizational network. After obtaining the participant’s signature providing confirmation of their informed consent a copy of the document was offered to participants for their records.

To address confidentiality concerns, pseudonyms were used to protect the identity of the participants with all identifiable information removed for their protection. Additionally, data collected from document review, observations, interviews including transcripts, coding, and the researcher’s journal were only accessible to the researcher on a password protected server and
used for answering the research question of this study. The data may be reserved for three to five years after the conclusion of the study for future use by the researcher.
Chapter Four: Research Findings

Discussion of the Data

The purpose of this descriptive qualitative case study was to answer the research question: *How does organizational learning occur at a community college during idea implementation resulting from participating in an inter-organizational network?* From the research findings, four overarching themes emerged and are presented as aligned with Crossan, Lane and White’s (1999) 4I sub-processes of organizational learning: (1) *Intuiting* was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler, (2) Inflexible culture and competing goals were barriers while having a common goal was an enabler to *interpreting*, (3) Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to *integrating*, and (4) Inflexible culture, ineffective communication, lack of knowledge, lack of support and lack of implementation leadership were barriers, while effective communication, support and implementation leadership were enablers to *institutionalizing*. Overall, the number of barriers increased as the organizational learning process progressed though the 4I sub-processes.

In order to develop themes to answer the research question, this research specifically focused on developing a better understanding of learning barriers and enablers, and how they inhibit the organization’s dynamic social learning process at a community college as it seeks to adopt ideas from participating in an inter-organizational network. The study was designed to be conducted in three phases: Phase I, data collection, involved an initial inductive analysis of each piece of data collected to inform the collection of the next piece of data; Phase II, data analysis,
consisted of two parts: inductive and deductive; and, Phase III involved interpretation of the data analyzed in Phase II.

The purpose of this chapter is to present the initial data and findings from Phase I and the broad emergent themes from Phase II relative to the primary research question using Crossan, Lane and White’s (1999) 4I model of organizational learning coupled with Schilling and Kluge’s (2009) extension of the 4I model with categorized barriers to organizational learning. Phase III, interpretation of the data analyzed from Phase II, will be presented in Chapter Five. To do so, this chapter is organized into four sections.

The first section of this chapter describes the data and initial discoveries from Phase I, data collection, of this research. Data was collected from a review of the inter-organizational network and the community college documentation, nine one-on-one semi-structured interviews and observations from one divisional and two departmental meetings. These preliminary discoveries are presented using narration and tables.

The second section of this chapter describes with narration and tables Phase II findings and the mechanics of how the data was further analyzed. This section is divided into two parts: (1) inductive analysis, and (2) deductive analysis including examination of the findings in relation to the research question. The first part of this section, inductive analysis, presents a narrative description and visual representation of the codes and initial themes that were developed. The second part of this section, deductive analysis, also presents narrative and multiple tables to link the initial themes to Schilling and Kluge’s (2009) cluster of barriers and Crossan, Lane and White’s (1999) 4I model of organizational learning at the appropriate level of analysis and sub-processes: intuiting, interpreting, integrating and institutionalizing. A large
table presents these linkages to each of the 4I sub-processes and is followed by a section for each 4I sub-process with a narration and a smaller, sub-process specific table.

The third section of this chapter presents a discussion of the four broad emergent overarching themes that were identified from this research. The findings exposed four broad themes that emerged from the initial twenty-two categories of codes which were organized into seven initial themes and analyzed against Schilling and Kluge's (2009) cluster of barriers. This analysis included evaluating the relationship of these findings to the research question, *How does organizational learning occur at a community college participating in an inter-organizational network?* These four themes aligned with, and are presented in accordance with, Crossan, Lane and White’s (1999) 4I sub-processes of organizational learning: (1) *Intuiting* was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler, (2) Inflexible culture and competing goals were barriers while having a common goal was an enabler to *interpreting*, (3) Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to *integrating*, (4) Inflexible culture, ineffective communication, lack of knowledge, lack of support and lack of implementation leadership were barriers, while effective communication, support and implementation leadership were enablers to *institutionalizing*. Overall, the number of barriers increased as the organizational learning process progressed through the 4I sub-processes. The fourth and final section of this chapter provides a summary of the four overarching themes that were identified from this research. Table 4.1 illustrates the structure of Chapter Four with a description by chapter section.
Table 4.1

Structure of Chapter Four: Research Findings

<table>
<thead>
<tr>
<th>Sections of Chapter Four</th>
<th>Description of Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Phase I: Data Collection and Discovery</td>
</tr>
<tr>
<td>2</td>
<td>Phase II: Part One, Inductive Data Analysis</td>
</tr>
<tr>
<td></td>
<td>Phase II: Part Two, Deductive Data Analysis</td>
</tr>
<tr>
<td>3</td>
<td>Phase III: Data Interpretation and Overarching Themes</td>
</tr>
<tr>
<td>4</td>
<td>Summary</td>
</tr>
</tbody>
</table>

**Phase I: Data Collection and Discovery**

Data collection resulted in three significant initial discoveries: (1) the mission of the inter-organizational network was to serve as a means for information sharing, (2) only ideas with an assumed financial benefit were implemented by the community college, and (3) two departments at the community college stopped participating in the inter-organizational network. Data collection was conducted at an upstate New York community college which participated in an inter-organizational network and the data collection process is detailed in Chapter Three of this work. Three different forms of data regarding barriers and enablers to organizational learning were collected through inter-organizational network and community college document review, community college observations and nine semi-structured one-on-one interviews with administrators and staff of the community college. Because of the iterative nature of this research with one piece of data informing another, data analysis began and continued during data collection.
Relevant discoveries from document review supporting the three higher level findings include the inter-organizational network mission statement which indicated that their mission was to serve as an information conduit for participating organizations,

We will share information fluidly in order to most efficiently move from identifying a shared need to executing a shared initiative. (UNYCC, 2017)

And the inter-organizational network vision clearly stated the beneficial financial aspects which the network intended to bring to their members,

We will function effectively and transparently to undertake activities that save money and/or enhance the effectiveness of our members… We will articulate documented examples of significant cost savings, cost avoidance, improved operations and effective use of faculty and staff time. (UNYCC, 2017)

Similarly, the community college’s strategic plan referred to financial strength as the first operational goal:

The College will strengthen its financial position by improving the efficiency of its operations, identifying new sources of revenue and increasing philanthropic support, thereby enabling investments in innovative programs and college-wide improvements. (Community College, 2014)

Indeed, inter-organizational network documentation and information, including annual reports and conference presentations, provided evidence that ideas from the inter-organizational network which were implemented by members of the network, including the community college, did succeed in achieving part of the vision of the inter-organizational network by providing significant cost savings, cost avoidance and/or improved operations to the community college.
Successful idea implementation also helped the community college reach their strategic plan’s first operational goal of strengthening its financial position.

Additionally, evidence was found to indicate that the Purchasing and Auxiliary Services groups merged with the Controller’s Office group and renamed themselves the Financial Matters functional group, while the Facilities group combined with the Environmental, Health and Safety functional group. This documentation showed that the community college had no inter-organizational network representation from the Human Resources or Information Technology Departments. No idea implementation from the inter-organizational network was found to be associated with either the Human Resources or the Information Technology Departments of the community college.

Table 4.2 illustrates the preliminary data from document review of both the inter-organizational network and the community college which supports the three significant initial discoveries: (1) the mission of the inter-organizational network was to serve as a means for information sharing, (2) only ideas with an assumed financial benefit were implemented by the community college, and (3) two departments at the community college stopped participating in the inter-organizational network.
### Table 4.2

*Data from Document Review*

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Document</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inter-organizational Network</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td>Vision</td>
<td>Exists to provide financial benefit to participating organizations</td>
</tr>
<tr>
<td></td>
<td>Mission</td>
<td></td>
</tr>
<tr>
<td>Organizational Tables</td>
<td>Participant List</td>
<td>Community college directors participating: Facilities merged with Environmental, Health and Safety</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Controller’s Office, Purchasing and Auxiliary Services merged to become Financial Matters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Human Resources and Information Technology stopped participating</td>
</tr>
<tr>
<td>Conference Materials</td>
<td>Agenda</td>
<td>Successful specific ideas shared within the inter-organizational network organized by functional group and quantified financial impact of implementation</td>
</tr>
<tr>
<td></td>
<td>Presentations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sign-In</td>
<td></td>
</tr>
<tr>
<td><strong>Community College</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td>Vision</td>
<td>Commitment to financial strength and institutional effectiveness</td>
</tr>
<tr>
<td></td>
<td>Mission</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategic Plan</td>
<td></td>
</tr>
<tr>
<td>Organizational Charts</td>
<td>Division Chart</td>
<td>Directors for each community college department aligned with inter-organizational network functional group</td>
</tr>
<tr>
<td></td>
<td>Department Chart</td>
<td>Managers, Supervisors and Staff from within each department participating in the inter-organizational network</td>
</tr>
</tbody>
</table>
Preliminary findings from semi-structured, one-on-one interviews supported the initial discoveries from document review that the inter-organizational network served as a means for information sharing and that only ideas with an assumed financial benefit were implemented by the community college. Additionally, interviews with the Senior Vice President of Administration and Finance, the Controller, the Directors of Purchasing, Auxiliary Services, Facilities and the Assistant Director of Environmental, Health and Safety supported the discovery from document review that no ideas were successfully implemented at the community college by either the Purchasing, Auxiliary Services or Facilities functional groups when they were independently meeting, nor were any ideas successfully implemented by the two groups at the community college that had stopped participating in the inter-organizational network: Human Resources or Information Technology.

While the documentation review provided data about ideas that were discussed within the inter-organizational network functional groups, interviews with the Senior Vice President of Finance and Administration as well as directors at the community college revealed both successful and unsuccessful inter-organizational idea implementation. For this research, it was not necessary to understand the technical nature of the ideas which were implemented; however, it was important to discuss the specific successful and unsuccessful ideas in general terms so that related interviewees and meetings for observation could be chosen and appropriate documentation could be reviewed. For example, the Director of Facilities described the asbestos project as a successfully implemented inter-organizational idea; therefore, the Carpenter tasked with managing asbestos work was asked about the asbestos project and changes to his daily job duties as a result of implementation. As another example, the purchasing card project implementation was discussed with both the Director of Purchasing and the Accounts Payable
Clerk. Table 4.3 links data from interviews and document review concerning the successful and unsuccessful idea implementation from functional group at the inter-organizational network to the community college director and then to the manager, supervisor or employee interviewed to illustrate the flow of knowledge through the levels of analysis.
### Table 4.3

**Linking Data from Idea Implementation across Interviews and Levels**

<table>
<thead>
<tr>
<th>Successful Idea</th>
<th>Unsuccessful Idea</th>
<th>Functional Group</th>
<th>Sr VP or Director Interviewed</th>
<th>Manager, Supervisor, Staff Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance Portfolio</td>
<td>Medical Waste</td>
<td>Administration and Finance Division</td>
<td>Senior Vice President Administration &amp; Finance</td>
<td>None</td>
</tr>
<tr>
<td>Asbestos</td>
<td>Training</td>
<td>Facilities</td>
<td>Director of Facilities</td>
<td>Carpenter</td>
</tr>
<tr>
<td>Purchasing Cards</td>
<td>Medical Waste</td>
<td>Environmental, Health &amp; Safety</td>
<td>None</td>
<td>Assistant Director of Environmental, Health &amp; Safety</td>
</tr>
<tr>
<td>Purchasing Cards</td>
<td>Medical Waste</td>
<td>Financial Matters</td>
<td>Director of Purchasing</td>
<td>Accounts Payable Clerk</td>
</tr>
<tr>
<td>Investment Analysis</td>
<td>Consortium Insurance</td>
<td>Financial Matters</td>
<td>Controller</td>
<td>Assistant Controller</td>
</tr>
<tr>
<td>Cyber Liability Insurance</td>
<td>Bookstore Purchasing</td>
<td>Financial Matters</td>
<td>Director of Auxiliary Services</td>
<td>None</td>
</tr>
</tbody>
</table>

Initial discoveries from each meeting observed confirmed that the successful ideas referenced during interviews were being discussed across and within departments while...
unsuccessful ideas were not. These discussions demonstrated that knowledge from successful idea implementation was indeed becoming or had already been integrated and institutionalized at the community college. An organizational strategic meeting at the divisional level was observed. Among others, in attendance were the directors from the Controller’s Office, Auxiliary Services and Facilities. A Facilities Department and a Controller’s Office meeting were also observed. During the meetings, numerous employees from various levels within the community college were included in the conversations about how the ideas were being successfully implemented. For example, during the Facilities Departmental meeting, the director discussed incorporating asbestos work into the summer schedule while the Carpenter responded that he was already beginning the planning for summer asbestos work and would continue to manage the work under the new process. The Carpenter also stated that another individual in the department would be trained on the new asbestos project management process to serve as his back up should that become necessary. Table 4.4 details these observations from each of the three meetings observed at the community college for this research and illustrates that the data collected from these meeting observations can be triangulated back to the successful idea implementation discovered during document review and interviews.
### Table 4.4

**Observations Related to Successful Idea Implementation**

<table>
<thead>
<tr>
<th>Successful Idea</th>
<th>Meeting</th>
<th>Attendees</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>Administration &amp; Finance Division</td>
<td>Department directors including the Directors of Facilities, Auxiliary Services, Controller, Assistant Controller and some staff</td>
<td>• Discussed asking President and Provost to sign commitment to inter-organizational network&lt;br&gt;• Discussed incorporating asbestos work into summer schedule and collecting work requests&lt;br&gt;• Discussed use of purchasing cards for travel (domestic and international)&lt;br&gt;• Discussed the continuing financial benefits from the investment analysis</td>
</tr>
<tr>
<td>Purchasing Cards</td>
<td>Facilities Department</td>
<td>Facilities Staff including the Carpenter and the Assistant Director of Environmental, Health and Safety</td>
<td>• Discussed incorporating asbestos work into summer schedule&lt;br&gt;• Assigned asbestos project management to Carpenter</td>
</tr>
<tr>
<td>Investment Analysis</td>
<td>Controller’s Office</td>
<td>Controller’s Office Staff including the Assistant Controller and Accounts Payable Clerk</td>
<td>• Discussed use of purchasing cards for travel&lt;br&gt;• Clerk discussed difficulty with exchange rates for international&lt;br&gt;• Discussed cyber liability insurance</td>
</tr>
</tbody>
</table>

---

**Phase II: Part One, Inductive Data Analysis**

Data analysis, Phase II, was conducted in two parts. The first part of Phase II consisted of an inductive analysis process guided by the methods proposed by Merriam (1998). Specific
observations from data collection during document review, interviews and observations were analyzed by the researcher to develop organized codes, words or short phrases to represent salient attributes from the data, and then development of broader generalized initial themes for use in the subsequent deductive analysis. The second part of Phase II consisted of a deductive process guided by Yin (2009) where the initial themes that emerged from the inductive first part of Phase II were compared to the elements of Schilling and Kluge’s (2009) complex of barriers within the 4I learning process of Crossan, Lane and White’s (1999) 4I theoretical framework of organizational learning to develop overarching themes.

**Categories of codes and initial themes.** This section weaves together the findings from this research to present the twenty-two categories of codes and seven emergent initial themes. Both categories of codes and corresponding emergent initial themes are discussed in detail and presented with supporting evidence. The twenty-two categories of codes and seven initial themes are shown in Table 4.5.
### Table 4.5

*Categories of Codes and Initial Themes*

<table>
<thead>
<tr>
<th>Categories of Codes</th>
<th>Initial Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Barriers</strong></td>
</tr>
<tr>
<td>Culture</td>
<td>Inflexible Culture</td>
</tr>
<tr>
<td>Politics</td>
<td>Competing Goals</td>
</tr>
<tr>
<td>Single goal</td>
<td></td>
</tr>
<tr>
<td>Financial</td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td></td>
</tr>
<tr>
<td>“Not enough time”</td>
<td>Lack of Resources</td>
</tr>
<tr>
<td>“Overburdened”</td>
<td></td>
</tr>
<tr>
<td>Top support</td>
<td></td>
</tr>
<tr>
<td>Buy-in</td>
<td>Lack of Support</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>Prior experience</td>
<td>Unreliable Knowledge</td>
</tr>
<tr>
<td>Ease of implementation</td>
<td></td>
</tr>
<tr>
<td>Subject matter expert</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Collaboration</td>
<td>Ineffective Communication</td>
</tr>
<tr>
<td>Teamwork</td>
<td></td>
</tr>
<tr>
<td>Cooperation</td>
<td></td>
</tr>
<tr>
<td>“Have a plan”</td>
<td></td>
</tr>
<tr>
<td>Self-driven</td>
<td></td>
</tr>
<tr>
<td>Within departmental control</td>
<td></td>
</tr>
<tr>
<td>Leader</td>
<td>Lack of Implementation Leadership</td>
</tr>
</tbody>
</table>
Inflexible culture. Several interviewees referred to the culture of the community college as an obstacle to successful idea implementation. When questioned about why an idea was not able to be implemented the following statements were given:

People say no before they say how can I help?

It’s just the culture of the institution.

It would have required a fairly significant change in culture because our culture is used to [doing it differently].

It is overcoming perceptions and long held beliefs and barriers, beliefs that cause the barriers.

I think one has to ascertain the culture of the institution. What are the norms? What are the expectations of the institutional community? Is the change a small change? Is it a big change given the dynamics inside of the institution?

These statements were initially individually coded within the category of “culture”; however, the initial theme that emerged across interviews developed into an “inflexible culture” as a barrier. The idea of an “inflexible culture” acting as an inhibitor to organizational learning was also expressed in other ways. One director interviewee stated that several ideas shared in the functional group were not considered by her for implementation at the community college because some of the other members of the functional group were from private, not public schools; therefore, they couldn’t understand the nuances of the public sector:

Public schools have certain [methods] they have to use…that aren’t accessible by private institutions…and we can’t use the same [methods] as privates use. So, it just kinda fell apart and didn’t really make sense.

Competing/common goals. Having “common goals” was found to be an enabler, while having “competing goals” was found to be an obstacle to organizational learning. When questioned about their experience with a successful idea implementation, both directors and
employees stated that having a common goal to work toward together helped the initiative succeed:

We were able to work together… we were all together.

All of the players involved had a single goal… I think all of the parties involved were educated on the subject matter and I think they were all working towards a common goal and it was not a competitive situation. It was a feeling that everybody is in it together and they were all working towards a singular shared vision.

As stated previously, a common goal shared by the inter-organizational network and the community college was found during document review. The inter-organizational network documentation review found that the network exists to provide financial benefit to participating organizations. Document review of the community college’s strategic plan found similar goals of commitments to financial strength and institutional effectiveness. Additionally, a common goal was found among interviewees. Every interviewee stated that financial considerations were important to the success of an idea implementation.

When asked about a time the Senior Vice President of Administration and Finance heard of a new idea at the inter-organizational network but decided it wasn’t something to attempt to implement at the community college he replied, “I didn’t necessarily see the payback in terms of… potential cost savings.” Similar comments relating to the financial aspects of the inter-organizational network ideas were made by the directors. One director described the purely financial reasons for implementing an idea that ultimately became a successful project. Another director stated, “It’s showing that you’re saving money.” When asked about which inter-organizational network ideas are chosen to implement, one director stated, “Quite frankly, it’s always about reducing money.” A manager from a different department stated that those
involved in making the decision on whether to implement an idea “look for ways that we can
either make more money or be more efficient in our spending.”

Other directors stated the following reasons for choosing not to implement an inter-
organizational network idea:

It wasn’t something in which I felt would make money for the organization.

We did not partake [of the inter-organizational network idea] because we are able to take
great [financial] advantage of the county that we’re in… We’re also able to take great
[financial] advantage of other state contracts… I think everyone at that point, as we got to
talking about all the [financial] advantages we have on a more of a local setting, we felt
that [the inter-organizational network idea] was not going to be able to work for us.

Employees also spoke of the financial considerations of an inter-organizational network idea.

One supervisor stated that an idea wasn’t implemented because “it was too pricey so it didn’t go
any further.” Further supporting the finding that having similar goals may enable organizational
learning while competing goals may act as a barrier, documentation revealed that every
successfully implemented inter-organizational network initiative resulted in financial benefit to,
and improved the financial strength of, the community college.

These findings and others were initially coded within the categories of “politics”, “single
goal”, “financial” and “risks”; however, the initial theme that emerged was “competing goals”.
Supporting the “competing/common goals” theme was the statement by a director as she shared
an example of an initiative without coupling to a strategic plan goal or a departmental goal would
not likely be implemented with the following statement:

Middle management doesn't have time to move forward with ideas that aren't part of the
strategic plan, goals and objectives for the department and aren't anything that one would
be measured on.
**Lack of resources.** The “lack of resources” was discussed as an obstacle to organizational learning by every director interviewed for this research and originally coded as “not enough time” and “overburdened”. One interviewee linked the specific resource of time to its affect and limitations on their day-to-day activities and broader college initiatives. The interviewee stated that the lack of time was one barrier to inter-organizational network idea implementation. Examples of lack of time as an obstacle were described by interviewees as follows:

I think that all of the players involved are really maxed out with the day to day activities and to add one more thing to the plates of those involved is really tough. I think a lot of us are really struggling to keep up with our day to day initiatives and our college initiatives. To broaden that to carve out time to undertake grander initiatives that are really more visionary than what we do at our desks every day – I think it is very tough for everyone to carve out that time to make that progress… I think [lack of time] was a real stumbling block. We just have so much on our plates that to add one more thing that may or may not pan out…it’s just really tough.

We can only do so much.

It is a great idea but then everybody comes and they have to deal with their day to day activity. So, there’s only so much amount of energy, right? So, I think that’s a balance of when you’re in it, pull as much as you can to win it, and if not, then there’s the reality check, a look in the mirror to say it’s not worth the amount of energy.

[People] are just kinda overburdened with their own work and really don’t want to take on anything else.

I’m just too busy…it’s just one more thing I have to do

The biggest [obstacle] is that everybody has their own job and they are always busy with stuff with that and to do something else…it’s just kinda an extra so it’s hard to get people motivated to be involved.

**Lack of support/support.** The “lack of support” was found to act as a barrier when top management backing or employee buy-in were needed to advance an inter-organizational network initiative but were absent, while support was found to be an enabler. Original categories
of codes associated with “lack of support/support” were “top support” and “buy-in”. Lack of top management support as a barrier to organizational learning was discussed in every interview conducted for this research including the discussion with the Senior Vice President of Administration and Finance.

Conversely, all interviewees described successful initiatives as having top level “support” from at least one and sometimes two levels above their operational level. At the director level, directors described the need for top level support from the Vice Presidential and Presidential level, while the Senior Vice President of Administration and Finance discussed the need for support from the college President and the Board of Trustees.

In response to the interview question about who was involved in one successful inter-organizational network idea implementation, the Senior Vice President of Administration and Finance responded:

The President… it was important to have that discussion… to make sure that he was on board with the reasons that we wanted to pursue [implementing the idea] and that he understood and acknowledged and was going to be supportive… Similar with the [Board of Trustees]. Their involvement and understanding and getting their acknowledgement that this would build some value to the college. Once we got their blessing… we [moved forward].

The Senior Vice President of Administration and Finance went on to state that future top level support coming from the strategic plan would serve as an enabler for upcoming inter-organizational network idea implementation:

Having understanding, acknowledgement and support… that will extend to the new strategic plan certainly puts us in a better position to be able to bring [inter-organizational network] initiatives forward more than in the past.
Several directors referred also to the need for top level support to make an initiative successful as follows:

I would look to receive buy-in from key players, specifically from the President or Cabinet members. If something is deemed crucial by upper level management then I think that you, as an idea, have a much better chance of succeeding then without the support and acknowledgement… I don’t think that it would fly.

I think when you don’t have the college leadership making it a priority, and I mean that from the President level, nothing is really ever gonna work out… you’re not gonna get total buy-in.

When you have an obstacle, it’s really looking at the administration… to try to have them help you get to the next level.

While “support” from management was important and an enabler to successful inter-organizational network idea implementation, “lack of support” was also a barrier when it presented itself in the form of absent or scarce employee buy-in, or employee support for an initiative. When asked to describe how to successfully implement an inter-organizational network initiative, three of the four directors discussed the significance of employee support for the idea:

Show it’s going to make life easier.

Sell the idea.

It’s selling and then getting buy-in.

Get me to be a part of your initiative.

Get people on your team

Get buy in from key players.

Get buy in from whoever is involved.

Convince people.
Therefore, the finding of “support” as an enabler was expressed in terms of support from both above, at the top management level, but also in terms of “support” for an initiative from employees and other directors.

**Unreliable/reliable knowledge.** The “unreliable knowledge” theme was discussed by all interviewees and was originally coded as one of several categories of codes: education, information, prior experience, ease of implementation and subject matter expert. One director’s implementation advice relating to the “unreliable knowledge” theme and specifically the lack of skill of employees was as follows:

> I think [the inter-organizational network idea] has to be relatively simple because I don’t think, how do I put this, most people at [the community college] can’t handle a lot of complexity. It has to have a short-term impact because I don’t think people can really comprehend long term impact well.

Reinforcing the discovery that lack of skill of employees or “unreliable knowledge” was an obstacle to organizational learning at the community college, two different successfully implemented inter-organizational network initiatives were described as:

- Implementation was very simple.
- Well, the [implementation of the inter-organizational network initiative] that we were successful with, I knew that we’d be successful with that, that was just a no brainer.
- Conversely, “reliable knowledge” was found to be an enabler to organizational learning as each successful inter-organizational network initiative was described as having a subject matter expert involved in implementation. Further supporting the need for reliable knowledge, one manager described her experience with successful idea implementation as a phased approach. She stated that full implementation followed a successful pilot program where feedback was used to make adjustments to the implementation plan “to make sure it was being
used appropriately.” A supervisor stated that her involvement with a successful initiative was to develop knowledge before idea implementation as follows:

I was involved from reviewing [the initiative], determining how we would implement it here, coming up with policies and procedures for [implementation]. Pretty much all aspects of it once we decided we were gonna move forward…

The finding of “reliable knowledge” included knowledge from subject matter experts, pilot programs, implementation feedback and pre-implementation preparation.

**Ineffective/effective communication.** This research found that “ineffective communication” within the community college could act as an obstacle to organizational learning, while effective communication could serve as an enabler. The “ineffective/effective communication” theme was associated with several original categories of codes: communication, collaboration, teamwork, cooperation and “have a plan”. The Senior Vice President of Administration and Finance had this to say about the importance of effective communication:

The most important thing is the communication strategy. Understanding who needs to be involved in communication, of what we’re trying to implement, communication, both ways so that we can input feedback on how to share that idea to fit [the community college] in the most appropriate way for stakeholders. And I wouldn’t take for granted that we know who all stakeholders are, so broad communication outlining the details of what the implementation will involve so everyone is educated as to how heavy of a lift [the inter-organizational network initiative] is going to be. How is this gonna impact the people around the table? The people that will experience the outcome? Then ultimately what would we consider success factors? How would we evaluate that once we implement [the initiative]? Was it a successful implementation?

Additionally, intertwining themes of “unreliable/reliable knowledge” and “ineffective/effective communication” as barriers/enablers, respectively, to organizational learning, the Senior Vice President of Administration and Finance described one idea’s implementation as follows:
While we had communicated, [the details] weren’t discussed as fully [communicated] as we probably should. So that there was a hiccup... and there was miscommunication which caused frustration... So, communication at the detail level I think was a place where we had a few hiccups. The details [of the implementation] were murkier. It wasn’t that the process was bad. The lack of information... we had done some preliminary work but it was clear that [the details] were a bit of a stumbling block...

However, the existence of “reliable knowledge” and “effective communication” were expressed as enablers to organizational learning. Supporting this finding was this comment by one of the supervisors in reference to a successful implementation:

Another thing that went well [with the initiative from the inter-organizational idea] we already had forms and guidelines developed so that when [the implementation began] there was an initial meeting about the expectations...

A director described the need for the successful implementation to be well planned and communicated, succinctly linking the initial themes of “reliable knowledge” and “effective communication”, as follows:

I think you are going to have to be a good communicator because you’re gonna have to have a really well laid out plan, not just like hey, this is a great idea, why don’t we do this. You have to have a good plan and a way to implement the plan and you have to be willing to do the work for that plan.

*Lack of implementation leadership/implementation leadership.* The theme “lack of implementation leadership” had the following original categories of codes: self-driven, within departmental control and leader. “Lack of implementation leadership” was found as an obstacle to organizational learning and described as follows by several directors:

We go back to the idea is there, but it’s the follow through and leadership of someone leading it to really make that happen.

It has to have a champion willing to do the work.

Ideas are one thing but implementation is another and you need a leader. And, what happened with that successful [inter-organizational network idea implementation]? We
had a leader… But if no one takes that idea and makes it their own so that they can implement a program, nothing happens other than a meeting and then in six months there’s another meeting and discussion happens and nothing follows.

Additionally, a failed initiative was positioned at the cross-roads of two departments with no one taking ownership and a “lack of implementation leadership” was found.

Conversely, supporting the finding that implementation leadership serves as an enabler to organizational learning, documentation from the community college revealed that all successfully implemented inter-organizational network ideas were implemented by the director who learned of it within their inter-organizational network functional group. The director brought the idea back to the community college and was able to implement the idea with little to no effect on departments other than their own. Major changes to processes and activities were described in interviews and found in documentation within the director’s own department and only minor changes occurred outside their department. Observations from meetings reinforced that there were new processes in the director’s department; however, other departments did not describe, document or discuss in meetings any changes from ideas originating outside their department that affected them. One manager stated:

I think that the intention of implementing [the inter-organizational network initiative] in a phased approach was to maintain some control… I think it gave [the implementing department] some control over the implementation.

Within Phase II, data analysis transitioned from inductive analysis to the second part, deductive analysis. By employing constant comparison between the data and the theoretical frame, the second part of data analysis moved from the initial general themes developed in the inductive part to become more specific. The initial themes that emerged from the data during the
Phase II: Part Two, Deductive Data Analysis

Within each of the 4I sub-processes, each complex of barriers except those associated with the intuiting sub-process was found to have at least one theme associated with some aspect of the barrier complex, with some having several themes associated with them. Overall, the number of barriers increased as the organizational learning process progressed through the 4I sub-processes. The next step in data analysis, deductive analysis, involved reorganizing the data within Crossan, Lane and White’s (1999) organizational learning sub-process (intuition, interpretation, integration and institutionalization) and by level of analysis (individual, group and organization), accordingly.

Although this research examined both barriers and enablers to organizational learning, Schilling and Kluge (2009) only sought to categorize obstacles within Crossan, Lane and White’s (1999) 4I organizational learning process. Therefore, the barriers found from this research have been inserted into Schilling and Kluge’s expanded 4I model at the appropriate 4I sub-process. Figure 4.1 below is based upon Schilling and Kluge (2009, p. 342) expanded 4I model of organizational learning and incorporates the initial themes of this research related to organizational learning barriers.
**Figure 4.1.** Based upon Schilling and Kluge (2009, p. 342). The Expanded 4I Model of Organizational Learning Incorporating Themes.

The emergent initial theme linkages to Schilling and Kluge’s (2009) complex of barriers, organized according to Crossan, Lane and White’s 4I organizational learning sub-processes are shown in Table 4.6 and include both barriers and enablers found from this research.
Table 4.6

*Schilling and Kluge’s (2009) Complex of Barriers linked to Inductive Initial Themes*

<table>
<thead>
<tr>
<th>Levels of Analysis</th>
<th>Schilling and Kluge’s (2009) Barrier Clusters</th>
<th>Inductive Initial Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual</strong></td>
<td><strong>Intuiting – inhibiting new ideas</strong></td>
<td>None found</td>
</tr>
<tr>
<td></td>
<td>Monolithic corporate cultures, a homogeneous workforce, high stocks and inventories, a lack of clear and measurable goals and of knowledge concerning failure analysis, are positively related to the detection of performance gaps and errors (p. 344.)</td>
<td>None found</td>
</tr>
<tr>
<td></td>
<td>Implicitness, ambiguity and/or extraneousness (i.e. stemming from a different culture) of knowledge are negatively related to its adaptation by organizational members (p. 345).</td>
<td>None found</td>
</tr>
<tr>
<td></td>
<td>A high degree of labor division, standardization and narrow professional roles is negatively related to the development of new ideas concerning overarching problems (p. 345).</td>
<td>None found</td>
</tr>
<tr>
<td></td>
<td>A restrictive, controlling management style and an organizational blame culture are positively related to anxiety, lack of psychological safety, hopelessness and organizational cynicism, which are all positively related to actively suppressing novel insights and ideas (p. 346).</td>
<td>None found</td>
</tr>
<tr>
<td><strong>Individual or Group</strong></td>
<td><strong>Interpreting – individuals change their own behavior but are unable to persuade others to do so</strong></td>
<td>Inflexible Culture</td>
</tr>
<tr>
<td></td>
<td>A culture of organizational silence, the fear of being ridiculed for inadequate or unimpressive knowledge, the fear of loss of ownership, and a lack of political skills of the originator and potential champions are negatively related to successfully communicating new ideas to other team members (p. 347).</td>
<td>Inflexible Culture</td>
</tr>
</tbody>
</table>
A lack of status and conflictual relationship to the group are negatively related to the acceptance of new ideas by other team members (p. 348).

The less an idea is coupled with important goals or costly errors, the lower is its acceptance by other team members (especially under circumstances of high workload and frontline context) (p. 348).

Failure-avoidance norms, an extremely high or low degree of collective identity (in contrast to moderate) is negatively related to the acceptance of new ideas by other team members (especially if the knowledge conflicts with existing occupation mindsets) (p. 349).

### Group

**Integrating – one unit learns but not the whole organization; therefore, an idea is not integrated into organizational practice**

Ineffective allocation of resources and a competition between units are negatively related to trust and the motivation of teams to share their knowledge with others (p. 349).

A lack of top management attention for the idea, conflicts between the idea and the knowledge/visions of powerful individuals, outdated beliefs and values on the part of senior management, long periods of corporate success, and low top management turnover are all negatively related to top management support for innovations, which itself is negatively related to the degree of their collective practice in the organization (p. 351).

A lack of learning orientation in the organizational culture, ineffective leadership in the introduction of ideas, ideas that conflict with organizational values and industrial recipes, challenge power relations or imply a time lag to environmental response are all negatively related to the acceptance of innovations by other organizational units (p. 351).
Institutionalizing – organizational learning occurs but does not become part of a routine

Rapid technological changes in the organizational environment, a different culture origin of innovations, and a high degree of emerging management trends in the branch are negatively related to the implementation of technological innovations (p. 354).

A lack of organizational resources (especially appropriate training and development) for the implementation process, poor communication methodologies, inflexible workplaces and high employee turnover are negatively related to employees’ skill to implement structural, process and product innovations (especially if the new knowledge is relatively implicit) (p. 354).

Low levels of trust in the willingness and skills of employees, conflicts in past learning transfers and a diffusion of responsibility for the implementation are positively related to both organizational inconsistencies (i.e. between corporate strategy, systems, policies and practices) and laissez-faire leadership style on the part of top, middle and lower management, which themselves are negatively related to the implementation of structure, process and product innovations (p. 355).

High levels of decentralization in the organization, inconsistencies in the implementation (e.g. between initial goals and actual success criteria) and a lack of means of control and punishment are positively related to lip service and opportunistic behavior (especially under circumstances of high degrees of organizational cynicism) (p. 355).

For additional clarity, each of the four organizational learning sub-processes and their associated overarching themes are discussed and a simplified table for each sub-process is displayed below each sub-process narrative.
**Intuiting.** The intuiting sub-process occurs at the individual level and involves “pre-conscious recognition” (Crossan et al., 2009, p. 525). This sub-process begins the feed-forward movement of knowledge as new knowledge is shared between levels and flows through the organization from the individual to the group and the organizational levels (Crossan et al., 2009, 2011). Schilling and Kluge (2009) describe barriers to this sub-process as “preventing novel insights and innovative ideas” (p. 343). Schilling and Kluge (2009) developed four barriers clusters for the intuiting sub-process which include: (1) a lack of clear goals, (2) uncertainty about the knowledge, (3) narrowly defined professional role characterizations, and (4) a controlling management styles and culture of blame.

The data from this research did not reveal initial themes to link to the sub-process of intuiting which would inhibit new ideas from being implemented at the community college. Rather, the inter-organizational network provided a platform for the directors of the community college to come together with other experts in their field to share information and ideas concerning operational efficiencies and cost saving or avoiding strategies. This platform stimulated communication and knowledge-sharing as exhibited by the many ideas found within the inter-organizational network documents which were reviewed for this study. The inter-organizational network was found to have clear goals, provide certainty of knowledge, defined roles and a supportive management style. Indeed, the mission of the inter-organizational network was to “share information fluidly in order to most efficiently move from identifying a shared need to executing a shared initiative” (UNYCC, 2017). Therefore, participation in the inter-organizational network served as an intuiting enabler. For clarity, a simplified table focusing only on the barrier clusters relating to the intuiting sub-process and noting no initial themes from the data were linked is shown below as Table 4.7.
Table 4.7

$Schilling$ and Kluge’s (2009) Complex of Barriers to Intuiting linked to Inductive Initial Themes

<table>
<thead>
<tr>
<th>Simplified Barrier Clusters to Intuiting</th>
<th>Initial Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of clear goals</td>
<td>None found</td>
</tr>
<tr>
<td>Uncertainty about the knowledge</td>
<td>None found</td>
</tr>
<tr>
<td>Narrowly defined professional role characterizations</td>
<td>None found</td>
</tr>
<tr>
<td>Controlling management style and culture of blame</td>
<td>None found</td>
</tr>
</tbody>
</table>

**Interpreting.** The interpreting sub-process occurs at both the individual and group levels and involves explaining the ideas which originated from intuiting to either one’s self or to others and developing understandings to help organize information (Crossan et al., 2009, 2011). This research found two initial themes linked to the sub-process of interpreting: inflexible culture and competing/common goals. These two initial themes were spread across Schilling and Kluge’s (2009) four different barrier clusters within the interpreting sub-process: (1) motivation and skills of the innovator, (2) status of the innovator, (3) group’s task and working condition and (4) group norms, values and the collective group identity.

Within the interpreting sub-process, the inflexible culture theme was linked to three of Schilling and Kluge’s (2009) sets of barrier clusters. The community college culture was found to be a barrier to interpreting when the culture was inflexible about accommodating the motivation and skills of the innovator. Also, the group norms, values and the collective group
identity of the community college and the status of the innovator were linked to the inflexible culture theme.

As identified by Schilling and Kluge (2009), the third barrier cluster to interpreting, which focuses on coupling the initiative to important goals, was linked to the initial theme of competing/common goals. When common goals were expressed by the inter-organizational network, the community college and the anticipated results from implementing the initiative acted to meet these goals, then common goals acted as an enabler to organizational learning within the interpreting sub-process. However, when goals did not align, competing goals acted as a barrier. Table 4.8 below displays the themes found at the community college that were associated with the simplified barriers clusters to the sub-process of interpreting.

Table 4.8

Schilling and Kluge’s (2009) Complex of Barriers to Interpreting linked to Inductive Initial Themes

<table>
<thead>
<tr>
<th>Simplified Barrier Clusters to Interpreting</th>
<th>Initial Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation and skills of the innovator</td>
<td>Inflexible Culture</td>
</tr>
<tr>
<td>Status of the innovator</td>
<td>Inflexible Culture</td>
</tr>
<tr>
<td>Group’s talk and working conditions</td>
<td>Competing/Common Goals</td>
</tr>
<tr>
<td>Group norms, values and the collective group identity</td>
<td>Inflexible Culture</td>
</tr>
</tbody>
</table>

**Integrating.** Integrating is the sub-process of organizational learning where a shared understanding among the group is achieved (Schilling & Kluge, 2009). Only three barrier
clusters to this sub-process were described by Schilling and Kluge (2009) and include: (1) ineffective allocation of resources, (2) lack of top management support, and (3) poor leadership in introducing the idea. Associated with these three barrier clusters, this research found four different initial themes: lack of resources, lack of support, unreliable knowledge, and ineffective communication.

The first barrier cluster to integrating, ineffective allocation of resources, was associated with the lack of resources theme. Specifically, the lack of time, with time identified as a resource, was found to be one barrier to the integration sub-process of organizational learning. Lack of support from top management was also found to be a barrier to integrating knowledge, while support from top management was found to be an enabler. For an idea to succeed and reach the next sub-process, institutionalization, managers, supervisors and employees stated that top level support was necessary.

The themes of unreliable/reliable knowledge and ineffective/effective communication were found to be related to the integrating sub-process barrier cluster of ineffective leadership in introducing the idea. However, reliable knowledge from a subject matter expert or from prior experience were found to be organizational learning enablers. Additionally, effective communication from well-planned implementation and idea introduction including training, documented processes and prepared forms was found to be an enabler.

Table 4.9 below displays the initial themes found at the community college that were associated with the simplified barriers clusters to the sub-process of integrating.
Table 4.9

*Schilling and Kluge’s (2009) Complex of Barriers to Integrating linked to Inductive Initial Themes*

<table>
<thead>
<tr>
<th>Simplified Barrier Clusters to Integrating</th>
<th>Initial Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ineffective allocation of resources</td>
<td>Lack of Resources</td>
</tr>
<tr>
<td>Lack of top management support</td>
<td>Lack of Support/Support</td>
</tr>
<tr>
<td>Ineffective leadership in introducing the idea</td>
<td>Unreliable/Reliable Knowledge</td>
</tr>
<tr>
<td></td>
<td>Ineffective/Effective Communication</td>
</tr>
</tbody>
</table>

**Institutionalizing.** Within the sub-process of institutionalization, the shared understanding from integration is implemented within the organization and becomes part of organizational routines, structures and systems (Schilling & Kluge, 2009). Four barrier clusters to institutionalization identified by Schilling and Kluge (2009) include: (1) lack of trust in the innovation, (2) poor communication, (3) lack of trust and skill of employees and laissez-faire leadership and (4) lack of control in implementation. Associated with these four barrier clusters to institutionalization, this research found five different themes: inflexible culture, ineffective/effective communication, unreliable/reliable knowledge, lack of support/support and lack of implementation leadership/implementation leadership.
The first barrier cluster to institutionalizing, lack of trust in the innovation, was found to relate back to the barrier cluster from the interpreting sub-process described as the status of the innovator. In both situations, lack of trust in the innovation and lowly status of the innovator, as well as the inflexible culture of the community college supported the lack of trust and the low regard for the other schools in the inter-organizational network when they represent the private, not the public, sector.

This research found that ineffective communication within the community college could act as an obstacle to the institutionalizing sub-process of organizational learning; however, as found in the integrating sub-process, effective communication could serve as an enabler to institutionalization. The third barrier cluster to institutionalizing, lack of skill of employees and laissez-faire leadership, was associated with three initial themes: unreliable/reliable knowledge, lack of support/support and lack of implementation leadership/implementation leadership. Initiatives were successful when directors perceived them as easy to implement easy and easy for employees to understand and support. Lack of implementation ownership was associated with two different barrier clusters to implementation. Ideas were unsuccessful when no one took ownership and no one led the implementation initiative or when implementation of the initiative was outside of the control of the leader. As stated previously, a failed initiative was found at the cross-roads of two departments with no one taking ownership and leading. However, successfully implemented initiatives were associated with an implementation leader.

Table 4.10 below displays the themes found at the community college and associated simplified barriers clusters to the sub-process of institutionalizing.
Table 4.10

Schilling and Kluge’s (2009) Complex of Barriers to Institutionalizing linked to Inductive Initial Themes

| Institutionalizing – organizational learning occurs but does not become part of a routine |
|-----------------------------------------------|------------------------------|
| **Simplified Barrier Clusters to Institutionalizing** | **Initial Theme** |
| Lack of trust in the innovation               | Inflexible Culture           |
| Poor communication                            | Ineffective/Effective Communication |
| Lack skill of employees and laissez-faire leadership | Unreliable/Reliable Knowledge          |
|                                                | Lack of Support/Support        |
|                                                | Lack of Implementation         |
|                                                | Leadership/Implementation Leadership |
| Lack of control in implementation             | Lack of Implementation         |
|                                                | Leadership/Implementation Leadership |

The data, findings, codes, initial themes and linkages to Schilling and Kluge’s (2009) barriers to organizational learning and Crossan, Lane and White’s (1999) 4I organizational learning sub-processes were all combined to develop broad overarching themes that represent the research in its entirety.

**Phase III: Data Interpretation and Overarching Themes**

An examination of the deductive analysis output including linkages to Schilling and Kluge’s (2009) barrier clusters and Crossan, Lane and White’s (1999) 4I organizational learning
sub-processes was conducted to develop overarching themes in relation to the research question, *How does organizational learning occur at a community college participating in an inter-organizational network?* To do so most effectively, one overarching theme was developed for each of the 4I organizational learning sub-processes: (1) *Intuiting* was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler, (2) Inflexible culture and competing goals were barriers while having a common goal was an enabler to *interpreting*, (3) Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to *integrating*, and (4) Inflexible culture, ineffective communication, lack of knowledge, lack of support and lack of implementation leadership were barriers, while effective communication, support and implementation leadership were enablers to *institutionalizing*. Overall, the number of barriers increased as the organizational learning process progressed though the 4I sub-processes. Each overarching theme is described below with a narrative explanation. Table 4.11 lists the overarching themes by linking the barrier/enabler to the 4I sub-process while figure 4.1 is a visual representation of the themes incorporated into Schilling and Kluge’s (2009, p. 342) expanded 4I model of organizational learning.
Table 4.11

*Barriers to Organizational Learning by 4I Sub-process at the Community College*

<table>
<thead>
<tr>
<th>4I Sub-process</th>
<th>Organizational Learning Barrier/Enabler</th>
<th>Overarching Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intuiting</td>
<td>None</td>
<td>Intuiting was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an enabler.</td>
</tr>
<tr>
<td>Interpreting</td>
<td>Inflexible Culture</td>
<td>Inflexible culture and competing goals were barriers while having a common goal was an enabler to interpreting.</td>
</tr>
<tr>
<td></td>
<td>Competing/Common Goals</td>
<td></td>
</tr>
<tr>
<td>Integrating</td>
<td>Ineffective/Effective Communication</td>
<td>Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to integrating.</td>
</tr>
<tr>
<td></td>
<td>Unreliable/Reliable Knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Support/Support</td>
<td></td>
</tr>
<tr>
<td>Institutionalizing</td>
<td>Inflexible Culture</td>
<td>Inflexible culture, ineffective communication, lack of knowledge, lack of support and lack of implementation leadership were barriers, while effective communication, support and implementation leadership were enablers to institutionalizing.</td>
</tr>
<tr>
<td></td>
<td>Ineffective/Effective Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unreliable/Reliable Knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Support/Support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Implementation Leadership/Implementation Leadership</td>
<td></td>
</tr>
</tbody>
</table>
Theme 1. Intuiting was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler. The sub-process of intuiting occurs at the individual level and involves “preconscious recognition” (Crossan et. al, 1999, p. 525), pattern recognition and insight development. Schilling and Kluge (2009) describe barriers to this sub-process as “preventing novel insights and innovative ideas” (p. 343) and identified four major blocks of barriers associated with inhibiting the identification of novel insights including: lack of clear goals, uncertainty about the knowledge, narrowly defined professional role characterizations, and controlling management style and culture of blame.

This research was unable to find evidence of barriers as described and categorized by Schilling and Kluge (2009) to the 4I organizational learning sub-process of intuiting at the community college. Significantly, the inter-organizational network provided a platform for the directors of the community college to come together with other experts in their field to share information and ideas concerning operational efficiencies and cost saving or avoiding strategies. This platform stimulated communication and knowledge-sharing as exhibited by the many ideas found within the inter-organizational network documents that were reviewed for this study. The inter-organizational network was found to have clear goals, provide certainty of knowledge, defined roles and a supportive management style. Indeed, the mission of the inter-organizational network was to “share information fluidly in order to most efficiently move from identifying a shared need to executing a shared initiative” (UNYCC, 2017).
Inter-organizational documentation described a multitude of ideas shared within each active functional group. Interviewees also stated that there were many ideas shared within the inter-organizational network, although there was no data available from the Human Resources and Information Technology functional group representatives of the community college. Additionally, document review, interviews and meeting observations provided evidence of implementation of inter-organizational network ideas throughout all levels of the community college. Therefore, the inter-organizational network served to enable organizational learning and remove barriers to the intuiting sub-process and allow the process of organizational learning to begin at the community college. It is this sub-process that begins the feed-forward movement of knowledge (Jenkin, 2013) throughout the organization and this research followed the flow of knowledge to the next sub-process, interpreting.

Theme 2. Inflexible culture and competing goals were barriers while having a common goal was an enabler to interpreting. Interpreting, the process of explaining the individual’s recognitions or insights from intuiting in order to develop understanding and organize information, can occur at either the individual or the group level (Crossan et al., 1999). Schilling and Kluge (2009) have identified four major blocks of barrier clusters to this sub-process. This research found three barrier clusters to interpreting which are associated with the culture of the community college: (1) group norms, values and collective group identity (2) the status of the innovator, and (3) the motivation and skills of the innovator. However, both the community college’s inflexible culture and competing goals acted as barriers to interpreting knowledge.

Several interviewees stated that they contemplated the culture of the college, the group norms, values and collective group identity, and how the culture could act as a barrier when
considering whether or not to attempt to implement an inter-organizational network idea. Indeed, document review, observations and interviews found that many of the ideas which originated with the inter-organizational network were never brought to the community college for implementation. Furthermore, one director stated that the culture of the community college was to say no to an idea before asking how it could be implemented.

Schilling and Kluge (2009) refer to the status and skills of the innovator as potential inhibitors to knowledge integration. A director at the community college combined barriers to both the innovator’s skills and status in a succinct statement about private schools within the inter-organizational network when she stated that the ideas from the private schools within the inter-organizational network were discounted because they didn’t understand the operating conditions of public community colleges. She stated that when a private school shared ideas which the community college felt they couldn’t implement, the entire idea “fell apart”. Therefore, the status of the innovator was a barrier to idea implementation if the innovative idea was shared by a private school within the inter-organizational network and the value of the idea was immediately discounted, as private schools were assumed to lack knowledge of public schools operating conditions.

When considering competing goals as a barrier, alignment with either strategic, divisional or departmental goals acted as an enabler to interpreting and was important to inter-network idea implementation. Inter-organizational network and community college documentation revealed the shared goal of financial improvement which served as an enabler to organizational learning. The inter-organizational network exists to provide financial benefits to its members and the community college made commitments to improving its financial strength and institutional effectiveness. Document review, interviews and observations found that when inter-
organizational network ideas aligned with the financial improvement goals of the community college, ideas were successfully implemented. Indeed, this research found that every successfully implemented inter-organizational initiative resulted in a financial benefit to the community college.

However, when there was no financial benefit suspected, the idea did not make it past the interpreting sub-process. Directors stated that inter-organizational network ideas which did not appear to have the ability to reduce or avoid costs were not chosen by them for implementation at the community college. This further supported the finding that when the inter-organizational network idea aligned with the goals of the college, the barrier of competing goals did not act to inhibit organizational learning within the interpreting sub-process. Therefore, when the goals of the idea, the community college and the inter-organizational network aligned, the idea was not blocked by the competing goals barrier to interpreting. When the goals of the idea, the community college and the inter-organizational network were competing or did not align, the idea was not moved to the integrating sub-process.

Competing goals and working conditions were also found to act together as barriers to interpreting when the innovative inter-organizational network idea was not coupled to any type of important community college goals. A director stated that there was not time to move forward with initiatives that weren’t part of the strategic plan, or divisional or departmental goals and objectives, particularly if the initiative idea was not something that a department’s or an individual’s performance would be measured on. Fortunately, in addition to failed initiatives, both directors and employees of the college had positive experiences with successfully implemented inter-organizational network ideas and stated that when “all of the players had a single goal” it helped the initiative succeed.
The sub-process of interpreting or explaining the pattern recognition from intuiting in order to develop understanding was inhibited by the community college’s inflexible culture and competing goals between the inter-organizational network idea and the college. When the community college culture did not accept the status or skills of the innovator and when the inflexible culture around group norms and the collective identity of the college did not recognize the compatibility of the knowledge with the community college, interpretation of an inter-organizational network idea was inhibited.

**Theme 3. Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to integrating.** Integrating is a group process where shared understandings from interpreting become coordinated actions. Unlike the four barrier clusters identified by Schilling and Kluge (2009) for the intuiting and interpreting sub-processes, only three major blocks of barriers are associated with integrating, including: ineffective allocation of resources, lack of top management support and ineffective leadership in introducing the idea. This research found evidence at the community college associated with these three types of barriers to integrating.

As a barrier to organizational learning, the ineffective use of resources was evident in the many comments by directors about being overburdened with their day to day responsibilities and the lack of time to attend to inter-organizational network initiatives. Inter-organizational network documentation revealed that many ideas were shared within each functional group of the inter-organizational network. While these ideas may have been interpreted by participating directors as potentially valuable to the community college, they did not make it through the integrating sub-process when a lack of time was perceived by the director.
The lack of top management support for an initiative also acted as a barrier. Interviewees looked for support from at least one and sometimes two levels above their functional level. Even the Senior Vice President sought support from the President and Board of Trustees before pursuing an initiative. Interviewees spoke about the lack of support from the community college Cabinet level as preventing them from pursuing idea implementation. Therefore, lack of top management support acted to inhibit the sub-process of integration.

The barrier cluster around lack of implementation leadership was related to both unreliable knowledge and ineffective communication. Although the initiative described by the Senior Vice President of Administration was ultimately deemed a success, the lack of communication of the details, and the lack of knowledge about the details of the inter-organizational network initiative were both described as disrupting the integration. Conversely, reliable knowledge in the form of a well thought out implementation plan including beginning implementation with a pilot program and completing all the necessary documentation in advance of the roll-out were evident in successfully implemented initiatives.

Additionally, each successfully implemented inter-organizational network initiative had a subject matter expert associated with its implementation. In most instances, interviewees readily acknowledged that the expert and their reliable knowledge of the subject matter was necessary to the initiative’s success. Support from both management and employees also acted as an enabler to integration of an inter-organizational idea.

The sub-process of integrating or developing shared understandings was inhibited by lack of resources, lack of support, unreliable knowledge and ineffective communication. Each of these barriers presented a different obstacle to the sub-process of integrating of an inter-
organizational network idea implementation while support, reliable knowledge and effective communication were enablers to integrating. When an idea was blocked at this sub-process, it did not move to institutionalization.

Theme 4. Inflexible culture, ineffective communication, unreliable knowledge, lack of support and lack of implementation ownership were barriers to institutionalizing while effective communication, support and implementation leadership were enablers to institutionalizing. The sub-process of institutionalizing moves the learning from the individual or the group to the organization (Crossan et al., 1999) and is the final sub-process of organizational learning. When knowledge has been institutionalized, the shared understandings from the integrating sub-process have become embedded in the systems and structures of the organization and are independent of the original individual or group where they were intuited, interpreted and integrated (Schilling & Kluge, 2009) and can exist independently of any one individual. Similar to the intuiting and interpreting sub-processes, Schilling and Kluge (2009) identified four barrier clusters to institutionalizing including: lack of trust in the innovation, poor communication, lack of trust and skill of employees and laissez-faire leadership and lack of control in implementation. This research found evidence at the community college of these types of barriers to institutionalizing.

The first barrier cluster to institutionalizing, lack of trust in the innovation, was found to relate back to the barrier cluster from the interpreting sub-process described as the status of the innovator. As stated previously, the inflexible culture of the community college was found to act as a barrier to the sub-process of interpreting. However, the community college’s inflexible culture also acted as a barrier to institutionalizing.
For both barrier clusters in both sub-processes (interpreting and institutionalizing), this research found that the culture of the community college supported the lack of trust and the low regard for the other schools in the inter-organizational network when they represented the private, not the public, sector. Directors were found to discount ideas from the inter-organizational network when the idea came from a private school during the sub-process of interpreting, described as lowly status of the innovator. Additionally, the community college culture also inhibited the institutionalization of an initiative when the inter-organizational network participating director lacked trust in the innovation because it originated with a private school.

This research found that the second barrier cluster, poor or ineffective communication, could also act as an obstacle to institutionalizing. The Senior Vice President of Administration and Finance spoke candidly about the need for broad communication in the “most appropriate way for stakeholders”. Additionally, the effect of direct and detailed effective communication was observed in meetings and was stated by interviewees. Several interviewees described the different types of communication and the different times in the organizational learning process when communications were made. At times, communication to employees that was detailed and well planned in advanced supported the implementation of inter-organizational network initiatives. At other times, communication with top level management and the Board of Trustees to garner their support was important to success. However, when details were not included in communications, barriers were created which had to be addressed before organizational learning could proceed.

Unreliable knowledge, lack of support and lack of implementation ownership were associated with Schilling and Kluge’s (2009) barrier cluster which included the lack of skill of
employees and laissez-faire leadership. The lack of skill of employees as an obstacle to organizational learning was evident in one director’s comments about the need for an inter-organizational network idea to be relatively simple in order to be successfully implemented. Additional interviews revealed that there is a lack of trust in the skill of employees at the community college and that some of the initiatives which were successful were described as “no brainers” or easy to implement. However, while the idea of a need for employee support of an initiative was also found to be important for implementation success, the lack of employee support was described a barrier.

Lack of employee trust in the initiative was also a barrier to institutionalizing while having support in the form of trust from employees was described as necessary. Directors stated the need for employee trust and support in three of the four director level interviews. Support was described as “buy-in” and getting “buy-in” was described as “selling” the idea. “Selling” the idea was tied to the laissez-faire leadership barrier.

Lack of implementation ownership or the lack of a leader (someone to take ownership of the inter-organizational network idea) was another initial theme associated with the third barrier cluster. Laissez-faire leadership in which leaders are hands off was reinforced as an obstacle to organizational learning by interviews with several directors. Successfully implemented inter-organizational ideas were found to have had been led or owned, by someone at the level of middle management or above as described in interviews or noted during meeting observations. One director stated the need for a leader in order to overcome the barriers presented by laissez-faire leadership very succinctly when she stated, “Ideas are one thing but implementation is another and you need a leader.”
Lack of implementation ownership was also associated with Shilling and Kluge’s (2009) final barrier cluster including lack of control in implementation. Documentation from the community college revealed that all successfully implemented inter-organizational network ideas were implemented by the director who learned of it within their inter-organizational network functional group, demonstrating that control, or ownership, of the implementation remained with the director. Additionally, interviews, documentation and meeting observations showed that the majority of organizational changes occurring from the implementation were in the director’s department, illustrating even more ownership of the idea and its implementation while a failed initiative was found at the cross-roads of two departments with no one taking ownership and leading.

Summary of Findings

This research found four overarching themes emerging from the iterative inductive and deductive analysis. In the inductive data analysis phase, the initial twenty-two categories of codes were organized into seven initial themes. The research moved into the second deductive phase of data analysis in which the seven initial themes were analyzed against Schilling and Kluge’s (2009) cluster of barriers.

From this analysis four overarching themes emerged to answer the research question, *How does organizational learning occur at a community college participating in an inter-organizational network?* These overarching themes aligned with Crossan, Lane and White’s (1999) 4I sub-processes of organizational learning: (1) *Intuiting* was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler, (2) Inflexible culture and competing goals were barriers while having a common goal was an enabler to *interpreting*, (3) Lack of resources, lack of support, unreliable
knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to integrating, and (4) Inflexible culture, ineffective communication, lack of knowledge, lack of support and lack of implementation leadership were barriers, while effective communication, support and implementation leadership were enablers to institutionalizing. Overall, the number of barriers increased as the organizational learning process progressed though the 4I sub-processes.
Chapter Five: Conclusions

The study was conducted in three phases: (I) data collection, (II) data analysis, and (III) interpretation of the data analyzed. The purpose of this final chapter is to complete Phase III by interpretation of the broad emergent themes relative to the research question using Crossan, Lane and White’s (1999) 4I model of organizational learning coupled with Schilling and Kluge’s (2009) extension of the 4I model with categorized barriers to organizational learning. This chapter will also discuss the implications these interpretations may have to theory, practice and potential future research, as well as the limitations of this study.

Interpretations and Conclusions

In this descriptive case study, a community college in upstate New York was selected as the research site because it joined an inter-organizational network to enhance organizational knowledge, realize operational efficiencies and related cost savings or cost avoidance. This qualitative case study describes the barriers and enablers that were found within the dynamic, social organizational learning process and how learning occurred at the community college by responding to the question, How does organizational learning occur at a community college participating in an inter-organizational network?

Overarching themes emerged which aligned with Crossan, Lane and White’s (1999) 4I sub-processes of organizational learning: (1) Intuiting was not inhibited by organizational learning barriers as participation in the inter-organizational network served as an intuiting enabler, (2) Inflexible culture and competing goals were barriers while having a common goal was an enabler to interpreting, (3) Lack of resources, lack of support, unreliable knowledge and ineffective communication were barriers, while support, reliable knowledge and effective communication were enablers to integrating, and (4) Inflexible culture, ineffective
communication, lack of knowledge, lack of support and lack of implementation leadership were barriers, while effective communication, support and implementation leadership were enablers to institutionalizing. Overall, the number of barriers increased as the organizational learning process progressed through the 4I sub-processes. These themes and their connection to the theoretical framework for this research provide an understanding of learning barriers and enablers and how organizational learning occurs at a community college participating in an inter-organizational network and are explored below.

**Implications to Theory**

This research relied upon the organizational learning framework of Crossan, Lane and White (1999) coupled with Schilling and Kluge’s (2009) extension of the 4I model with categorized barrier clusters to organizational learning to explore learning barriers and enablers within the community college in order to gain a better understanding of idea implementation within and across the 4I learning sub-processes. This research aimed to describe organizational learning at a community college through idea implementation from participation in an inter-organizational network. Organizational learning was defined as:

…an organizationally regulated collective learning process in which individual or group-based learning experiences concerning the improvement of organizational performance and/or goals are transferred into organization routines, processes and structures, which in turn affect the future learning activities of the organization’s members (Schilling & Kluge, 2009, p. 338).

**Schilling and Kluge (2009).** While Chapter Four of this research discussed the findings from this research as related to barriers to organizational learning as identified by Schilling and Kluge (2009), it is important to note that not all of the barriers were found during this study. For
example, Schilling and Kluge (2009) describe barriers to the intuiting sub-process as “preventing novel insights and innovative ideas” (p. 343) and hypothesized them to be (1) a lack of clear goals, (2) uncertainty about the knowledge, (3) narrowly defined professional role characterizations, and (4) a controlling management styles and culture of blame. However, these barriers were not apparent from the data in this study.

In contrast, this research found that the inter-organizational network provided a platform for the directors of the community college to come together with other experts in their field to share information and ideas concerning operational efficiencies and cost saving or avoiding strategies. This platform stimulated communication and knowledge-sharing as exhibited by the many ideas found within the inter-organizational network documents that were reviewed for this study. The inter-organizational network was found to have clear goals, provide certainty of knowledge, defined roles and a supportive management style. Indeed, the mission of the inter-organizational network was to “share information fluidly in order to most efficiently move from identifying a shared need to executing a shared initiative” (UNYCC, 2017). Therefore, participation in the inter-organizational network served as an intuiting enabler.

This finding in no way is intended to discount Schilling and Kluge’s (2009) identified barriers to intuiting. Rather, the finding supports the idea that barriers to intuiting may exist in the forms suggested by Schilling and Kluge (2009). However, these barriers were not found in this research, as participation in the inter-organizational network addressed each of these barriers to intuiting.

While no barriers identified by Schilling and Kluge (2009) were found to intuiting (a lack of clear goals, uncertainty about the knowledge, narrowly defined professional role
characterizations, a controlling management style and culture of blame) another barrier appeared instead. All successfully implemented inter-organizational network ideas were implemented within departments with community college directors who actively participated in the inter-organizational network. Yet, two departments at the community college had no successfully implemented inter-organizational network ideas and no community college directors representing those departments participated in the inter-organizational network. This finding indicates that another barrier to intuiting at a community college participating in an inter-organizational network is lack of director level participation. Without exposure to the novel and innovative ideas being shared by the inter-organizational network, the first sub-process to organizational learning, intuiting, cannot occur and the overall organizational learning process does not engage.

Crossan, Lane and White (1999). Crossan, Lane and White (1999) support their 4I framework for organizational learning with four assumptions: organizational learning creates a tension between the concurrent processes of integrating new knowledge (feed forward) and taking advantage of (exploiting) what has already been learned (feedback); learning occurs across the three organizational levels of individual, group and organization; the 4I social processes of intuiting, interpreting, integrating and institutionalizing link the three organizational levels; and, throughout the 4I social processes there is an interactive relationship between understanding and action. This research found support for the assumptions of the 4I framework. The community college was able to feedforward new knowledge learned from the inter-organizational network, learning was found to occur at all three levels of the organization, each of the 4I sub-processes was evident and there was a link between understanding and action.
Crossan, Lane and White (1999) coupled with Schilling and Kluge (2009). As the learning from the inter-organizational network progressed through the organization and the 4I sub-processes, more barriers were found at each level of the organization. Overall, the number of barriers increased as the organizational learning process progressed though the 4I sub-processes. Specifically, ineffective communication was a barrier to organizational learning at both the group and the organizational level within the integrating and implementation sub-processes.

This barrier interferes with organizational learning because of the interactive relationship described by Crossan, Lane and White (1999) between understanding and action. When groups of individuals do not understand how to act, they can act in ways that do not support successful idea implementation. Conversely, effective communication about the initiative was found at both group and organization levels of the community college and within both the integrating and implementation sub-processes to enable successful idea implementation. Therefore, Crossan, Lane and White’s (1999) assumption concerning the interactive relationship between understanding and action is supported by the findings around the barrier of ineffective communication and the enabler of effective communication. Again, this implication does not negate Crossan, Lane and White’s (1999) framework of organizational learning but supports the assumption between understanding and action.

Overall, this study provided new insights to organizational learning in a community college by utilizing Crossan, Lane and White’s (1999) 4I framework coupled with Schilling and Kluge’s (2009) extension of the 4I model with categorized barrier clusters to organizational learning. By utilizing the 4I framework and associated barriers to organizational learning in a community college participating in an inter-organizational network setting, new perspectives
about barriers and enablers to organizational learning were established. Further, this study’s themes align with established concepts about barriers to organizational learning.

**Implications to Practice**

Potential benefits to others from this research are an improved understanding of how barriers interrupt and enablers enhance organizational learning from an inter-organizational network.

**Implication 1. To improve community college stakeholder buy-in, barriers to organizational learning from an inter-organizational network must be addressed.**

Understanding barriers to the social learning process from inter-organizational networks and actively working to address them will result in improved operational efficiencies and operational cost reductions within community colleges. Documenting these barriers and interruptions to the dynamic social learning processes provides stakeholders with the knowledge needed to create, facilitate and develop effective collaborative learning relationships.

Increased knowledge, learning and implementation of efficient operations or best practices, ultimately yielding cost reductions, will prove to be important to policymakers when considering federal and state funding for these public higher educational institutions. When public institutions such as community colleges are able to function more efficiently, thereby meeting increasing societal demands to “do more with less”, policymakers will be more inclined to financially support these resourceful institutions.

Community colleges will be more motivated to join and remain involved in inter-organizational networks if the methods for learning and associated cost-reducing project implementation are proven successful. As this research has expanded the knowledge around barriers to, and enablers of inter-organizational learning at community colleges, these colleges
will be interested in the results and the practical implications of improved learning, increased knowledge, efficiencies and cost-reductions. Significantly, cost reductions in necessary business operations will allow community colleges to return to their core mission of teaching and student success.

**Implication 2. Although practitioner participation in an inter-organizational network removes barriers to intuiting, barriers to other sub-processes must be removed.**

Several successful inter-organizational ideas were implemented at the community college; however, no ideas were implemented in the two departments with directors who stopped participating in the inter-organizational network. To have successfully implemented cost-saving ideas, this research found that it was not enough to simply belong to the inter-organizational network – actively participating in the network was necessary to get through the intuiting sub-process so that ideas could begin to move through the other 4I sub-processes.

Although no barriers as identified by Schilling and Kluge (2009) were found to the intuiting sub-process, many other barriers within other sub-processes were identified. For community college administrators, operational directors and other college employees, the findings provide an understanding of the barriers and enablers to learning at each of the other three sub-processes (interpreting, integrating and institutionalizing) allowing for preparation to counteract the barriers, and capitalize on enablers. Barrier neutralizers will permit inter-organizational network practitioners to more effectively engage in collective knowledge sharing for improved interpretation, integration and institutionalization. In particular, operational directors as change agents, and employees as change recipients, will find barrier and enabler identification a first step in preparing for inter-organizational network project implementation in
operational practice. Context-based research will help these change agents understand why and under what circumstances strategies work at a particular institution at a particular time.

**Implication 3. Inter-organizational network ideas must have implementation owners and leadership.** Although idea implementation encountered the most barriers within the institutionalizing sub-process, idea implementation leadership was a key learning enabler within this sub-process. In fact, all successfully implemented ideas were found in the departments in which community college directors actively participated in the inter-organizational network and assumed ownership and leadership of the idea implementation at the community college. Conversely, a failed initiative was positioned at the cross-roads of two departments with no one taking ownership and a “lack of implementation leadership” was noted.

**Implication 4. Inter-organizational networks must be designed to counteract barriers to organizational learning.** Designers of inter-organizational networks will find this practical research useful as findings provide insights into improved network organization and structuring. With an understanding of barriers within the social learning process, designers will be able to structure inter-organizational networks to counteract and neutralize them at the appropriate organizational level. Specifically, this research found that the public community college did not always accept knowledge or ideas shared by private institutions because of the perception that administration of the two groups was too different for implementation. By addressing this barrier, lack of trust in the innovation and lowly status of the innovator, as well as other barriers, inter-organizational networks will become more successful as platforms for knowledge sharing and improvement strategizing.
**Recommendations for Future Research**

The findings of this study will allow researchers involved in these types of networks to better develop models about knowledge interpretation, integration and institutionalization from these collaborations for further empirical research. This study revealed several areas for further exploration, either to expand the current research or deepen its discoveries.

**Recommendation 1. Types of inter-organizational networks.** While this research was conducted at a community college, the college was involved with an inter-organizational network composed of both public and private, two and four year, and undergraduate and graduate institutions. Some of the conclusions of this research were directly related to the role that the private institutions played within the inter-organizational network and the barriers presented by their participation. Networks of different composition may reduce the barriers that were associated with status of the innovator and lack of trust in the innovation. Future research could study idea implementation from an inter-organizational network composed of institutions that are only operated in either the private or the public sector.

Future research could look to different structure types of inter-organizational networks to explore barriers and enablers to organizational learning. Some inter-organizational networks do not operate from a platform structure on which the network in this study functions. Therefore, a study of how organizational learning occurs from a different type of network structure to compare with, and contrast with, this study would deepen the findings of this study. A study could follow an inter-organizational network with a paid staff of project managers to determine if utilizing these types of implementation experts removes or counteracts the barriers identified in this study. Or, each barrier could be explored more deeply to determine if one barrier type acts as a more powerful inhibitor or if one of the 4I sub-processes is more susceptible to barriers.
**Recommendation 2. Impact of time on participants.** Research could extend the conclusions of this study by determining how the role of the participants change over time. Future studies could examine the long-term impact of inter-organization network functional group participation on individual participants. Such studies could attempt to correlate the duration and degree of a participant’s engagement with in the functional group with their learning efforts. These learning efforts could be explored both within and outside of the inter-organizational network.

**Recommendation 3. Impact on other inter-organizational network participants.** This study focused on one community college as a participant in an inter-organizational network. Further research could expand and look at barriers and enablers across several of the inter-organizational network participants. This type of research could look for barrier and enabler similarities across the network and could explore how or to what extent barriers and enablers to organizational learning were addressed on the platform or functional group level.

As this research identified barriers and enablers within the interpreting, integrating and institutionalizing sub-processes, additional research could focus on the extent to which different types of inter-organizational network ideas were implemented by participating institutions. Research could explore the similarities or differences in the barriers and enablers associated with the different types of ideas at several participating institutions. Additionally, future research could utilize descriptive studies to develop criteria for evaluating the efficacy and impact of the networked groups and network learning.

**Recommendation 4. Types of barriers and 4I sub-processes.** Each barrier could be explored more deeply to determine if one barrier type acts as a more powerful inhibitor or if one of the 4I sub-processes is more susceptible to organizational learning barriers. This research
assumed that each barrier type had an equal ability to limit the progress of an idea through the 4I organizational learning process. Another assumption of this research was that each of the 4I sub-processes was equally susceptible to barriers and enablers. Allowing for a significant amount of research, future studies could explore in depth the individual barrier types at different levels of the organization for their abilities to limit the flow of learning and, or, explore the different barrier types clustered within each of the individual 4I sub-processes to determine if one sub-process is more vulnerable to blockades.

**Recommendation 5. Inter-organizational network learning.** While it is clear from this research that the inter-organizational network acted to produce a product in the form of novel ideas for implementation, future research could address the learning that is or is not occurring within the inter-organizational network itself. For example, exploration could dig into each functional group, composed of members from the various participating institutions, within the network. Or, future research could explore learning within the entire platform assembled from the various functional groups.

**Recommendation 6. Mixed methods.** Future research could use a mixed methods approach and incorporate a survey instrument for assessing the learning which may or may not be occurring within the organization and at each level of analysis. In mixed methods studies, rather than keeping the quantitative and qualitative data separate, data could be integrated to maximize the strengths and minimize the weaknesses of each type of data. Additionally, the process of offering a statistical analysis, along with qualitative data, would make the research more comprehensive.

**Recommendation 7. Power.** For future research, the idea of power within the organizational learning model could be explored. Schilling and Kluge (2009) discuss and
integrate the idea of power and politics in their extended 4I model of organizational learning. Their model refers to the incorporation of influence, force, dominance and discipline between each of the 4I sub-processes by the previous work of Lawrence, Mauws, Dyck and Kleysen (2005). These areas of power potentials could be explored for their interaction with potential learning barriers and enablers.

Limitations

The design and execution of this study aimed to maintain the integrity of this research. However, areas of limitations exist and are discussed below.

**Limitation 1. Intuiting is more difficult.** This study used Crossan, Lane and White’s (1999) 4I framework of organizational learning to explore organizational learning at a community college. However, Huang and Shih (2011) state that the first sub-process of the 4Is, intuiting, is the most difficult. They assert that this sub-process should have more attention paid to it than the other sub-processes. This research did not attempt to explore any one sub-process in greater depth than another. Therefore, the conclusion of this study relating to finding no barriers at the community college to the intuiting sub-process may be inadequate. An associated conclusion of this research which may also be insufficient is that participating in the inter-organizational network provided support to the community college and may have removed the barriers to intuiting.

**Limitation 2. Ability to generalize.** This research studied a specific community college, participating in a specific inter-organizational network, with a limited pool of participants, all of whom shared similar roles in the organization; therefore, the ability to generalize findings may be limited. Organizational learning and idea implementation may well be similar in other organizations participating in other collaborative relationships beyond the
Summary and Reflection

As community colleges increasingly participate in collaborative relationships with other institutions of higher education to realize performance improvement and maximize their potential for value through their combined economies of scale, barriers exist to organizational learning. For the community college studied, each of these barriers presented a different obstacle to inter-organizational network idea implementation. If learning is hindered by barriers and efficiencies and cost savings are not realized, then the focus of the community college may be directed away from their core mission of student success to economic survival in today’s competitive higher education marketplace.

This research aimed at describing how organizational learning occurred in a community college participating in an inter-organizational network. This case study provided insight into the specific barriers within the 4I organizational learning process as described by Schilling Kluge’s (2009) clusters of barriers. It was encouraging to this researcher to find no barriers to the sub-process of intuiting. This finding affirms that participation in the inter-organizational network has worked to remove barriers to inhibiting novel ideas. However, more attention must be paid to removing the barriers to organizational learning as knowledge from intuiting progresses through the 4I sub-processes and is met with an increasing number of learning barriers. It is this researcher’s hope that future research and future practitioners will find ways to address the barriers identified within the interpreting, integrating and institutionalizing sub-processes of organizational learning.
References


baseball, hot dogs, apple pie and marketing? Developments in marketing science: Proceedings of the academy of marketing science. Cham: Springer


APPENDIX A

PARTICIPANT EMAIL

Dear [Community College Senior Vice President or Department Director],

I am a doctoral student at Northeastern University conducting original research in pursuit of my doctor of education in organizational learning. This email is to let you know that you, your department and at least one key member of your staff has been selected to participate in my doctoral research study exploring idea implementation from an inter-organizational network. The purpose of my study is to explore enablers and barriers within the organizational learning process at a community college as it seeks to adopt ideas from participating in an inter-organizational network.

I will be using a qualitative case study approach which involves observations, document review and semi-structured one-on-one interviews. The interviews will be transcribed and data collected will be aggregated to develop themes about enablers and barriers to learning. Confidentiality will be maintained throughout my project to protect the privacy of the volunteer participants and the community college. Each interview will take no more than 60 minutes and will be audio recorded. As a participant, interviewees will have the opportunity to read the interview transcription and provide feedback to me and make any corrections or clarify any ideas that we may not have covered completely or accurately during the interview. If necessary, I may need to contact interviewees for a brief follow-up interview to provide clarity. Additionally, I would like your permission to observe one of your departmental meetings.

Importantly, I’d like you to know that you and your staff’s participation is voluntary and participants may withdraw from my study at any time. As such, prior to our interview I will ask participants to sign an informed consent form which will explicitly state that participation is voluntary, information will remain confidential and participants have the right to terminate their participation at any time. Participants will be provided with a copy of this signed document for their reference.

If you would like to participant, please email me at hess.d@husky.neu.edu and we will set up an interview. You will choose the location for any interviews to ensure confidentiality.

Thank you so much for volunteering to contribute to my research and I look forward to working with you and your staff. You will not be contacted again regarding this research unless you volunteer to participate.

Sincerely,

Dawn M. Hess
APPENDIX B

PARTICIPANT INTERVIEW PROTOCOL

Interviewee: ________________________________________________
Date/Time: _________________________________________________
Location: __________________________________________________

Opening Remarks: Thank you for taking the time to meet with me today. My doctoral research focuses on idea implementation from an inter-organizational network. For today’s interview, I’d like to hear about your experiences with a recent implementation of a UNYCC idea. This idea can be a joint purchase, a shared service, development of shared documentation, changes made internally based on knowledge shared – any sort of change that has occurred within the last 2 years within [Community College] that was influenced by an idea that originated from participation in UNYCC.

Before we begin, I want to review a few things that we’ve already covered in the signed informed consent document:

1. All information captured will be kept completely confidential and anonymous. No identifiable information about you or the organization will be used, instead I may insert pseudonyms for you and [CC].
2. I want you to know that your participation is completely voluntary, and if at any point during the interview you want to stop – you may do so.
3. Because your responses are important and I want to make sure to capture everything you say, I would like to record the audio during our conversation today - no video will be recorded. After I’ve transcribed the interview, I will give you a copy of the transcript to verify and edit if needed. I will be taking written notes during the interview.

Do I have your permission to record this interview? [If yes, thank the participant and turn on the recording equipment.]

How does organizational learning occur at a community college during idea implementation resulting from participation in an inter-organizational network?

Senior Vice President of Administration and Finance and Department Directors Interview Protocol (Not Other Employees)

Main Question 1: (Understanding the learning effort that participant is referencing). Not only thinking about the big ideas such as cyber security, but thinking about the other ideas as well, can you describe a successful initiative at [Community College] resulting from a UNYCC idea that has occurred in the last 2 years?
• Why do you think the initiative was successful?

Main Question 2: (Understanding Intuit/Interpret sub-process enablers and barriers) Thinking about the successful initiative, can you tell me about who was involved in the initial decision to implement this idea?

• Can you describe their involvement?
• Why do you think these individuals were involved?

Main Question 3: (Understanding the Interpret/Integrate/Institutionalize sub-processes enablers and barriers) Can you tell me how the idea was implemented?

• Who was involved in implementation?
• What are some processes or behaviors that aided in the implementation – things that went well? Why?
• What are some obstacles encountered during implementation – things that didn’t go very well? Why?
• What new or changed processes/procedures resulted from implementation – What do you or others do differently?

Main Question 4: (Understanding the Intuit/Interpret sub-process enablers and barriers) Please describe a time when you heard about a new idea at UNYCC and you decided that it just wasn’t something you’d like to try or it was not a good fit for [Community College] and, therefore, you did not implement it at [Community College].

Main Question 5: (Understanding the Interpret/Integrate/Institutionalize sub-process enablers and barriers) Can you describe a time when you [or a department Director] attempted to implement an idea from UNYCC but were unable?

• Can you describe anything that hindered implementation of the effort?

Main Question 6: (Understanding the overall learning process and all sub-process enablers and barriers) Thinking about each of the examples we just discussed, one in which you tried to implement an idea, one where you didn’t try to implement and one where you tried to implement but weren’t successful, can you describe the reason (or reasons) behind why you decided to try one and not the other?

Main Question 7: (Understanding the overall learning process and all sub-process enablers and barriers) If I were a UNYCC idea, what advice would you give me about being successfully implemented at [Community College]?

• What advice would you give me on dealing with the various obstacles that I may encounter? Why?
• What should I expect to help me through the implementation process? Why?

Closing Remarks: I am finished with my questions. Is there anything that we did not discuss that you think would be important to add? Do you have any questions for me? Thank you for taking the time to speak with me today and for sharing your experiences. Again, all information remains confidential and any identifiable information about you and the organization will be removed. Your participation in this interview has been very helpful to my research. I hope this interview and the time to reflect was rewarding for you too.

Employee Protocol (Not Senior Vice President of Administration and Finance or Department Directors)

Main Question 1: (Understanding Intuit/Interpret sub-process enablers and barriers) Thinking about [the successful UNYCC idea described by either the Sr. VP or the Department Director], can you tell me about who was involved in the initial decision to implement this project?

• Can you describe their involvement?
• Why do you think these individuals or departments were involved in choosing projects?
• Do you know the source of the idea?

Main Question 2: (Understanding Interpret/Integrate/Institutionalize sub-process enablers and barriers) Thinking about [the successful UNYCC idea described by either the Sr. VP or the Department Director], can you describe your initial response to this idea?

• Why was this your initial response?

Main Question 3: (Understanding the Interpret/Integrate/Institutionalize sub-processes enablers and barriers) Can you tell me how the idea was implemented at [Community College]?

• Why do you think the idea was implemented this way?
• What are some processes or behaviors that aided in the implementation – things that went well?
• What were some obstacles encountered by you, your department and the organization during implementation – things that didn’t go well?
• What new or changed processes/procedures resulted from implementation – What do you or others do differently?

Main Question 4: (Understanding Integrate/Institutionalize sub-process enablers and barriers) Thinking about [the unsuccessful UNYCC idea described by either the Sr. VP or the Department Director], can you describe why the project didn’t succeed?

Closing Remarks: I am finished with my questions. Is there anything that we did not discuss that you think would be important to add? Do you have any questions for me? Thank you for
taking the time to speak with me today and for sharing your experiences. Again, all information remains confidential and any identifiable information about you and the organization will be removed. Your participation in this interview has been very helpful to my research. I hope this interview and the time to reflect was rewarding for you too.
APPENDIX C

INFORMED CONSENT

Northeastern University, College of Professional Studies, Education Department
Name of Investigators: Principal Investigator, Dr. Tova Sanders, Ed. D., Student Researcher, Dawn M. Hess
Title of Project: Idea Implementation from an Inter-organizational Network

Informed Consent to Participate in a Research Study
We are inviting you to take part in a research study. This form will tell you about the study but the researcher will explain it to you first. You may ask this person any questions that you have. When you are ready to make a decision, you may tell the researcher if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

Why am I being asked to take part in this research study?
We are asking you to be in this study because you have knowledge of, or may have been part of implementation of, a project that began with an idea from the Upstate New York College Collaboration.

Why is this research study being done?
The purpose of this research is to develop a better understanding of how ideas from inter-organizational networks are implemented.

What will I be asked to do?
If you decide to take part in this study, we will ask you to answer questions during a one-on-one interview with the student researcher, then read a transcription of the interview and provide the researcher with any changes to the transcription that are not consistent with your initial responses. The student researcher may contact you for a brief follow up interview to provide clarity.

Where will this take place and how much of my time will it take?
You will be interviewed by the student researcher during your normal working hours at a place that is convenient for you. The interview will take about one hour. The transcription review will also take approximately one hour. You can return the reviewed transcription with your handwritten corrections to the student researcher via email to hess.d@husky.neu.edu. If a brief follow up interview is necessary, it will take approximately 20 minutes.

Will there be any risk or discomfort to me?
There are no foreseeable risks, harms, discomforts.

Will I benefit by being in this research?
There will be no direct benefit to you for taking part in the study. However, the information learned from this study may help community colleges implement ideas from inter-organizational networks.
Who will see the information about me?
Your part in this study will be confidential. Only the researchers on this study will see the information about you. No reports or publications will use information that can identify you or any individual in any way as being part of this project.

Information will be collected on an audio recorder during an approximately 60 minute one-on-one interview with the participant and the student researcher. A brief, approximately 20 minute, follow up interview may also occur between the participant and the student researcher. These audio taped interviews will be transcribed.

This information will be protected by the use of coding during the transcription analysis processes. Specific observations from interviews will be used by the student researcher to develop codes, words or short phrases to represent the data. The data will be condensed to build categories or themes.

All data will be managed by the student researcher and only the Principal Investigator and the student researcher will have access to the data. Copies of audio recordings, interview transcripts, coding and the student researcher’s journal will be maintained electronically on a secured password protected computer server that will only be accessible to the student researcher. To protect participants, materials will be carefully marked using pseudonyms. An electronic database containing a master list will be maintained by the researcher and stored on a secured server. All audio recording will be properly disposed of immediately following the conclusion of this study for the confidentiality and protection of all stakeholders. All other data including signed consent forms will be securely maintained in electronic format on a secured server for three to five years and then properly disposed.

What will happen if I suffer any harm from this research?
No special arrangements will be made for compensation or for payment for treatment solely because of participation in this research.

Can I stop my participation in this study?
Yes, your participation in this research is completely voluntary. You do not have to participate if you do not want to and you can refuse to answer any question. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have as an employee.

Who can I contact if I have questions or problems?
If you have any questions about this study, please feel free to contact Dawn M. Hess at 585-216-5885 or hess.d@husky.neu.edu, the person mainly responsible for this research. You can also contact the Principal Investigator, Dr. Tova Sanders at t.sanders@northeastern.edu.

Who can I contact about my rights as a participant?
If you have any questions about your rights in this research, you may contact:
Will I be paid for my participation?
Participants will not be paid.

Will it cost me anything to participate?
It will not cost you anything to participate.

I agree to take part in this research and authorize the use and disclosure of my information consistent with provisions above.

I am 18 years of age or older.

_________________________________   __________________________
Signature of person agreeing to take part   Date

_________________________________
Printed name of person above

____________________________________  ___________________________
Signature of person who explained the study to the participant above and obtained consent   Date

_________________________________
Printed name of person above
APPENDIX D

DOCUMENT REVIEW PROCESS

1. Review all documents that potentially contain information that could lead to relevant data and all documents that reference either the inter-organizational network or an initiative of the inter-organizational network for discussion of impediments or obvious lack of follow through for communication or implementation.

2. Highlight important areas and initially sort them by department and level of analysis.

3. Reference these areas to inform code and theme development and for cross-functional and cross-case analysis and conclusions as these documents will help illustrate areas of alignment or interruption in the organizational learning process and potentially highlight the differing learning barriers.

Inter-organizational Network Documentation

- Research the inter-organizational network’s publicly available website
- Request the end of the year inter-organizational network summary reports for 2014, 2015, and 2016 and the first three quarterly reports for 2017

Community College Documentation

- Research the publicly available community college’s website and strategic plan

Participating Department Documentation

- Reach out to the community college’s participating departments for documented departmental goals, reports to division leaders, meeting minutes, standard operating procedures, interoffice and intra-office memos and forms, and other documentation which may contain references to inter-organizational initiatives.
APPENDIX E

OBSERVATION PROTOCOL

Date: _______________________________  Time: ______________________________

Site/Purpose:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Participants:  ___________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Descriptive Notes (description of activities, description of individuals engaged in activity, interactions, participants comments expressed in quotes):
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Reflective Notes/Comments (questions to self, observations of nonverbal behavior, my interpretations, researcher’s observation of what seems to be occurring): ___________________
# APPENDIX F

## DATA TRIANGULATION PROTOCOL

<table>
<thead>
<tr>
<th>Crossan's 4I's</th>
<th>Schilling and Kline's Complex of Barriers</th>
<th>Community College's Inter-Organizational Network Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTUITING</td>
<td>Observations</td>
<td>Interviews</td>
</tr>
<tr>
<td>Preconscious</td>
<td>Bounded rationality and inappropriate</td>
<td>Monolithic corporate cultures, a homogeneous workforce,</td>
</tr>
<tr>
<td>recognition</td>
<td>knowledge of organizational members</td>
<td>high stocks and inventories, a lack of clear and</td>
</tr>
<tr>
<td>of the pattern</td>
<td></td>
<td>measurable goals and of knowledge concerning failure</td>
</tr>
<tr>
<td>and/or</td>
<td></td>
<td>analysis, are positively related to the detection of</td>
</tr>
<tr>
<td>possibilities</td>
<td></td>
<td>performance gaps and errors</td>
</tr>
<tr>
<td>inherent in</td>
<td></td>
<td>Immediacy, ambiguity and/or constraining (i.e.</td>
</tr>
<tr>
<td>a personal</td>
<td></td>
<td>stemming from a different culture) of knowledge</td>
</tr>
<tr>
<td>experience</td>
<td></td>
<td>are negatively related to its adaptation by</td>
</tr>
<tr>
<td></td>
<td></td>
<td>organizational members</td>
</tr>
<tr>
<td>Work-related</td>
<td>A high degree of labor division,</td>
<td>A restrictive, controlling management style and an</td>
</tr>
<tr>
<td>obstacles</td>
<td>standardization and narrow</td>
<td>organizational blame culture are positively related to</td>
</tr>
<tr>
<td></td>
<td>professional roles is negatively</td>
<td>anxiety, lack of psychological safety, hopelessness and</td>
</tr>
<tr>
<td></td>
<td>related to the development of new</td>
<td>organizational cynicism, which are all positively related</td>
</tr>
<tr>
<td></td>
<td>ideas concerning overarching problems</td>
<td>to actively suppressing novel insights and ideas.</td>
</tr>
<tr>
<td>Innovator</td>
<td>A restrictive, controlling management</td>
<td></td>
</tr>
<tr>
<td>anxiety</td>
<td>style and an organizational blame</td>
<td></td>
</tr>
<tr>
<td></td>
<td>culture are positively related to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>anxiety, lack of psychological safety,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hopelessness and organizational</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cynicism, which are all positively</td>
<td></td>
</tr>
<tr>
<td></td>
<td>related to actively suppressing novel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>insights and ideas.</td>
<td></td>
</tr>
<tr>
<td>INTERPRETING</td>
<td>Individuals change their own behavior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>but are unable to persuade others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to change in the same way</td>
<td></td>
</tr>
</tbody>
</table>

**Motivation and skills of the Innovator**
- A culture of organizational silence, the fear of being ridiculed for inadequately or unimpressive knowledge, the fear of loss of ownership, and a lack of political skills of the originator and potential champions are negatively related to successfully communicating new ideas to other team members.

**Relations and status of the Innovator**
- A lack of status and conflictual relationship to the group are negatively related to the acceptance of new ideas by other team members.

**The group's task and working conditions**
- The less an idea is coupled with important goals or costly errors, the lower is its acceptance by other team members (especially under circumstances of high cortisol and frontline context).

**Group norms and values; collective group identity**
- Failure-avoidance norms, an extremely high or low degree of collective identity (in contrast to moderate) is negatively related to the acceptance of new ideas by other team members (especially if
<table>
<thead>
<tr>
<th>INTEGRATING</th>
<th>One unit learns but the whole organization does not; therefore, an innovative idea will not be integrated into organizational practice.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing shared understanding among individuals and of taking coordinated action through mutual adjustment (Crossan, p. 525).</td>
<td>Motivation of the innovating team and/or their sponsor</td>
</tr>
<tr>
<td>Lack of top management support for the innovation</td>
<td>A lack of top management attention for the idea, conflicts between the idea and the knowledge/visions of powerful individuals, outdated beliefs and values on part of senior management, long periods of corporate success, and low top management turnover are all negatively related to top management support for innovations, which itself is negatively related to the degree of their collective practice in the organization.</td>
</tr>
<tr>
<td>Resistance from other units and departments in the organization against the integration.</td>
<td>A lack of learning orientation in the organizational culture, ineffective leadership in the introduction of ideas, ideas that conflict with organizational values and industrial norms, challenge power relations or imply a time lag to environmental response are all negatively related to the acceptance of innovations by other organizational units.</td>
</tr>
<tr>
<td>INSTITUTIONALIZING</td>
<td>Of takes place but is forgotten or not codified for later use.</td>
</tr>
<tr>
<td>Ensuring that routinized actions occur (Crossan, p. 525)</td>
<td>Lack of trust in the innovation</td>
</tr>
<tr>
<td>Lack of skills or part of employees to implement the innovation</td>
<td>A lack of organizational resources (especially appropriate training and development) for the implementation process, poor communication methodologies, inflexible workplaces and high employee turnover are negatively related to employees’ skill to implement structural, process and product innovations (especially if the new knowledge is relatively implicit).</td>
</tr>
<tr>
<td>Lack of management skills</td>
<td>Low levels of trust in the willingness and skills of employees, conflicts in past learning transfers and a diffusion of responsibility for the implementation are positively related to both organizational inconsistencies (i.e., between corporate strategy, systems, policies and practices) and laissez-faire leadership style on the part of top, middle and lower management, which themselves are negatively related to the implementation of structure, process and product innovations.</td>
</tr>
<tr>
<td>Rejected by organizational units and their members</td>
<td>High levels of decentralization in the organization, inconsistencies in the implementation (e.g., between initial goals and actual success criteria) and a lack of means of control and punishment are positively related to lip service and opportunistic behavior (especially under circumstances of high degrees of organizational cynicism).</td>
</tr>
</tbody>
</table>