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### The Relationship Between Entrepreneurial Orientation and School Business Performance through the Lens of Rural K-12 Public Chief School Business Officials

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# The Relationship Between Entrepreneurial Orientation and School Business Performance through the Lens of Rural K-12 Public Chief School Business Officials

## Abstract

The purpose of this study was to investigate level of entrepreneurial orientation (risk-taking, innovativeness, and proactiveness) in chief school business officials (CSBOs) and the relationship between individual entrepreneurial orientation and school business performance in K-12 rural public schools. The researcher collected data on self-reported entrepreneurial orientation of rural public K-12 CSBOs in New York State. Additionally, the researcher collected frequency data related to business activities in schools. This survey-based study (n = 83) was completed by CSBOs in rural and small sized K-12 public school districts across New York State. Findings for this study indicate that CSBOs view themselves as proactive, but not necessarily innovative or risk-taking. Additionally, findings indicate that there is a weak non-significant relationship between perceived risk-taking and frequency of pro-business activities. Similarly, findings indicate that there is weak non-significant relationship between innovativeness and frequency of pro-business activity. However, findings indicate that there is a positive significant relationship between proactiveness and pro-business activity. Although no causal link was established between proactiveness and frequency of pro-business activity in this setting, it is recommended that K-12 rural public school continue to seek out proactive CSBOs in order to increase the likelihood that frequency of pro-business activity occurs.

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Jason Berman

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Caroline Critchlow

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The Relationship Between Entrepreneurial Orientation and School Business Performance  
through the Lens of Rural K-12 Public Chief School Business Officials

By

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Submitted in partial fulfillment  
of the requirements for the degree  
Ed.D. in Executive Leadership

Supervised by

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Ralph C. Wilson, Jr. School of Education

St. John Fisher College

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## **Dedication**

First and foremost, this dissertation is dedicated to my loving and supportive family. To my lovely wife, Kimberly, thank you for your patience and kindness as I completed this journey. It wasn't always easy for either of us, but we got through it together as a team. I am lucky to have you! To Gwendolyn, my precious daughter, my apologies for some lost time together. I promise to make it up to you, tenfold. The good news is, you won't likely remember any of it. To my unborn child, I can't wait to meet you! Additionally, many thanks of support to my broader family, Mom, Dad, second Mom and Dad (in-laws), Kristin, Dianna, Alex, and Melinda. I love you all.

I would like to express my deepest and heartfelt appreciation to my dissertation committee, Dr. Jason Berman and Dr. Caroline Critchlow. You have been models of scholarship. Your influence on my thought process will extend for a lifetime and your impact on me is more than you will ever know or see. My greatest appreciation is for your model kindness and patience. I can only pray and hope that our friendship will extend beyond this experience.

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## **Biographical Sketch**

Mitchell Ball is currently the Assistant Superintendent for Business at the Naples Central School District, a small rural K-12 school system in the Finger Lakes region of upstate New York. Dr. Ball attended the State University of New York at Geneseo, graduating in 2007 with a Bachelor of Arts in History. He completed his Master of Education in Educational Administration from The College at Brockport, State University of New York in 2011 and a Certificate of Advanced Study in School Business Administration from The College at Brockport, State University of New York in 2012. He began his doctoral studies in May of 2017 at St. John Fisher College in the Ed.D. program in Executive Leadership. Dr. Ball completed research on entrepreneurial orientation and business performance as perceived by rural K-12 chief school business officials under the direction of Dr. Jason Berman, committee chair, and Dr. Caroline Critchlow, committee member.

## **Abstract**

The purpose of this study was to investigate level of entrepreneurial orientation (risk-taking, innovativeness, and proactiveness) in chief school business officials (CSBOs) and the relationship between individual entrepreneurial orientation and school business performance in K-12 rural public schools. The researcher collected data on self-reported entrepreneurial orientation of rural public K-12 CSBOs in New York State. Additionally, the researcher collected frequency data related to business activities in schools. This survey-based study ( $n = 83$ ) was completed by CSBOs in rural and small sized K-12 public school districts across New York State. Findings for this study indicate that CSBOs view themselves as proactive, but not necessarily innovative or risk-taking. Additionally, findings indicate that there is a weak non-significant relationship between perceived risk-taking and frequency of pro-business activities. Similarly, findings indicate that there is weak non-significant relationship between innovativeness and frequency of pro-business activity. However, findings indicate that there is a positive significant relationship between proactiveness and pro-business activity. Although no causal link was established between proactiveness and frequency of pro-business activity in this setting, it is recommended that K-12 rural public school continue to seek out proactive CSBOs in order to increase the likelihood that frequency of pro-business activity occurs.

## Table of Contents

Dedication .....	iii
Biographical Sketch .....	v
Abstract .....	vi
Table of Contents .....	vii
List of Tables .....	x
List of Figures .....	xi
Chapter 1: Introduction .....	1
Problem Statement .....	5
Theoretical Rationale .....	6
Statement of Purpose .....	9
Research Questions .....	9
Potential Significance of the Study.....	10
Definitions of Terms .....	10
Chapter Summary .....	12
Chapter 2: Review of the Literature.....	14
Introduction and Purpose .....	14
Research Questions .....	16
Foundational Background Information.....	17
Entrepreneurial Orientation and Significant Empirical Findings .....	28
Criticisms of Entrepreneurial Orientation.....	51

Gaps in the Literature.....	53
Chapter Summary .....	55
Chapter 3: Research Design Methodology .....	57
Introduction.....	57
Research Context .....	61
Research Participants .....	62
Instruments Used in Data Collection .....	63
Procedures for Data Collection and Analysis .....	65
Summary of Methodology .....	68
Chapter 4: Findings and Results .....	69
Research Questions.....	69
Study Sample Descriptive Statistics .....	70
Entrepreneurial Orientation .....	70
Relationship Between Risk-taking and Pro-Business Frequency.....	73
Relationship Between Innovativeness and Pro-Business Frequency.....	75
Relationship Between Proactiveness and Pro-Business Frequency.....	76
Conclusion .....	78
Chapter 5: Discussion .....	79
Introduction.....	79
Implications of Findings .....	80
Limitations .....	84
Recommendations.....	85
Conclusion .....	87

References.....	89
Appendix A.....	99
Appendix B.....	108
Appendix C.....	110
Appendix D.....	111
Appendix E.....	112
Appendix F.....	115
Appendix G.....	116

### List of Tables

<b>Item</b>	<b>Title</b>	<b>Page</b>
Table 4.1	Demographics of Study Sample	71
Table 4.2	Mean (and Standard Deviations) of Entrepreneurial Orientation Characteristics Overall by Subgroup	72
Table 4.3	Summary of Correlational Analysis for Risk-taking and Pro-Business Frequency	74
Table 4.4	Summary of Correlational Analysis for Innovativeness and Pro-Business Frequency	75
Table 4.5	Summary of Correlational Analysis for Proactiveness and Pro-Business Frequency	77

## **List of Figures**

<b>Item</b>	<b>Title</b>	<b>Page</b>
Figure 4.1	Relationship between Pro-Business Frequency and Risk-Taking	74
Figure 4.2	Relationship between Pro-Business Frequency and Innovativeness	76
Figure 4.3	Relationship between Pro-Business Frequency and Proactiveness	77



## **Chapter 1: Introduction**

The 21<sup>st</sup> century has presented many challenges to K-12 public education including increased performance expectations, greater market competition, and stricter fiscal constraints (Ellerson, 2016; Neely, 2015; Walker, 2017). Particularly, rural public K-12 education institutions in the United States are experiencing considerable pressure from many angles. Nationwide, rural student enrollment decline is a major issue in most regions and school accountability is at an all-time high (Ellerson, 2016). Since 2000, with the advent of No Child Left Behind as a result of the perceived failure of the American educational system, there has been increased focus on student outcomes and a push for K-12 institutions to stay competitive on test scores internationally (Dee & Jacob, 2011; Dee, Jacob, Haxby, & Ladd, 2010; Rudalevige, 2003). Ever more restrictive federally imposed educational standards and regulations prove challenging for rural school districts that depend on federal funding to balance budgets (Neely, 2015). When districts are unable to meet the rules of regulations of federal mandates, funding can be delayed or completely withheld indefinitely (United States Department of Education, 2018).

Additionally, the American economy experienced a significant recession in 2007, often termed the Great Recession (Federal Reserve System, 2014). Although this recession has ended, fiscal conservatism has not abated. This conservatism led to the establishment of new fiscal regulations nationally (International Bar Association, 2010). In many states, school districts have been pushed to look for creative ways to raise, allocate, and repurpose finances (Oliff & Leachman, 2011). Additionally, state agencies

and public watchdog groups have placed a high level of scrutiny on the use of public funds in schools. Meanwhile, there is growing interest and public dialogue regarding charter schools and voucher programs as an alternative to traditional public education (Walker, 2017). This has created a more competitive market landscape in K-12 public education.

When considering the current climate and a need to demonstrate programmatic and financial value for students, families, and communities, small rural public K-12 school districts have few options. Some options that have been studied in the literature—but have become less utilized for a number of reasons including financial, legal, and programmatic implications—include school consolidation, the sharing of services, cutting programmatic offerings, and various other revenue generating mechanisms (Balcom, 2013; Duncombe, Miner, & Ruggiero, 1994; Duncombe & Yinger, 2007; Duncombe & Yinger, 2010; Haddad & Alsbury, 2008; Warner & Lindle, 2009). School officials have few options to combat the tide of obstacles they face.

Given the myriad challenges that K-12 public educational institutions encounter, it may benefit schools to investigate other options to generate financial and programmatic opportunities for students and communities. As such, an additional way of addressing concerns relating to financial and programmatic challenges may be through the work of the entrepreneur. Research in entrepreneurship may benefit K-12 public educational institutions.

Conceptually, Cantillon (1755) is widely recognized by scholars as the first to identify the entrepreneur. He did this through the lens of economics. Cantillon (1755) viewed an entrepreneur as an individual who is willing to bear risk in order to generate

profit (Cantillon, 1755). Within this framework, an entrepreneur looks to earn an uncertain profit when establishing market price. Additionally, Cantillon viewed an entrepreneur as an arbitrageur who equilibrates supply and demand, which by its nature, bears risk (Iversen, Rasmus, & Malchow-Moller, 2008). Risk bearing is an important concept within the entrepreneurial framework.

In continuing the conceptual foundation of the entrepreneur, Say (1834) framed the entrepreneur as the main agent of production in any economy. Say (1834) noted that an entrepreneur is a business person who shifts resources from an area of lower use into an area or areas of higher yield and greater productivity. Unlike Cantillon (1755) who viewed an entrepreneur as someone who bears a certain amount of risk and uncertainty, Say (1834) believed that an entrepreneur was someone who has exceptionally good judgement when looking at potential business opportunity. From this standpoint, Say (1834) viewed the entrepreneur as a proactive and effective manager. Proactivity has importance when looking at entrepreneurial research.

Say's work was followed by that of Schumpeter. Schumpeter (1934, 1942) viewed the entrepreneur as an innovator who carries out one of the five following tasks: (a) the creation of a new good or new quality, (b) the creation of a new method of production, (c) the opening of a new market, (d) the capture of a new source of supply, or (e) the creation of a new organization or industry. Through this view, Schumpeter saw the entrepreneur as an innovator; someone who creates something new and different.

Marshall (1930) enhanced this view of the innovative function of the entrepreneur when he emphasized that an entrepreneur will continually seek out opportunities to reduce costs

or free up capital assets through business decisions. This characteristic of innovativeness has informed ongoing entrepreneurial research.

When looking at these early theorists, Cantillon (1755), Say (1834), Schumpeter (1934), and Marshall (1930), they collectively characterize three main tenets of entrepreneurship and the entrepreneur - those of innovativeness, risk-bearing, and proactiveness - as borne out in the literature. Recognizing these underpinnings is important when endeavoring upon the field of the entrepreneur. Meanwhile, research surrounding entrepreneurialism has steadily gained traction as a scholarly field since the year 2000. An outgrowth of the field is that of entrepreneurial orientation (EO) which has an empirical body of research that is approximately 15 years old.

When looking specifically at schools, entrepreneurship in K-12 settings has not been studied in detail. Understanding the role that school administrators play in creating value for schools and assessing the value of entrepreneurial characteristics in school leaders may provide insight to the field. In K-12 institutions, the individual that is typically responsible for and leading finance and operations is the chief school business official (CSBO). Entrepreneurship may also be of importance to K-12 institutions when they look to hire and retain CSBOs in times of fiscal uncertainty and high accountability.

Meanwhile, American educators have hinted at the power of entrepreneurialism and its potential positive implications for K-12 public education (Dereef, 2018; Leonard, 2013). These conversations have been primarily conceptual or anecdotal in nature. Currently, no empirical research has been completed that looks at entrepreneurs and K-12 public schools.

## **Problem Statement**

Schools in K-12 public education, especially those in rural communities, struggle to make programmatic and financial decisions that best serve their student populations. This is typically a result of the political and economic climate coupled with limited community financial capacity, sparsity, and small cohort sizes (Lawrence et al., 2002). When considering the current climate and a need to demonstrate programmatic and financial value for students, families, and communities, rural public K-12 school districts have few options. Some options that have been studied in school based literature – but have become less utilized for a number reasons including financial, legal, and programmatic implications - include school consolidation, the sharing of services, cutting programmatic offerings, and various other revenue generating mechanisms (Balcom, 2013; Duncombe et al., 1994; Duncombe & Yinger, 2007; Duncombe & Yinger, 2010; Haddad & Alsbury, 2008; Warner & Lindle, 2009). School officials have few viable options to combat the tide of obstacles they face.

Entrepreneurial activity may be an additional option for small rural public K-12 education systems in addressing challenges. CSBOs who demonstrate higher levels of EO should be further researched to determine if their skillsets, characteristics, and behaviors are related to higher rates of pro-business practices in schools. Pro-business practices are those that generate revenue or create savings for schools. While professional associations and recent writers suggest that entrepreneurialism in schools can have a positive impact, there is no research that validates this claim (Dereef, 2018; Leonard, 2013). Currently, there is no empirical evidence to show that higher levels of EO has any application to K-12 public institutions.

## **Theoretical Rationale**

For the purposes of this research, the theoretical lens through which to view chief school business officials will be EO theory. EO theory has garnered a significant amount of scholarly attention over the last two decades. Research supports EO theory as having demonstrated comprehensiveness through empirical testing and scholars have found that an organization's success is closely linked to entrepreneurial orientation (Lumpkin & Dess; 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Semrau, Ambos, & Kraus, 2016; Wales, Gupta, & Mousa, 2013).

Theoretically, scholarly literature has looked at entrepreneurial orientation in two ways, through the lens of the firm or through the lens of the individual. For the purposes of this research, individual entrepreneurial orientation (IEO) will be examined as a lens through which to explore the role of the school business official as a leader in K-12 public school settings. IEO has been found to be beneficial for organizations (Aloulou & Fayolle, 2005; Colvin & Lumpkin, 2011; Colvin & Sevin, 1988; Davis, Bell, Payne, & Kreiser, 2010; Frese & Gielnik, 2014; Kollmann, Stockmann, Meves, & Kensbock, 2016; Krueger, 2006; Kuratko & Goldsby, 2004). Entrepreneurial orientation as defined in the literature looks to measure the behavioral aspect of entrepreneurship (Morris & Kuratko, 2002; Wiklund & Shepherd, 2005). Research has shown that entrepreneurial orientation can improve organizational performance, profitability, growth, and innovation (Avlontis & Salavao, 2007; Johan & Dean, 2003; Moreno & Casillas, 2008; Tang, Tang, Marino, Zhang, & Li, 2008).

Entrepreneurial orientation owes its conceptual origins to the work of Danny Miller in 1983. Miller did not specifically coin the term entrepreneurial orientation; he

correlated the importance of the leader and entrepreneurial characteristics in small business settings (Miller, 1983). In his research, Miller was able to demonstrate that strong leadership characteristics in small firms was important for entrepreneurialism to have positive implications. As rural K-12 schools are typically small in nature, understanding this connection between smaller organizational unit size and positive entrepreneurial outcomes has some importance to this research.

In furthering Miller's research, Covin and Slevin (1989) indicate that successful small firms demonstrate three entrepreneurial dimensions including: (a) innovativeness, (b) risk-taking, and (c) proactiveness. Additionally, Covin and Slevin (1989) state,

An entrepreneurial strategic posture may be particularly beneficial to small firms in hostile environments. These environments, as previously noted, contain fewer opportunities and are more competitive than benign environments. Accordingly, it might be expected that successful firms in hostile environments will gear their competitive efforts to the prevailing conditions by aggressively trying to gain or maintain a competitive advantage. Such an advantage will more likely result from the proactive, innovative, and risk-taking efforts of entrepreneurial firms than the passive and reactive efforts of conservative firms (Covin & Slevin, 1989, p. 77).

Slevin and Covin (1990) also suggest that organizations that have entrepreneurial tendencies may be better able to respond when changing structural conditions exist. The organization will be more flexible, consensual, and loosely controlled than a mechanical organization, which is seen as more controlled, rigid, and hierarchical (Slevin & Covin, 1990). Although K-12 public schools have traditionally been viewed as controlled, rigid, and hierarchical, the nature of public education is pushing districts to be more flexible,

consensual, and loosely controlled (Aydin, Ozfidan, & Carothers, 2017). Boyne and Walker (2004) suggest that public-sector agencies who wish to be more innovative and competitive need to take risks and be more proactive than other institutions.

Lumpkin and Dess (1996) furthered the work done by Covin and Slevin (1989) indicating that entrepreneurial orientation is defined as the processes, practices, and decision-making activities of new organizations through the purposeful intention of leaders. Lumpkin and Dess note that in addition to the original three dimensions as outlined by Covin and Slevin (1989) of (a) innovativeness, (b) risk-taking, and (c) proactiveness, high performing firms also exhibit, (d) autonomy, and (e) competitive aggressiveness. In their research, Lumpkin and Dess (1996) focused their five-dimension research on for-profit organizations. One limitation to their research that has since been furthered investigated is that it did not look at organizations that were already established. Lumpkin and Dess's (1996) work only looked at new start-up organizations.

Bolton and Lane (2011) performed a large-scale study that focused on university students. Through this research, they developed a measurement tool that specifically assessed the entrepreneurial orientation of individuals using Covin and Slevin's (1989) three dimensions of entrepreneurial orientation. They termed the instrument the Individual Entrepreneurial Orientation Scale (IEO). The IEO uses a 10 question, 5-point Likert questionnaire to measure the entrepreneurial dimensions of innovativeness, proactiveness, and risk-taking. Through their work, they were able to demonstrate reliability and validity of the three factors of innovativeness, risk-taking, and proactiveness. This instrument may be of some use for its applicability to K-12 public school business officials as the measures are more generalized in nature and do not

specifically apply to private sector metrics such as earnings and dividends (Bolton & Lane, 2011). This study will investigate EO using the IEO scale.

### **Statement of Purpose**

The overarching purpose of this study is to determine if entrepreneurial orientation in individuals will have positive implications for K-12 public educational schools. Specifically, this study will analyze the EO of school business officials in rural K-12 public schools using the IEO scale to determine if higher EO will lead to better business performance and outcomes. Providing this is the case, schools who wish to achieve improved business performance by employing and retaining school business officials who demonstrate these qualities, may benefit from the findings.

### **Research Questions**

This study will investigate distinct research questions. They are as follows:

1. How do chief school business officials in small rural K-12 public education settings identify themselves on the entrepreneurial characteristics of innovativeness, proactiveness, and risk-taking as outlined in entrepreneurial orientation theory?
2. What is the relationship between higher scores on the Individual Entrepreneurial Orientation scale by chief school business officials in small rural K-12 public education settings and school business performance (revenue saving/generating)?

Additionally, the following hypotheses were generated from the second research question that informed this study:

1. There is a significant positive correlation between *innovativeness* and higher frequency of pro-business practices.
2. There is a significant positive correlation between *proactiveness* and higher frequency of pro-business practices.

### **Potential Significance of the Study**

Research has demonstrated that there is a positive effect of EO on organizational performance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Saeed, Yousafzai, & Engelen, 2014). However, no research has been completed that looks at K-12 public education and EO. Recognizing that rural K-12 school districts have limited options for addressing programmatic and financial constraints, EO may predict positive outcomes for school districts. Additionally, hiring and retaining school business officials that demonstrate entrepreneurial characteristics may present a distinct opportunity for school districts to create value.

### **Definitions of Terms**

There are several key terms outlined in this research. The review of literature helped to inform the included definition of terms. Consideration was given to terms that will assist the reader in codifying the research. Historical use and frequency of use formed a basis for selection.

*Chief School Business Official (CSBO)*: The chief school business official is also referred to as the school business administrator, school business manager/executive, assistant/deputy/associate superintendent for business/finance, and director/coordinator of business affairs/finance/operations. School business officials are typically the chief financial officers of school districts and often manage a broad range of non-instructional

functions, such as budgeting, accounting, facilities management, information technology, procurement, human resources (personnel) management, labor negotiations, food service and transportation. (New York Association of School Business Officials, 2018).

*Entrepreneur*: An individual who discovers, evaluates, and/or exploits opportunity. One who shifts resources from areas of lower use into areas of higher productivity and greater yield thusly creating value (Say, 1934). More recently, outlined as one who pursues opportunities, is innovative and creative, takes risks, and starts businesses or ventures (Morris, Lewis, & Sexton, 1994). Although discussions relating to entrepreneurship date back to 1755 (Cantillon, 1755), a definition of the entrepreneur and his or her function continues to be debated and discussed by scholars (Buesenitz et al., 2003, Cogliser & Bigham, 2004; Davidsson, 2008, 2016; Simmons, Carr, & Hsa, 2016; Vecchio, 2003). Many attempts have been made to define the entrepreneur. Shane and Venkataraman (2000) argue that an entrepreneur is someone who leads an organization to success, operationally and financially. Timmons and Spinelli (2007) noted that the entrepreneur is central to, or the heart of, the entrepreneurial process. Some recent conversation relating to K-12 public education suggests that there is a hope that entrepreneurs can help solve the nation's educational challenges (Dereef, 2018; Leonard, 2013).

For this reason, the research surrounding the entrepreneur has been wide and varied in nature. An entrepreneur in K-12 education is one who shifts resources into areas of higher productivity and yield. In the case of K-12 education, higher productivity and yield are experienced in the classroom. To do this, practitioners must be innovative, take risks, and behave proactively.

*Entrepreneurial Orientation:* Specific individual dispositional characteristics as demonstrated by entrepreneurs. In this study, the entrepreneurial orientation of school business officials as leaders was determined by the degree to which they exhibit the three dimensions of entrepreneurial orientation as outlined by Bolton and Lane (2012) of innovativeness, proactiveness, and risk-taking.

*Rural K-12 Public Education Institutions:* Public schools or school systems that are characterized by geographic isolation and small population size (Teach, 2018). For this study, rural will be defined as having 2,500 or less students and a sparsity factor of greater than 0.000 as defined by the New York State Department of Education (2018).

*School Business Performance:* Operational and financial management activities in schools that increase revenue generation or financial savings.

## **Chapter Summary**

Chief school business officials in K-12 rural public-school districts often play an integral role in deciding what programs and services that districts can offer. In recognition that there are limited options for creating value in K-12 public education, looking to CSBOs who demonstrate entrepreneurial characteristics may have potential benefits for school systems and children. This research aims to assess how CSBOs identify themselves on the IEO scale and what relationship exists between CSBOs level of EO and school business performance. Ultimately, the researcher is interested in whether EO can provide positive benefits in rural K-12 public educational institutions. The five chapters of this dissertation are summarized as follows.

In Chapter 1, the current climate in K-12 public schools is outlined in some detail. This is followed by a brief conceptual history of the entrepreneur, problem statements,

theoretical rationale, statement of purpose, research questions, and the significance of this study. Finally, important definitions are outlined to assist the reader.

In Chapter 2, a review of empirical literature presents the state of science in the field of entrepreneurial orientation. Specifically, an exploration of the foundations of entrepreneurialism, entrepreneurial orientation, and criticisms of theory are explored. At the end of Chapter 2, research gaps are identified and described in detail.

Chapter 3 begins with the research model, questions, and hypothesis. The chapter then outlines the methodology of the study and a description of the sample being studied. Within the data collection procedures, information was collected from CSBOs from United States rural K-12 public school districts in New York State. Additionally, the survey asked questions about individual entrepreneurial orientation as outlined by Bolton and Lane (2011) and school business performance. Sample size, data analysis methods, and next steps were described at the conclusion of Chapter 3.

Findings and results are reviewed in Chapter 4. This will begin with an outline of descriptive statistics that were identified through the survey results. Additionally, a summary of scores on the IEO sub-scales (risk-taking, proactiveness, and innovativeness) as perceived by CSBOs is included via mean and standard deviation statistics. Finally, an analysis of the correlation between IEO scores and frequency of pro-business activity via Pearson and standardized regression coefficients is described.

In Chapter 5 these findings are integrated with past research on entrepreneurial orientation and its relationship to business performance. Implications for practitioners, recommendations for future research, and study limitations are presented.

## **Chapter 2: Review of the Literature**

### **Introduction and Purpose**

Small and rural public K-12 education institutions in the United States are experiencing considerable pressure from many angles. Nationwide, rural student enrollment decline is a major issue in many areas and school accountability is at an all-time high (Ellerson, 2016). Additionally, state agencies and public watchdog groups have placed a high level of scrutiny on the use of public funds in schools. At the same time there is growing interest and public dialogue regarding charter schools and voucher programs as an alternative to traditional public education (Walker, 2017). This has created a more competitive market landscape in K-12 education.

Since 2000, with the advent of No Child Left Behind as a result of the perceived failure of the American educational system, there has been an increased focus on student outcomes and a push for K-12 institutions to stay competitive on test scores internationally. Smaller school districts struggle to meet the requirements of ever more restrictive regulations. Typically, smaller school districts are rural and depend on federal funding to balance budgets. For this reason, federally imposed educational standards prove challenging (Neely, 2015). Additionally, with the Great Recession (Federal Reserve System, 2014) that began in 2007, fiscal conservatism has led to new regulations nationally. In many states, school districts have been pushed to look for creative ways to raise, allocate, and repurpose finances.

When considering the current climate and a need to demonstrate programmatic and financial value for students, families, and communities, small public K-12 school districts have few options. Some options that have been studied in the literature – but have become less utilized for a number reasons including financial, legal, and programmatic implications – include school consolidation, the sharing of services, and various other revenue generating mechanisms (Balcom, 2013; Duncombe et al., 1994; Duncombe & Yinger, 2007; Duncombe & Yinger, 2010; Haddad & Alsbury, 2008; Warner & Lindle, 2009).

An additional way of addressing concerns relating to financial and programmatic challenges may be entrepreneurship. Entrepreneurship in schools has not been studied in detail. Understanding the role that school administrators play in creating value for schools and assessing the value of entrepreneurial characteristics in school leaders may provide insight to the field. In K-12 institutions, the individual that is typically responsible for and leading finance and operations is the chief school business official (CSBO). According to the New York Association of School Business Officials (2018), a school business official (sometimes referred to as the school business administrator, school business manager/executive, assistant/deputy/associate superintendent for business/finance, director/coordinator of business affairs/finance/operations) is typically the chief financial officer of the school district and often manages a broad range of non-instructional functions, such as budgeting, accounting, facilities management, information technology, procurement, human resources (personnel) management, labor negotiations, food service and transportation. Individual entrepreneurial characteristics of CSBOs is of interest for this research.

Therefore, in order to understand the scholarship surrounding entrepreneurs, entrepreneurship, and entrepreneurial orientation as it exists today, a review of literature has been prepared. Although discussions relating to entrepreneurship date back to 1755 (Cantillon, 1755), a definition of the entrepreneur and his or her function continues to be debated and discussed by scholars (Buesenitz et al., 2003, Cogliser & Bigham, 2004; Davidsson, 2008, 2016; Simmons, Carr, & Hsa, 2016; Vecchio, 2003). For this reason, the research surrounding the entrepreneur has been wide and varied in nature.

Many attempts have been made to define the entrepreneur. Shane and Venkataraman (2000) argue that an entrepreneur is someone who leads an organization to success, operationally and financially. Timmons and Spinelli (2007) noted that the entrepreneur is central to, or the heart of, the entrepreneurial process. Some recent conversation relating to K-12 public education suggests that there is hope that entrepreneurs can help solve the nation's educational challenges (Dereef, 2018; Leonard, 2013).

### **Research Questions**

This study will investigate distinct research questions. They are as follows:

1. How do chief school business officials in small rural K-12 public education settings identify themselves on the entrepreneurial characteristics of innovativeness, proactiveness, and risk-taking as outlined in entrepreneurial orientation theory?
2. What is the relationship between higher scores on the Individual Entrepreneurial Orientation scale by chief school business officials in

small rural K-12 public education settings and school business performance (revenue saving/generating)?

Additionally, the following hypotheses were generated from the second research question that informed this study:

1. There is a significant positive correlation between *innovativeness* and higher frequency of pro-business practices.
2. There is a significant positive correlation between *proactiveness* and higher frequency of pro-business practices.

This literature review is divided into five main sections that explore the empirical research relating to entrepreneurs, entrepreneurship, entrepreneurial orientation, and their association with organizations and leadership. These sections include foundational background information, entrepreneurial orientation, criticisms of entrepreneurial orientation and significant empirical finds, gaps in the literature, and a brief summary. Sub sections within each area further detail the literature.

A contextual and theoretical approach has been used to investigate the field of entrepreneurial orientation and how it expresses itself empirically in the research and literature. By approaching the field from a multidisciplinary perspective, the specific topics of entrepreneurial orientation and leadership are more clearly articulated to set the stage for research in the K-12 public education field.

## **Foundational Background Information**

**Historical underpinnings of the entrepreneur and entrepreneurial orientation.** The field of entrepreneurship, which would eventually lead to the theory of entrepreneurial orientation, has a long history. The progenitors of general entrepreneur

theory, Cantillon (1755), Say (1834), Schumpeter (1934), and Marshall (1930), collectively recognized three main tenets that would advance and inform entrepreneurial orientation theory - those of innovativeness, risk-bearing, and proactiveness - as borne out in the literature. Recognizing these historical, antecedent underpinnings is important when endeavoring upon the field of entrepreneurial orientation.

**Paradigms of entrepreneurship.** Ireland and Webb (2007) note that, “increasingly, entrepreneurship’s eclectic and pervasive benefits are generating research questions that are of interest to researchers from a variety of scholarly disciplines or academic areas” (p. 892). As the study of entrepreneurship has evolved over time, some distinctive overarching paradigms have presented themselves in the literature that help inform entrepreneurial orientation.

Within these paradigms, researchers have – both conceptually and empirically – argued for their own interpretations of entrepreneurialism through various lenses. These lenses have been a means by which scholars have viewed the field to interpret the phenomena that is entrepreneurialism and they are foundational to work in the field of entrepreneurial orientation. The perspectives through which scholars have looked at entrepreneurship include, economic (Burns & Stalker, 1961; Marshall, 1920, 1930; McClelland, 1961; Say, 1834; Schumpeter, 1934, 1942), psychological (Gorievski & Stephan, 2016; Rauch & Frese, 2007), sociological (Ozgen & Baron, 2007; Reynolds, 1992; Singh, Hills, Hybels, & Lumpkin, 1999), anthropological (Baskerville, 2003; North, 1990; Shane, 2003), opportunity-based (Drucker, 1985; Stevenson & Hammeling, 1990), resource-based (Alvarez & Busenitz, 2001; Blanchflower, Oswald, & Stutzer, 2001; Clausen, 2006; Davidson & Honing, 2003; Hurst & Lusardi, 2004; Kim, Aldrich,

& Keister, 2003), and various combinations of the aforementioned areas (Mishra & Zachery, 2015; Shane & Venkatraman, 2000). All these overarching paradigms lend conceptual and empirical underpinnings to the study of entrepreneurial orientation. A review of these paradigms will provide context for the following sections of this literature review.

***Economic perspective of entrepreneurship.*** Initial research relating to the entrepreneur focused on the economic implications and outcomes of entrepreneurship. This research sought to identify the role of entrepreneurship in the economic development of the United States of America (Burns & Stalker, 1961; Marshall, 1920, 1930; McClelland, 1961; Say, 1834; and Schumpeter, 1934, 1942). One aspect of Marshall's view of the entrepreneur emphasized the fact that entrepreneurs always seek to reduce cost, which has application to K-12 public education where revenue savings opportunities may be considered a strong metric of success as a highly regulated industry.

Of additional importance to K-12 education relates to the fact that Schumpeter (1934) noted that entrepreneurs need not be inventors. Entrepreneurs create new market combinations which spur the economy. Unlike inventors and innovators, entrepreneurs take something that is being applied in other areas of industry and repurpose it in new ways. From an economic perspective, this application of outside industry techniques and methods as a means of repurposing may be an area that K-12 CSBOs effectively apply to industry challenges.

***Psychological perspective of entrepreneurship.*** The greatest volume of research on entrepreneurialism resides in the psychological realm of entrepreneurship. The psychological approach to entrepreneurialism focuses on the individual in the

entrepreneurial process. A meta-analytic study by Gorgievski and Stephan (2016) identified five broad domains within the research. In order of greatest frequency, those domains include: (a) careers perspective, (b) personal differences, (c) health and well-being, (d) cognition and behavior, and (e) entrepreneurial leadership. Separately, these areas look at how careers unfold over time, “who” becomes an entrepreneur and how to predict entrepreneurial success and survival, predictors and outcomes of entrepreneurs’ mental and physical health and well-being, the role of mental processes in entrepreneurial decisions and actions, and the linkages between leadership and entrepreneurship (Gorgievski & Stephan, 2016).

Schumpeter (1934) and McClelland (1961) are widely viewed as the progenitors of the psychological approach. Both Schumpeter and McClelland focused on the individual as the main focal point of research. Kirzner (1979) furthered the dialogue relating to the psychology of entrepreneurs when he identified entrepreneurial alertness as an important concept within the literature. Kirzner noted that entrepreneurs identify disequilibrium in the market and capitalize on it, thusly creating equilibrium. This is a major underpinning in entrepreneurial research.

Another important focal point in the psychological approach to entrepreneurship is personality traits and characteristics. Research on the personality traits and characteristics of entrepreneurs has an overarching goal of identifying, “typical ways of thinking, feeling, and behaving” (Gorgievski & Stephan, 2016, p. 443). Additionally, some recent research is being done on entrepreneurs’ practical intelligence and cognitive style (Armstrong & Hird, 2009; Baum & Bird, 2010; Baum, Bird, & Singh, 2011).

Combined, this research looks to understand the minds and driving force behind entrepreneurialism.

Furthermore, Rauch and Frese (2007), in their meta-analytic study, noted that the defining characteristics of the entrepreneurial personality are: (a) a need to succeed, (b) the taking of risks, (c) the capacity for innovation, (d) the need for autonomy, (e) the need for control, and (f) the ability to solve special situations, in most cases adverse ones. These areas further define the entrepreneurial traits. Rauch and Frese (2007) conclude by noting that any view of entrepreneurialism that does not account for personality traits will be incomplete.

Finally, Frese and Gielnik (2014) strengthened the work of Rauch and Frese (2007) through another meta-analysis study of the psychology of entrepreneurship. Frese and Gielnick (2014) note that researchers who focus on the construct of psychological features look to gain a better understanding in the areas of personality dimensions and entrepreneurial orientation. Their research suggests that the narrow traits of innovativeness, proactive personality, achievement motivation, and self-efficacy are the traits most closely associated with entrepreneurship.

As noted, the psychology of the entrepreneur is an important construct in entrepreneurship research and in entrepreneurial practice. This may be especially important when looking at the K-12 CSBOs as leaders of finances and operations in districts. Understanding their expression of these characteristics and traits within the industry may be of use to the field of entrepreneurial research.

*Sociological perspective of entrepreneurship.* Researchers have also looked at entrepreneurship from a sociological perspective. Reynolds (1992) was the first scholar to

take a primarily sociological approach to entrepreneurship. Within the sociological construct of Reynolds (1992), four main components were identified, including: (a) social networks, (b) life course stage, (c) ethnic identification, and (d) population ecology. The social network component relates to an individual's ability to promote positive relationship with others based on mutual trust. The life course stage looks to the individual's life experiences, characteristics, and situations as a driver behind thought and action that is geared toward entrepreneurialism. The third component of Reynolds (1992) framework looks to ethnic identification as a driving force of entrepreneurs, where some part of a cultural construct may drive individuals to behave entrepreneurially. Finally, Reynolds (1992) postulates that a fourth social construct may spur or limit entrepreneurialism, that of population ecology. In population ecology, the areas of environmental factors including government legislation, political systems, customers, competitors in the market, and employees are the focal areas of attention. Reynolds (1992) believed that all these constructs could impact the success and survival of the entrepreneur.

More recent research suggests that social sources of information can have a positive effect on opportunity recognition and entrepreneurial success (Ozgen & Baron, 2007; Singh, Hills, Hybels, & Lumpkin, 1999). Some of these social sources of information may include mentors, informal or formal industry networks, and professional forums. Combined, sociological constructs have been shown to have positive applications to entrepreneurial endeavor (Ozgen & Baron, 2007).

For K-12 chief school business officials in rural public-school settings, these constructs may be of relevance. Government legislation and political systems are a

natural extension of school systems in the United States. Understanding the ways in which CSBOs navigate the complicated constructs of these systems and requirements may provide value to their organizations. Additionally, investigating social sources of information of K-12 CSBOs and their level of engagement with social sources may be a mediating factor in their level of entrepreneurialism in the industry. Finally, professional organizations in K-12 public education seek to improve engagement with social sources of information, which may have positive implications for entrepreneurship in the field of K-12 public education.

***Anthropological perspective of entrepreneurship.*** In the anthropological approach to entrepreneurship, researchers look at the origins, development, customs, and beliefs of a community. This perspective does not have a particularly deep and broad research basis yet looks at the cultural complexity that surrounds entrepreneurship. Within the cultural context of community, entrepreneurial attitude differences can exist (Baskerville, 2003), as well as differences in entrepreneurial behavior (North, 1990; Shane, 1993).

***Resource-based perspective of entrepreneurship.*** Resource-based theories of entrepreneurship focus on access to resources as a basis for realizing entrepreneurial success (Alvarez & Busenitz, 2001). Davidson and Honing (2003) note that any enhancement to resource improves an individual's likelihood of discovering and acting upon opportunity. In many ways, the resource-based theory of entrepreneurship ties together the sociological and economic factors of entrepreneurship research.

Firm formation and adaptation are more likely when individuals have greater access to capital (Blanchflower, Oswald, & Stutzer, 2001) and individuals who have this

access are more likely to exploit entrepreneurial opportunities (Clausen, 2006). This does not mean that individuals without significant capital are more likely to be entrepreneurs, it simply means they have greater capacity to endeavor upon entrepreneurial opportunity when it is realized (Davidson & Honing, 2003; Hurst & Lusardi, 2004; Kim, Aldrich, & Keister, 2003).

Additionally, Eckhardt and Shane (2003) note that, “an individual may have the ability to recognize that a given entrepreneurial opportunity exists but might lack the social connections to transform the opportunity . . . [and] . . . that access to a larger social network might help overcome this problem” (p. 333). Having greater access to social networks increases the resources capabilities of an entrepreneurial individual.

***Opportunity-based perspective of entrepreneurship.*** The opportunity-based perspective on entrepreneurship originates from the work of Drucker (1985) and Stevenson (1990). Under this framework, entrepreneurs exploit opportunities that are created through changes in markets or economies (Drucker, 1985). Under Drucker, entrepreneurs see change as an opportunity as opposed to a problem. This was furthered by Stevenson (1990) who postulated that the entrepreneurial manager is separate from the administrative manager and that the entrepreneurial manager pursues opportunity regardless of what resources they control. Drucker and Stevenson’s (1990) work has provided a foundation for a significant amount of recent research on opportunity-based entrepreneurship.

Recent scholars who have focused on the opportunity-based model of entrepreneurship have directed their discourse to the nature of entrepreneurial opportunity itself. There are two competing streams of thought and research that define this study.

The first, as outlined by Shane (2003, 2012), suggests that opportunities exist independently of individuals and are, at some point, recognized by entrepreneurial minded individuals. This view of opportunities is considered a “discovery view” where the opportunity exists and is just waiting to be found or capitalized on. However, other scholars such as Garud and Giuliani (2013) and Alvarez and Barney (2007) believe that opportunities follow the “creation view” where entrepreneurs are the progenitors of opportunity as an endogenous product. Opportunity is not a construct of reality without the realization of it by an entrepreneurially minded individual (Alvarez & Barney, 2007; Garud & Giuliani, 2013). These two constructs of opportunity are typically defined as the objective or subjective interpretation of entrepreneurial opportunity in the literature.

*Varied views and multifaceted approaches entrepreneurship.* Mishra & Zachery (2015) argue that the process of entrepreneurship is more than simply founding a new venture. Instead, the process of entrepreneurship includes value creation and appropriation that is led by entrepreneurs in environments where uncertainty is present. Additionally, Mishra & Zachery (2015) identify the term “entrepreneurial reward” which exists as a byproduct of entrepreneurship. According to these scholars, the entrepreneurial process starts with the identification of an external opportunity; the matching of resources that are available with an opportunity; the acquisition of external resources (if necessary); and finally, the resulting entrepreneurial reward, which can then be re-appropriated, if desired. In this model, the researchers combine aspects of psychology, resource, finance, and opportunity to propose a multifaceted approach to entrepreneurship. Also, Mishra & Zachery (2015) have effectively distinguished entrepreneurship from belonging solely to the private/corporate/profit driven realm.

Under the conceptual theory they propose, there is room for entrepreneurship to exist in other industries where profit is not the metric by which organizations measure themselves, such as public K-12 educational institutions.

Shane and Venkatraman (2000) looked at opportunity through a different lens. These researchers introduced the individual-opportunity nexus theory as a means of investigating the intersection of the individual and the opportunity when looking at the field of entrepreneurship. The individual-opportunity nexus theory combines a long history of psychological theories and opportunity-based theories to make a stronger case for entrepreneurship as a field of study. As originally put forth by Venkataraman (1997), entrepreneurship requires two phenomena that shall include the existence of lucrative opportunities and the presence of enterprising individuals.

The individual-opportunity nexus theory itself was first solidified by Shane and Venkataraman (2000) in which they indicate that, “the field (of entrepreneurialism) involves the study of *sources* of opportunities, the *processes* of discovery, evaluation, and exploitation of opportunities, and the set of *individuals* who discover, evaluate, and exploit them” (Shane & Venkataraman, 2000, p. 218). According to Shane (2003), prior research, especially as it related to psychological factors, placed too much focus on the individual alone. Other researchers focused on opportunity as a sole basis for the emergence of entrepreneurship. Instead, Shane (2003) argued that the study of entrepreneurship must include the interplay of the individual and the opportunity (Shane, 2003). Of importance to the field of K-12 education is that fact that Shane and Venkataraman (2000) asserted that their framework differs from prior theories because the individual-opportunity nexus theory focuses, “on the existence, discovery, and

exploitation of opportunities... examines the influence of individuals and opportunities... and considers a framework broader than firm creation” (p. 219). This is important to K-12 school business officials in that the theory focuses on opportunity and individuals.

Sarasvathy (2001) developed the effectuation principle of entrepreneurship through her research. Unlike a causation process where a manager or leader has a specific and desired outcome in mind when she/he pursues a new venture or market combination, effectuation requires the entrepreneur to look at all potential effects of decisions and then make choices assuming the likelihood of certain effects occurring. In a causation process,

For example, an individual develops a menu for making a specific meal, garners necessary ingredients, and consequently produces the planned meal. On the other hand, if this same situation of meal preparation follows an effectuation process, the preparer looks to see what ingredients are on hand and then combines these resources to produce an eatable mean [sic]. (Mishra & Zachary, 2015, p. 255).

Sarasvathy (2001) noted that within the effectuation model of entrepreneurship, there are four principals including, (a) decisions are made based on affordable losses rather than expected returns, (b) utilization of strategic alliances over competitive analysis, (c) the exploitation of contingencies rather than that of preexisting knowledge, and (d) the control of an unpredictable future rather than the prediction of an uncertain one. Sarasvathy’s (2001) research found that the most entrepreneurs operate using an effectuation model and not a causation model.

**Entrepreneurial leadership.** The study of entrepreneurial orientation typically involves leadership at some level. Peck (1983) proposed a theory that suggests that success in competitive and financially distressed markets is not accidental. Peck’s theory

explicitly predicts that entrepreneurial leadership is critical to organizational success, by any metric (Peck, 1983, 1984, 1985). In their study of leaders in the field, Vij and Bedi (2012) note that individual traits that have applicability to the entrepreneurial leader include the need for achievement, locus of control, self-efficacy, risk-taking propensity, family influence, educational influence, and work experience.

Baron (2006) is credited with identifying entrepreneurial leadership through a specific chain of events that ties opportunity, resource, and the individual together. Baron (2006) notes that there are three phases to entrepreneurial enterprise including: (a) the prelaunch or opportunity identification phase, (b) the launch or development and execution phase, and (c) the post launch phase. Each of these phases has distinct characteristics. In the first phase, the entrepreneur identifies business opportunity. In the second phase, the entrepreneur assembles required resources. Finally, in the third phase, the entrepreneur manages the new venture or process via personal characteristics so that the firm may grow and survive. This work is borne out by the leader.

Vij and Bedi (2012) correlated the importance of certain character traits to entrepreneurial leaders. Baron (2006) noted that the actions of an entrepreneur are an extension of the leader and his or her leadership. It is important to recognize these leadership traits and leadership activities as antecedents to entrepreneurial orientation as a theoretical concept.

### **Entrepreneurial Orientation and Significant Empirical Findings**

Entrepreneurial orientation is an area of research that has garnered a significant amount of scholarly attention over the last two decades. Entrepreneurial orientation as a theory originated from the work of Miller (1983). Miller did not specifically coin the

term entrepreneurial orientation; however, through a survey of 52 firms, he correlated the importance of the leader and entrepreneurial characteristics in small business settings (Miller, 1983). In his research, Miller demonstrated that, in small firms, strong leadership characteristics were important for entrepreneurialism to have positive implications, especially in the areas of innovativeness, pioneering, and risk-taking.

In furthering Miller's (1983) research, Covin and Slevin (1989) studied 161 single-industry, independently owned firms, indicating that successful small firms demonstrate three entrepreneurial dimensions including: (a) innovativeness, (b) risk-taking, and (c) proactiveness. Here, Covin and Slevin (1989) replace Miller's (1983) pioneering with proactiveness. In recognizing these characteristics as foundational to entrepreneurs, they called this framework "entrepreneurial orientation." Additionally, Covin and Slevin (1989) state,

An entrepreneurial strategic posture may be particularly beneficial to small firms in hostile environments. These environments, as previously noted, contain fewer opportunities and are more competitive than benign environments. Accordingly, it might be expected that successful firms in hostile environments will gear their competitive efforts to the prevailing conditions by aggressively trying to gain or maintain a competitive advantage. Such an advantage will more likely result from the proactive, innovative, and risk-taking efforts of entrepreneurial firms than the passive and reactive efforts of conservative firms (Covin & Slevin, 1989, p. 77).

Slevin and Covin (1990) also suggested that organizations that have entrepreneurial tendencies are better able to respond when changing structural conditions exist. The organization will be more flexible, consensual, and loosely controlled than a

mechanical organization, which is seen as more controlled, rigid, and hierarchical (Slevin & Covin, 1990). Although K-12 public schools have traditionally been viewed as controlled, rigid, and hierarchical, the nature of public education is pushing districts to be more flexible, consensual, and loosely controlled (Aydin, Ozfidan, Carothers, 2017). Boyne and Walker (2004) suggest that public-sector agencies who wish to be more innovative and competitive need to take risks and be more proactive than other institutions.

Lumpkin and Dess (1996) furthered the foundational work done by Miller (1983) and Covin and Slevin (1989) indicating that entrepreneurial orientation is defined as the processes, practices, and decision-making activities of new organizations through the purposeful intention of leaders. Lumpkin and Dess (1996) note that in addition to the original three dimensions as outlined by Covin and Slevin (1989) of (a) innovativeness, (b) risk-taking, and (c) proactiveness, high performing firms also exhibit, (d) autonomy, and (e) competitive aggressiveness. In their study, Lumpkin and Dess (1996) focused their five-dimension research on for-profit organizations.

With the framework of Miller (1983), Covin and Slevin (1989), and Lumpkin and Dess (1996) as a foundation, scholarly literature has looked at entrepreneurial orientation in two ways, through the lens of the firm or through the lens of the individual. Through this research, scholars have found that an organization's success is closely linked to entrepreneurial orientation (Rauch, Wiklund, Lumpkin, & Frese, 2009; Semrau, Ambos, & Kraus, 2016; Wales, Gupta, & Mousa, 2013).

For the purposes of this research, entrepreneurial orientation will be examined primarily through the lens of the individual. Individual entrepreneurial orientation has

been found to be beneficial for organizations (Aloulou & Fayolle, 2005; Colvin & Lumpkin, 2011; Colvin & Sevin, 1988; Davis, Bell, Payne, & Kreiser, 2010; Frese & Gielnik, 2014; Kollmann, Stockmann, Meves, & Kensbock, 2016; Krueger, 2006; Kuratko & Goldsby, 2004). Entrepreneurial orientation as defined in the literature looks to measure the behavioral aspect of entrepreneurship (Morris & Kuratko, 2002; Wiklund & Shepherd, 2005). Research that has shown that entrepreneurial orientation improves organizational performance, profitability, growth, and innovation (Avlontis & Salavao, 2007; Johan & Dean, 2003; Moreno & Casillas, 2008; Tang, Tang, Marino, Zhang, & Li, 2008) and will be discussed in greater detail in the following review.

Research has demonstrated that entrepreneurial orientation can be measured empirically as demonstrated by Bolton and Lane (2011) through their large-scale study on university students. In this research, Bolton and Lane (2011) developed a measurement tool that specifically assessed the entrepreneurial orientation of individuals using Covin and Slevin's (1989) three dimensions of entrepreneurial orientation. They termed the instrument the Individual Entrepreneurial Orientation (IEO) measure. Bolton and Lane (2011) were able to demonstrate reliability and validity of the three factors of innovativeness, risk-taking, and proactiveness. In this instrument, the measures are more generalized in nature and do not specifically apply to private sector performance metrics such as earnings and dividends.

The review of current literature reveals several themes that will be discussed in the following sections, including: (a) entrepreneurial orientation, business performance, and dimensionality; (b) moderating and mediating factors of entrepreneurial orientation; (c) entrepreneurial orientation in small to medium sized organizations; and (d)

entrepreneurial orientation in higher education, non-profit, and public settings. Within each of these areas, empirical studies will be analyzed for their relevance to the overall framework and common themes will be identified.

**Entrepreneurial orientation in relation to business performance and dimensionality.** Scholarly literature relating to entrepreneurial orientation and business or organizational performance as a dependent variable is abundant (Rauch, Wiklund, Lumpkin, & Frese, 2009; Wales, Gupta, & Mousa, 2013). Entrepreneurial orientation has been shown to improve business performance in many situations and settings as noted above. Additionally, the construct of dimensionality will demonstrate the relationships that exist between innovativeness, proactiveness, and risk-taking. Providing coverage of the recent scholarly conversations in these areas will offer an acute view of the current dialogue relating to entrepreneurial orientation, business performance, and dimensionality.

***Business performance.*** Prior to exploring dimensionality as it relates to entrepreneurial orientation and business performance, it is important to clarify “business performance” or “organizational performance” as terms in the literature. The two terms will be used interchangeably throughout this review.

When exploring entrepreneurial orientation and business or organizational performance, researchers have struggled to identify a consistent set of business performance indicators (Vij & Bedi, 2012). As such, scholars have looked at both subjective and objective measures to illustrate performance across a wide range of business settings, both public and private (Combs, Crook, & Shook, 2005). In addition to this, both financial and non-financial measures have been used to explore business

performance (Vij & Bedi, 2012). Recognizing that no set indicator of business performance has been identified is important because it suggests that entrepreneurial orientation as a field of research recognizes that entrepreneurial orientation manifests itself differently depending on setting, situation, and circumstance.

*Dimensionality.* Dimensionality is another important construct as identified in the literature. There are two main constructs in the research relating to dimensionality, those of the unidimensional approach to entrepreneurial orientation and the multidimensional approach to entrepreneurial orientation. In the unidimensional approach, research has indicated that performance is boosted when innovativeness, risk-taking, and proactiveness work in concert with each other (Covin, Green, & Slevin, 2006). This research depends on covariation, where all three elements must be simultaneously engaged for performance to improve. In the multidimensional approach, the literature focuses on the effects of each of the three characteristics of innovativeness, proactiveness, and risk-taking uniquely and independently. Lumpkin and Dess (1996) were one of the first researchers to view entrepreneurial orientation from a multidimensional perspective.

To ascertain the strength of each dimensionality construct, Kreiser, Marino, & Weaver (2002) performed a study of self-reporting leaders of 1,067 firms in six countries to determine whether unidimensional or multidimensional constructs best captured the phenomena of entrepreneurial orientation. Kreiser et al. (2002) did not discount unidimensionality, yet supported the construct of Lumpkin and Dess (1996) noting that the three sub-divisions of risk-taking, proactiveness, and innovativeness as outlined by Covin and Slevin (1991) show variation independently when considering performance.

Additionally, they suggest that other mitigating factors may impact the ability of the three constructs to act dependently on each other, noting that further research must be completed.

Furthering the discussion on dimensionality, Lomberg, Urbig, Stockmann, Marino, and Dickson (2016), shifted the conversation regarding entrepreneurial orientation from solely unidimensional or multidimensional in nature to a model that requires both views. Lomberg et al. (2016) argued that the models of unidimensional and multidimensional constructs alone, although recognizing that they positively correlate with performance, do not provide a full picture of entrepreneurial orientation. Instead, Lomberg et al. (2016) looked at both unidimensional and multidimensional constructs and additionally looked at the bilateral shared effects of innovativeness and risk-taking, innovativeness and proactiveness, and risk-taking and proactiveness, respectively.

In order to ascertain this, Lomberg et al. (2016) focused on 1,024 small to medium size organizations as a population through which to quantitatively assess the bilateral shared effects of the three primary characteristics, risk-taking, proactiveness, and innovativeness, of entrepreneurial orientation. Within the study, Lomberg et al. (2016) included firm performance as the dependent variable and entrepreneurial orientation as the independent variable. When measuring firm performance, Lomberg et al. (2016) used a multifaceted instrument as suggested by Gupta and Govindarajan (1984) to look at various aspects of performance including sales level, sales growth, and return on investment. The decision to use a varied model of performance indicators was made as not all organizations view performance criteria the same as noted in Vij and Bedi (2012).

Depending on top managers' reports of importance by metric, various weighting measures were implemented.

Lomberg et al.'s (2016) findings suggested that innovativeness and risk-taking, innovativeness and proactiveness, and risk-taking and proactiveness as bilateral shared effects do predict firm performance. Additionally, they extend and corroborate Kollmann and Stockmann's (2014) research when noting that risk-taking that is not associated with innovativeness or proactiveness has a greater likelihood of being detrimental to firm performance.

As demonstrated through research on dimensionality, entrepreneurial orientation and its connection to business performance is complex and nuanced. Recognizing that the entrepreneurial orientation - business performance linkage is moderated and mediated by various variables will provide further insight into the circumstances surrounding and intermediating this complexity.

**Moderators and mediators of entrepreneurial orientation.** Two important constructs that buttress this entrepreneurial orientation - business performance linkage are moderating and mediating factors. Under the entrepreneurial orientation - business performance linkage, entrepreneurial orientation is the independent variable and business performance is the dependent variable.

In the moderating-effects model, organizational structure provides the strength of the entrepreneurial orientation - business performance relationship. Vij and Bedi (2012) note that, "... entrepreneurial orientation needs to be associated with low structural formalization, decentralization and low complexity inherent in the organic organization structures for better performance" (p. 23). At the same time, entrepreneurial orientation

research has looked at the mediating-effects model where entrepreneurial orientation is an antecedent variable, organizational performance is the outcome, and organizational activities are mediating variables (Vij & Bedi, 2012). These two organizational constructs of moderating and mediating variables are at the center of current literature relating to entrepreneurial orientation.

*Mediators of entrepreneurial orientation.* To a lesser degree than moderating variables, mediating variables display current prevalence in entrepreneurial orientation literature. Hough and Scheepers (2008) looked quantitatively at 315 South African companies to determine if certain internal corporate structures mediate entrepreneurial orientation tied to business performance. The researchers looked at strategic leadership and support, empowerment, reward, time and resource availability, supportive organizational structures, and organizational boundaries. The results of Hough and Scheepers' (2008) statistical analysis suggested that support for entrepreneurial orientation, autonomy, and rewards would lead to increased entrepreneurial activity and as an extension, business performance. Additionally, Hough and Scheepers (2008) indicated that strategic leadership functions as a moderator in the entrepreneurial orientation - business performance linkage. Here, Hough and Scheepers (2008) paint a picture of the entrepreneurial orientation - business performance linkage that is clearly much more than "A to B," where organizations want to get greater business outcomes using entrepreneurial orientation.

At around the same time, Wang (2008) was interested in learning orientation as a mediator between entrepreneurial orientation and business performance. Using the Miller (1983) / Covin and Slevin (1989) entrepreneurial orientation scale and the learning

orientation scale as developed by Sinkula, Baker, & Noordewier (1997), a survey was mailed to executive and senior managers in firms. The learning orientation scale looked at commitment to learning, shared vision, and open-mindedness. In all, 213 responses from leaders in manufacturing and the service industry were returned. Using the results, learning strategy types as developed by Miles, Snow, Meyer, & Coleman (1978) were assessed. These types included prospectors, analyzers, defenders, and reactors. In the end, the defender and reactor types were not tested as the sample size of those individuals in the study was not large enough for statistical purposes. In this research, Wang (2008) demonstrated that the entrepreneurial orientation - business performance linkage is mediated by a firm's learning orientation.

Meanwhile, Baum and Bird (2010) looked at successful intelligence as a mediator leading to increased business performance. When thinking about the entrepreneurial orientation - business performance linkage, successful intelligence consists of practical intelligence, analytical intelligence, and creative intelligence (Sternberg, 1997, 2004). Baum and Bird (2010) noted that when these components are viewed individually and together quantitatively, they improve business growth and performance.

In summary, the recent research on the entrepreneurial orientation - business performance linkage, scholarship suggests that leadership support, autonomy, reward, commitment to learning, shared vision, open-mindedness, practical intelligence, analytical intelligence, and creative intelligence as mediators improve business performance (Hough & Scheepers, 2008; Wang, 2008; Baum & Bird; 2010). This is important for business, firms, and industries who wish to use entrepreneurial orientation to their competitive advantage.

*Moderators of entrepreneurial orientation.* There is an abundance of recent scholarly literature relating to moderators and their impact on entrepreneurial orientation. This is especially important given the fact that business performance is shown to improve when entrepreneurial orientation is applied. In recent literature, there are two prevalent strands of empirical conversation. The first strand looks at the moderating role of the individual personal characteristics of entrepreneurs. The second strand looks at organizational, operational, and regulatory structures as influencing entrepreneurial orientation and outcomes.

*Moderating role of characteristics.* When considering the moderating role of the characteristics of entrepreneurs, three concepts that explain the entrepreneurial orientation - business performance linkage are those of cognitive style, entrepreneurial drive, and entrepreneurial intensity as outlined by Armstrong and Hird (2009). Armstrong and Hird (2009) looked to 131 entrepreneurs in the United Kingdom to determine if cognitive style and entrepreneurial drive impacted business owner – managers' likelihood of becoming entrepreneurs. For the purposes of their research, they identified respondents as having a cognitive style that was either analytic or intuitive. Unlike Baum and Bird (2010) who indicated that analytical intelligence, when in concert with practical intelligence and creative intelligence, are major contributors in connecting entrepreneurial orientation and business performance; Armstrong and Hird (2009) note that entrepreneurs who have an intuitive cognitive style were more likely to display entrepreneurial drive. An explanation for this difference may be that Baum and Bird (2010) focused on the codependence of the three identified variables through the construct of successful intelligence whereas Armstrong and Hird (2009) look at intuitive

and analytic cognitive styles as unique constructs that inform entrepreneurial drive and overall entrepreneurial orientation. As a final assertion, Armstrong and Hird (2009) note that certain cognitive styles and entrepreneurial drive increase the likelihood of entrepreneurial orientation leading to business performance through opportunity identification.

While Baum and Bird (2010) looked at practical intelligence as a construct of successful intelligence, Baum, Bird, and Singh (2011) were interested in practical intelligence as a moderator in the entrepreneurial orientation – business performance linkage. Baum et al. (2011) identified practical intelligence as industry experience and venture experience which focused on learning as critical to business performance. To do this, they implemented a questionnaire that examined venture and industry experience, learning orientations, and practical intelligence; it yielded 283 responses. Through this research, Baum et al. (2011) note that learning orientation moderates the experience – practical intelligence relationship and that practical intelligence leads to venture growth, which furthered the work of Wang (2008) that looked at learning orientation as a mediator.

Another construct that looks to characteristics is that of entrepreneurial intensity. Entrepreneurial intensity, as outlined by Chang and Lin (2011), is formed by combining the frequency of entrepreneurship with the degree of entrepreneurship which is characterized by Lumpkin and Dess's (1996, 2001) innovativeness, risk-taking, proactiveness, autonomy, and competitive aggressiveness model. According to Chang and Lin (2011), individuals and organizations that have high frequency of entrepreneurship and high degree of entrepreneurship will demonstrate high

entrepreneurial intensity. In their case study on a large Taiwanese firm that included 161 restaurants, entrepreneurial intensity led to very strong business performance. Although the research here is not generalizable to all settings, Chang and Lin (2011) highlight the fact that the firm in this case study demonstrated high innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy which led to strong business performance. This activity was shown to be moderated by entrepreneurial intensity.

In summary, recent research relating to the characteristics of cognitive style, entrepreneurial drive, and entrepreneurial intensity suggest that certain characteristics moderate the entrepreneurial orientation – business performance linkage. Further research may identify additional moderating characteristics that can impact this relationship positively or negatively.

*Moderating role of organizational, operational, and regulatory structures.*

Another recent and important concept that moderates the entrepreneurial orientation – organizational performance linkage is that of organizational, operational, and regulatory structures. In a qualitative case study using multiple collection methods including in-depth interviews and non-participant observation, Diochon (2010) looked at the moderating role of the board of directors when looking at entrepreneurial orientation and performance. Specifically, Diochon's (2010) research looked at entrepreneurial intensity through social interactions as demonstrated by 12 organizations' board of directors noting that entrepreneurial orientation lead to increased performance. When looking at boards of Directors that achieved higher levels of performance, examples of social interactions that were demonstrated by these boards of directors' included the securing of personal funds to promote initiatives (proactiveness) and a willingness by board members to commit

funds to projects that had no guarantee of success (risk-taking) were shown to promote higher levels of performance. Although the research focused on the board of directors, their entrepreneurial orientation as a social enterprise, and performance outcomes specifically, the research indicates that board activity relating to entrepreneurial orientation moderates and encourages the same within the organization itself.

Not unlike a Diochan's (2010) research on boards of directors who demonstrate considerable positional and operational power within organizations through social interaction, top managers' power also has been shown to moderate the entrepreneurial orientation – organizational performance linkage. This is demonstrated in the work of Davis, Bell, Payne, and Kreiser (2010) where the researchers explored prestige, structural, and expert power by distributing and collecting 69 surveys to current or former executive and professional MBA students. In this paradigm, prestige power is seen as the manager's reputation within the organization, structural power focuses on positional authority, and expert power is based on a leader's ability to deal with industry factors.

Davis, Bell, Payne, and Kreiser (2010) found that both prestige and expert power positively moderated the relationship between entrepreneurial orientation and organizational performance. These findings suggest that organizations that appropriately implement and apply power will assume greater results through entrepreneurial orientation. The research also found that structural power did not have a direct or moderating impact in relation to firm performance. This suggests that employees in organizations place faith in entrepreneurially orientated leaders who focus on prestige and expert power.

Closely related to the work done by Davis et al. (2010), researchers Gupta, Mortal, and Yang (2018) explored organizational, industrial, and national discretion for managers as a moderating factor in the entrepreneurial orientation – business performance linkage. Gupta et al. (2018) view organizational discretion, “...as the extent to which factors and characteristics within the organization make the firm amenable to a wide range of potential actions” (p. 6), industrial discretion as product-market space within which managers operate, and national discretion as an integrated set of systemic conditions that can either lead to high or low discretion for managers. The scholars found that both high organizational discretion and high industrial discretion positively moderate the entrepreneurial orientation – performance linkage. Furthermore, Gupta et al. (2018) indicate that this linkage has an even greater impact when they occur at high levels simultaneously than when measured independently. Additionally, the researchers indicate that national discretion does not strongly moderate the entrepreneurial orientation - performance linkage.

Taken collectively, the work of Diochan (2010), Davis et al. (2010), and Gupta et al. (2018) suggest that organizational, operational, and regulatory structures moderate the entrepreneurial orientation - business performance linkage. In these cases, boards, top managers, and overall regulatory structures have shown positive moderation between social interaction, power dynamics, and discretion.

**Entrepreneurial orientation and small to medium size enterprises.** Small to medium enterprises (SMEs) are an area of focus within entrepreneurial orientation research. This is primarily because entrepreneurship is often viewed as belonging to individuals who bring an innovative new product to market and thusly start small and

build over time (Schumpeter 1934, 1942). More recently, research on SMEs and entrepreneurial orientation has looked at several contemporary issues to understand the impact of entrepreneurial orientation on business performance.

In their research on 434 SMEs, Moreno and Casillas (2008) seek to understand whether entrepreneurial orientation and growth are positively correlated. For the purposes of their study, the researchers used all five dimensions of entrepreneurial orientation as outlined by Lumpkin and Dess (1996). In line with the work of Kreiser et al. (2002), their work supported and verified the multidimensionality (independence of dimensions) of the entrepreneurial orientation construct, the researchers also verified that entrepreneurial orientation has a positive effect on firm growth and performance. Additionally, Moreno and Casillas (2008) indicated that environment is a moderating factor in the entrepreneurial orientation – growth / performance chain. The scholars also noted that an important construct in their research was that of resource availability which falls in line with resource based paradigms of entrepreneurship. Finally, Moreno and Casillas (2008) note that their research indicated that innovation, as an individual dimension, most promotes the use of strategies that are aligned with growth.

In another study that looked at SMEs from a multidimensional entrepreneurial orientation perspective, Kraus, Rigtering, Hughes, and Hosman (2012) were also interested in entrepreneurial orientation – business performance linkage. Kraus et al. (2012) surveyed 164 Dutch SMEs with a focus on the moderating role of economic crisis and environmental turbulence. The researchers found that the proactiveness dimension was directly related to firm performance but was not affected by market turbulence. Importantly, Kraus et al. (2012) found that, “Innovativeness’ interaction with market

turbulence significantly and positively affected business performance while... risk-taking with turbulence was significantly but negatively related to SME business performance” (p. 176). These findings suggest that environmental market factors will moderate the entrepreneurial orientation – business performance linkage in certain situations.

Furthering the work of Kraus et al. (2012), Semrau, Ambos, and Kraus (2015) investigated that relationship of entrepreneurial orientation and business performance across societal cultures internationally. To do this, Semrau et al. (2015) used survey data from seven countries including the United States of America, the Netherlands, China, Malaysia, India, Germany, and Spain. This survey data included responses from 1,248 senior managers in SMEs. As a moderating factor, they looked at two types of societal cultures including performance-based cultures and socially supportive cultures. In performance-based cultures, norms and practices, “...emphasize individualism, performance orientation, and future orientation” (p. 1929); whereas, in socially supportive cultures, there are high levels of humane orientation and low levels of assertiveness (Semrau et al., 2015).

Semrau et al. (2015) found that entrepreneurial orientation and business performance are positively correlated across all countries. However, overall the research indicated that entrepreneurial orientation and business performance are significantly more positively related in high performance-based cultures than in low. Additionally, the research found that socially supportive cultures had no (moderating) effect on the linkage between entrepreneurial orientation and business performance. This is important for several reasons. First, it demonstrated that societal expectations can impact the

entrepreneurial orientation - business performance linkage and secondly, the results indicate that individualism in organizations can promote entrepreneurial activity.

In another study in 2014, Lechner and Gudmundsson looked at competitive strategy as a mediating role between entrepreneurial orientation and business performance. Their work focused on the banking industry in Iceland. They surveyed respondents from 153 bankrupt firms and 182 non-bankrupt enterprises to ascertain competitive strategy as a mediating role. Their research determined that cost leadership and differentiation (to a lesser effect), as dimensions of competitive strategy, had a direct mediating impact in the entrepreneurial orientation – business performance linkage.

In summary when looking at SMEs, Moreno and Casillas (2008), Kraus et al. (2012), and Semrau et al. (2015), identified three moderators of the entrepreneurial orientation—business performance linkage including environment, economic conditions, and cultural type. Meanwhile, Lechner and Gudmundsson (2014) indicate that competitive strategy—when applied appropriately—mediates entrepreneurial orientation and business performance. These researchers have brought further clarity to the entrepreneurial orientation–business performance linkage through their work with SMEs.

### **Entrepreneurial orientation in higher education, non-profit, and public settings.**

*Entrepreneurial orientation in higher education.* In recent years, there has been a confluence of entrepreneurial research relating to higher education. Goodman and Nelson (2009) suggest that interest in entrepreneurialism in higher education arose out the Great Recession (Federal Reserve System, 2014) and the pressures that institutions in the field were experiencing as a result. The primary driver of this was a dip in

endowments by nearly 30% nationwide (Goodman & Nelson, 2009). Most of the research relating to college and university entrepreneurship focuses on executive leadership within the organizations. More specifically, the research has focused on the individual entrepreneurial orientation of the President or Dean in the college or university (Cleverley-Thompson, 2016; Riggs, 2005; Smith, 2009).

Riggs (2005), Smith (2009), and Cleverley-Thompson (2016) shifted attention away from for-profit organizations and looked at entrepreneurial orientation in the non-profit setting of higher education. In all cases, these researchers looked at the self-perceived entrepreneurial orientation of leaders in higher education. Riggs (2005) examined the entrepreneurial orientation of presidents at independent colleges and universities and how their work corresponded with institutional revenue generating activities. To do this, Riggs (2005) administered a specifically designed questionnaire to 47 small independent college and university presidents. The self-reported survey included entrepreneurial orientation elements as outlined by Covin and Slevin (1989) and Lumpkin and Dess (1996). Additionally, the study looked at performance metrics such as endowments and various other revenue sources. Through this work, Riggs suggested that entrepreneurial orientation was comprised of 10 leadership characteristics including: (a) change agent, (b) competitive, (c) creative, (d) innovative, (e) opportunist, (f) persuasive, (g) proactive, (h) risk taker, (i) team builder, and (j) visionary. Riggs (2005) found that the entrepreneurial orientation of the president was positively correlated with small business development, fundraising, revenue-generating activities, intellectual property, and off-campus real estate activities.

Smith's (2009) research on presidents of colleges and universities found that college presidents ranked themselves lower in three of the 10 areas including competitive, risk taker, and opportunist. Smith's (2009) research identified these areas as potential growth opportunities for colleges and universities as all 10 characteristics have been shown to be important for entrepreneurial leadership that wishes to perform revenue generating activities at the highest levels (Fisher & Koch, 2004; Lumpkin & Dess, 1996; Riggs, 2005). Additionally, Smith (2009) noted that presidents should be instilling all 10 characteristics in the culture of their organization and that the pass down effect will have benefits for their respective organizations. Finally, Smith (2009) found that education and background did not have a significant relationship to entrepreneurial orientation. Recognizing that entrepreneurial orientation has benefits for college presidents and the organizations they serve, this may suggest that the entrepreneurial orientation of college and university presidents may be a better predictor of success than professional background and experience.

Finally, Cleverley-Thompson (2016) looked to academic deans in upstate New York colleges and universities using the same 10 characteristics as outlined by Riggs (2005) to measure entrepreneurial orientation, citing enrollment challenges, financial hardships, and market competition as the driver of urgency. In Cleverley-Thompson's (2016) study, academic deans indicated that their most prevalent behavioral attributes included the entrepreneurial characteristics of team builder and proactiveness. Additionally, Cleverley-Thompson (2016) found that the longer an academic dean was in his/her position, the lower she or he ranked themselves on the entrepreneurial orientation scale. In the final finding of the research, Cleverley-Thompson (2016) noted that when

colleges or universities have an expectation that deans engage in entrepreneurial activity, academic deans report having higher levels of entrepreneurial orientation.

When considering entrepreneurial orientation in higher education as a corollary to entrepreneurial orientation in K-12 public education, some combined important findings suggest that entrepreneurial orientation may be more important than background and experience, that an expectation of entrepreneurial activity by a governing body through fiat or simply through organizational culture may lead to better outcomes, that long term employment of leaders in higher education may reduce entrepreneurial activity, and that entrepreneurial orientation positively impacts a number of business metrics. When taken together, research on entrepreneurial orientation in higher education may help inform future research.

*Entrepreneurial orientation in the public domain.* Although no empirical research has been completed on entrepreneurial orientation in K-12 public education, one study looked at stimulating entrepreneurial practices in public government through the lens of entrepreneurial orientation. Kim (2010) surveyed heads of U.S. state government departments concerning structural, cultural, managerial, environmental, and entrepreneurial practices. In this research, Kim (2010) looked to measure public sector leaders' characteristics related to Covin and Slevin's (1989) risk-taking, innovativeness, and proactiveness constructs.

Within the risk-taking dimension, Kim (2010) measured the positively associated risk-taking characteristics of flexibility, participatory decision-making, autonomy, performance objectives, accountability, and perceived external competition. Kim (2010) also measured the negatively associated risk-taking characteristics of formalization and

hierarchy. Kim (2010) noted that the risk-taking model, “confirms that managerial effectiveness to allow more autonomy and participatory decision making for government employees, a cultural setting that has higher accountability and performance objectives, and an external environment that is more competitive with other organizations” (p. 802). She also notes that state institutions should explore more risk-taking opportunities.

When looking at proactiveness, Kim’s (2010) model found that the organizational characteristics of flexibility, specialization, accountability, formalization, and political influence have a significant impact on individual proactive propensity. Kim (2010) noted that the study found that flexibility is the most important factor in encouraging proactive entrepreneurship. Although public sector institutions often lack flexibility as bureaucratic entities, this suggests that there is value in created more flexible structures.

Finally, in looking at the characteristic of innovativeness, Kim (2010) found that innovativeness had statistically positive relationship to flexibility, participatory decision-making, autonomy, performance objectives, accountability, political influence, and perceived competition. Through this research, Kim (2010) found that the strongest positive effect in promoting innovativeness in state governments is that of flexibility.

Kim’s (2010) findings suggest that the most significant positive effects across the three dimensions were in the two areas of flexibility and accountability. As Kim (2010) notes, these areas may be important for public sector institutions, even though public sector organizations have traditionally had road blocks to entrepreneurial behaviors as a result of short-term time pressures, need political and public support, and lack of funding and incentives (Damanpour & Schneider, 2009). Kim (2010) argues that, “reinvention and transformation to public entrepreneurship should be achieved by structural and

functional changes toward more opportunity-driven approaches rather than resource-driven strategies” (p. 805). By ascertaining this, Kim (2010) suggests that resources at hand should not be the only mechanism by which public organizations achieve efficiency and productivity. This has potential positive implications in K-12 public educational settings.

***Entrepreneurial orientation in the non-profit domain.*** The seminal work relating to entrepreneurial orientation and non-profit organizations was completed by Morris, Coombes, and Schindehutte (2007). Morris et al. (2007) looked to examine the relevance of entrepreneurial orientation in the non-profit sector. In the study, Morris et al. (2007) collected performance data (IRS form 990s) and compared them to results of a self-reported survey questionnaire that included items relating to environmental turbulence, leadership style, organizational control, entrepreneurial orientation, and other organizational information. This research found that there were positive correlations between entrepreneurial orientation and transformational leadership, discretionary control and board activism, and marketing constructs. In all, Morris et al. (2007) found that although entrepreneurial orientation in the non-profit sector is complex, the research he performed shows that it positively impacts organizational outcomes.

Additionally, as noted in an earlier section of this literature review, Diochon (2010) looked to explore the relationship between the board of director’s entrepreneurial expectations with that of the entrepreneurial orientation of the organization and its individuals. Here, Diochan (2010) was looking at a non-profit institution. Diochon’s (2010) qualitative study looked at how governance impacts entrepreneurship, and by extension, effectiveness. The research found that governance does matter; that

organizations who foster an environment where entrepreneurialism can thrive achieve better results (in relation to goals), especially those non-profit organizations that regularly demonstrate a willingness to partake in actions that are proactive, innovative, and contain risk.

Finally, revenue generation is an important construct in the non-profit and public domain, but it is not the main driver in decision making processes. In all, the work of Kim (2010), Morris (2007), and Diochon (2010) expand research into organizations that do not have – as a primary metric of success – revenue generating activities. Their work recognizes the importance of other metrics as measurements of entrepreneurial activity. They also reinforce that non-profit and public institutions are in place to serve the public good in a fiscally responsible manner.

### **Criticisms of Entrepreneurial Orientation**

There are relatively few criticisms of entrepreneurial orientation. One criticism revolves around the nature of entrepreneurial orientation. When thinking of a conceptualization of entrepreneurial orientation that includes Lumpkin and Dess's (1996) additional dimensions of autonomy and competitive aggressiveness, some researchers have suggested that autonomy is better seen as an external force versus one that is internal to the individual (Hadj, Cocks, & Muller, 2007; Hough & Scheepers, 2008). This means that entrepreneurs can function not because autonomy comes from an endogenous place, but because the organization they work within has demonstrated that autonomy is valued and expected as expressed in the work of Diochan (2010) and Gupta et al. (2018). Additionally, some researchers have suggested that competitive aggressiveness is simply

a part of the dimension of proactiveness and should not be a separate construct (Chang & Lin, 2011; Hough & Scheepers, 2008).

Another distinct criticism relates to the entrepreneurial orientation – business performance linkage. Most research has suggested that increasing entrepreneurial orientation will improve performance, as stated in the preceding sections. This is typically seen as a linear progression where the individuals with highest self-rated entrepreneurial orientation will have the highest scores on performance metrics. However, some researchers have found that the entrepreneurial orientation – business performance linkage is in fact curvilinear. In their research on 185 Chinese firms, Tang, Tang, Marino, Zhang, and Li (2008) used a self-administered 5-point Likert scale, eight-item entrepreneurial survey and compared results to a series of subjective and objective performance measures to determine that the relationship between entrepreneurial orientation and performance is curvilinear. Specifically, on a scale of subjective performance measures, there was a slight dip in performance after a score of 4 (on the higher side of self-reported entrepreneurial orientation) on the entrepreneurial orientation Likert scale. When looking at the objective performance measures, after a score of about 3.75 on the entrepreneurial orientation scale, performance started to drop at about the same rate as it had risen, which was considerable (Tang et al., 2008).

Furthering this research, Yoon and Solomon (2017) looked to investigate this phenomenon and determine if psychological safety would moderate the curvilinear relationship of entrepreneurial orientation and performance as outlined in Tang et al. (2008). In their research of SMEs in South Korea, Yoon and Solomon (2017) used Covin and Slevin's (1989) entrepreneurial orientation scale and Edmondson's (1999) scale of

psychological safety to examine whether psychological safety moderated the curvilinear relationship between entrepreneurial orientation and performance. In this research, objective measures of performance were used as dependent variables. As was the case in Tang et al. (2008), the work of Yoon and Solomon (2017) highlighted the fact that excessive entrepreneurial orientation may negatively impact performance, however, the researchers found that psychological safety eliminated the impact of excessive entrepreneurial orientation on performance.

While researchers have questioned the strength of the addition of the two dimensions of competitive aggressiveness and autonomy, research using these dimensions proceeds in the research. At the same time, Tang et al.'s (2008) and Yoon and Solomon's (2017) research suggests that entrepreneurial orientation in absence of moderating and mediating factors may have its limits when considering business performance. This has importance in the field.

### **Gaps in the Literature**

The results of the literature review provide insight into potential gaps that provide avenues for further investigation. The primary and overarching gap that will inform the research in this study relates to entrepreneurial orientation. Current research on entrepreneurial orientation and its impact on organizational outcomes is relegated to the private, higher education, and non-profit sectors. In the one study that looked at the public sector specifically (Kim, 2010), the researcher focused on state governments in the United States. Although there are multiple parallels that can connect the areas of private, higher education, non-profit, and public entrepreneurship to the world of K-12 education,

no research has been done in the K-12 realm. This is a gap in the literature that will be studied in greater detail.

An additional gap in the literature relates to way that entrepreneurial orientation is viewed in the research. Entrepreneurial orientation looks to correlate certain individual characteristics to outcomes for organizations. These outcomes typically express themselves in terms of revenue generating mechanisms. A gap in the literature relates to the fact that revenue generating in some sectors is not a great measure of entrepreneurial orientation. For instance, in K-12 education, where regulation and structural challenges limit revenue generating options, entrepreneurial orientation may express itself through other means such as revenue savings or revenue shifting mechanisms.

A noted gap exists around the effects of entrepreneurial orientation over time (Wales, Gupta, & Mussa, 2011). As the research in this area of study is relatively new, there have not been any longitudinal studies that have been performed that can predict the sustained effects of entrepreneurial orientation on business performance. Additionally, there are no studies that show how organizations that cycle in and out of entrepreneurial orientation perform over time.

Another gap relates to the moderating and mediating factors that could enhance or detract from the entrepreneurial orientation – performance linkage. One example of this relates to the curvilinear relationship as outlined by Tang et al. (2008) and the moderating role of psychological safety as outlined by Yoon and Solomon (2017). When considering this, there are still unanswered questions about what other moderating factors may eliminate the curvilinear relationship between entrepreneurial orientation and performance.

Although Lechner and Gudmundsson (2014) looked at competitive strategy in failed banking firms, another identified gap notes that entrepreneurial orientation research has traditionally focused solely on organizations that survive. Except for Lechner and Gudmundsson (2014), studies are limited to persisting firms and do not include firms that have performed poorly enough to the point of failure. Additional research that looks at a broad spectrum of organizations that have been successful and struggled to achieve performance success may provide greater insight into the construct of entrepreneurial orientation.

### **Chapter Summary**

When looking at scholarly findings from the last 15 years relating to entrepreneurial orientation, researchers have demonstrated that although entrepreneurial orientation can improve business performance, it is not always an A to B construct and it often expresses itself differently depending on many factors. The recent research has shown that dimensionality is still being explored. Additionally, although many moderating and mediating variables have been identified, there is still a considerable amount of research to be done relating to these external (moderating) and internal (mediating) factors.

Finally, and most importantly to this research, little is known about this area of research. Although we know that entrepreneurial orientation has positive performance implications in SMEs, for-profit, higher education, public, and non-profit sectors, we do not know what, if any, impact entrepreneurial orientation has on K-12 rural public institutions. The following chapter outlines the methodological foundation for this study of perceived entrepreneurial orientation of K-12 chief school business officials in rural

school settings and its relationship to school business performance. The study is oriented within the context of this literature review and constructed to assess whether the characteristics as detailed in entrepreneurial orientation theory have any potential value in the K-12 rural school realm.

## **Chapter 3: Research Design Methodology**

### **Introduction**

Increased performance expectations, greater market competition, and stricter fiscal constraints have made the educational landscape more challenging in the 21<sup>st</sup> century (Ellerson, 2016; Neely, 2015; Walker, 2017). In 2000, federal legislation called the No Child Left Behind Act (NCLB) was instituted because of the perceived failure of the American educational system (Rudalevige, 2003). Since that time, there has been an increased focus on student outcomes and a push for K-12 institutions to stay competitive on test scores internationally (Dee & Jacob, 2011; Dee, Jacob, Haxby, & Ladd, 2010). Additionally, since the Great Recession (Federal Reserve System, 2014) that began in 2007, fiscal conservatism has led to new fiscal regulations nationally (International Bar Association, 2010). In many states, funding cuts have forced school districts to look for creative ways to raise, allocate, and repurpose finances (Oliff & Leachman, 2011). As a result, state agencies such as the New York State Office of the State Comptroller and public watchdog groups such as Reclaim NY, See Through New York, and the Citizens Budget Committee have placed a high level of scrutiny on the use of public funds in schools. Meanwhile, there is growing interest and public dialogue regarding charter schools and voucher programs as an alternative to traditional public education (Walker, 2017). This has created a more competitive market landscape in K-12 public education.

Small rural public K-12 education institutions are experiencing considerable pressure from many directions. Nationwide, rural student enrollment decline is a major

issue in most regions and school accountability is at an all-time high (Ellerson, 2016). Ever more restrictive federally imposed educational standards and regulations such as No Child Left Behind prove challenging for small rural school districts that depend on federal funding to balance budgets (Neely, 2015). When districts are unable to meet the rules and regulations of federal mandates, funding can be delayed or completely withheld indefinitely (U.S Department of Education, 2018).

Educational institutions are required to demonstrate programmatic and financial value for students, families, and communities. New York State public K-12 small rural school districts have limited options to do this. Given the myriad challenges that K-12 public educational institutions encounter and the inadequate options to address them, it may benefit schools to investigate alternative opportunities for generating financial and programmatic opportunities for students and communities (Dereef, 2018). One way of addressing concerns relating to financial and programmatic challenges may be through the work of the entrepreneur. Specifically, entrepreneurial orientation (EO), which is characterized by innovativeness, proactiveness, and risk-taking in the literature, may be an option for schools (Lumpkin & Dess, 1996). Research has demonstrated that higher levels of EO positively influences business performance in the private sector, higher education, public, and non-profit sectors (Cleverley-Thompson, 2016; Kim, 2010; Morris, Coombes, & Schindehutte, 2007; Riggs, 2005; Semrau, Ambos, & Kraus, 2015). An investigation in this area may benefit K-12 public educational institutions as well.

When looking specifically at schools, EO in K-12 settings has not been an area of research. American educators have hinted at the power of entrepreneurialism and its potential positive implications for K-12 public education (Dereef, 2018; Leonard, 2013).

The non-peer reviewed literature has been primarily conceptual or anecdotal in nature. Understanding the role that school administrators play in creating value for schools and assessing the value of entrepreneurial characteristics in school leaders may provide insight to the field. In K-12 educational institutions, the individual who is typically responsible for leading finance and operations is the chief school business official (New York Association of School Business Officials, 2018). In times of fiscal uncertainty and high accountability, entrepreneurially oriented chief school business officials (CSBOs) may be of importance to K-12 institutions, especially in terms of hiring and retention.

**Problem statement.** Schools in K-12 public education, expressly those in rural communities, struggle to make programmatic and financial decisions that best serve their student populations. This is typically a result of the political and economic climate coupled with limited community financial capacity, sparsity, and small cohort sizes (Lawrence et al., 2002). When considering the current climate and a need to demonstrate programmatic and financial value for students, families, and communities, rural public K-12 school districts have few options. Some options that have been studied in school based literature – but have become less utilized for a number reasons including financial, legal, and programmatic implications - include school consolidation, the sharing of services, cutting programmatic offerings, and various other revenue generating mechanisms (Balcom, 2013; Duncombe et al., 1994; Duncombe & Yinger, 2007; Duncombe & Yinger, 2010; Haddad & Alsbury, 2008; Warner & Lindle, 2009). School officials have few viable options to combat the tide of obstacles they face.

As higher levels of EO has been shown to positively impact business performance in other settings, entrepreneurial oriented CSBOs may be an additional option for small

rural public K-12 education systems in addressing operational and financial challenges. CSBOs who demonstrate higher levels of EO should be further researched to determine if their skillsets, characteristics, and behaviors lead to higher rates of pro-business practices in schools. Pro-business practices are those that generate revenue or create savings for schools. While professional associations and recent writers suggest that entrepreneurialism in schools can have a positive impact, there is no research that validates this claim (Dereef, 2018; Leonard, 2013). Currently, there is no empirical evidence to show that higher levels of EO has any application to K-12 public institutions.

**Research questions.** The study will investigate distinct research questions. They are as follows:

1. How do chief school business officials in small rural K-12 public education settings identify themselves on the entrepreneurial characteristics of innovativeness, proactiveness, and risk-taking as outlined in entrepreneurial orientation theory?
2. What is the relationship between scores on the Individual Entrepreneurial Orientation scale by chief school business officials in small rural K-12 public education settings and frequency of school pro-business activity (revenue saving/generating)?

The following hypotheses were generated from the second research question that informed this study:

1. There is a significant positive correlation between *innovativeness* and higher frequency of pro-business practices.

2. There is a significant positive correlation between *proactiveness* and higher frequency of pro-business practices.

**Research design.** This study utilized a correlational cross-sectional survey design. According to Creswell (2014), a survey design provides numeric descriptions of attitudes or opinions of a given population, which the researcher can then generalize or draw inferences to the population that is studied. This study drew inferences about EO and its relationship to business performance through self-reported actions of CSBOs. Additionally, Fowler (2014) notes that a survey design provides consistency across respondents for comparison purposes and uses statistics to infer aspects of a research population based on the sample studied. When considering the cross-sectional approach to this survey specifically, a cross-sectional approach looks to capture data from a population, or a representative sample, at a specific point in time (Leedy & Ormrod, 2016). Finally, a correlational design allows the researcher to investigate the relationship between two sets of scores or variables, as is the case in this study (Leedy & Ormrod, 2016). The two sets of variables in this study included the independent variables of EO (innovativeness, proactiveness, and risk-taking) and the dependent variables of school business performance in terms of revenue generating or revenue saving activities.

### **Research Context**

There are currently 674 K-12 public school districts in New York State (New York State Department of Education, 2018). Miller (1983) demonstrated that, in small firms, strong leadership characteristics were important for entrepreneurialism to have positive implications, especially in the areas of innovativeness, proactiveness, and risk-taking. Additionally, research has demonstrated that rural districts are under increased

pressure with limited options and means to address this pressure (Balcom, 2013; Duncombe et al., 1994; Duncombe & Yinger, 2007; Duncombe & Yinger, 2010; Haddad & Alsbury, 2008; Warner & Lindle, 2009). Therefore, this study will survey CSBOs in small, rural K-12 public school districts across New York State. Small districts will be classified as those that have less than 2,500 students as identified by the New York State Department of Education (NYSED). Rural districts will be considered those that have a sparsity factor of greater than 0.000 as determined by the NYSED.

### **Research Participants**

Participants included actively employed K-12 public school business professionals in New York State who were considered the CSBO as designated by the NYSED. The CSBO may have any one of the following titles: School business administrator, school business manager/executive, assistant/deputy/associate superintendent for business/finance, director/coordinator of business affairs/finance/operations (New York Association of School Business Officials, 2018). Additionally, treasurers or superintendents who serve as CSBO in these districts were included in this research. Finally, participants must work in a school district that has less than 2,500 students and a sparsity factor of higher than 0.000, which is considered “rural” per the NYSED.

There are presently 334 K-12 school districts in New York State that have less than 2,500 students and a sparsity factor of greater than 0.000 (Appendix A). The population of focus in this research included the 333 sitting CSBOs in this setting. The researcher is a member of the potential population; therefore 333 of the 334 CSBOs in rural small New York schools were included. Participants were part of a simple random

sample. According to Leedy and Ormrod (2106), simple random sampling requires that the population be small and that all members be known. These characteristics exist in this research. In this study, there were only 333 possible participants and the researcher had access to a listing of all possible participants and their e-mail contact information. This information was acquired by the researcher from personnel at the NYSED or collected from individual district websites in the public domain.

Additionally, simple random samples are best utilized when the members of the population being studied have an equal chance of selection and participation (Leedy & Ormrod, 2016). The researcher randomly sampled 200 CSBOs and established a rate of return of 40%. This required 80 participants to respond. All potential survey respondents received an introductory e-mail that included a link to the survey (Appendix B). Approval from the Institutional Review Board at St. John Fisher College was obtained.

### **Instruments Used in Data Collection**

After obtaining consent from participants directly prior to completing the survey, an Internet-based survey was dispensed. The first part of the survey included Bolton and Lane's (2011) IEO measurement instrument (Bolton, 2012; Bolton & Lane, 2011) (Appendix C). This measurement tool was factor analyzed using Principal Component Analysis to determine content validity (Bolton, 2012). Reliability was tested using Cronbach's alpha and internal consistency was demonstrated at higher than .765 for innovativeness, proactiveness, and risk-taking, independently (Bolton, 2012). Permission to use this measurement instrument was granted by the researchers in the spring of 2018 (Appendix D). The IEO instrument measures individuals' proactiveness, risk-taking, and innovativeness on a 10 item 5-point Likert style rating scale with responses ranging from

1 = strongly disagree to 5 = strongly agree. Likert style tools use ordinal, close-ended questions (Dillman, Smyth, Christian, 2014; Huck, 2012). Using this methodology for this portion of the survey is important because Likert style rating scales are considered a strong way of measuring people's attitudes and behaviors (Leedy & Ormrod, 2016). This IEO measurement instrument was the independent measure of this study.

In order to create the self-developed business performance portion of the survey, the researcher surveyed CSBOs in New York State that are not part of the broader study population. These CSBOs were employed in primarily suburban K-12 school districts in New York State. Surveys were randomly sent to 34 sitting CSBOs using an exploratory data collection tool (Appendix E). Out of the 34 CSBOs surveyed, 22 responded for a 65% response rate. This tool asked the randomly selected CSBOs across New York State to rank statements in 11 areas of school business including "Fiscal & Financial Management", "Cash & Debt Management", "Budgeting Management & Efficiency", "Revenue Management", "Consolidation or Sharing of Services", "Program Analysis", "Operational Efficiency", "Human Resources & Personnel Management", "Instructional Program Efficiency", "Transportation Efficiency", and "Instructional Technology Efficiency".

After the initial exploratory survey was completed, 11 face valid school business performance items were selected based on highest frequency of selection as "most important" (Appendix F). The business performance items were implemented and assessed using a 6-point Likert style rating scale with responses ranging from 1 = "never" to 6 = "very frequently". These items were combined with the IEO measurement to form the basis for the survey. Surveys were administered via Qualtrics, a web-based survey

tool that allows results to be easily exported to R Project Statistical Computing Software for statistical analysis.

Finally, the last section of the survey collected general demographic data including age, gender, employment type, years in current role, years in education, and years of private, non-profit, or other experience that is not related to K-12 public education. This information was analyzed and used for discussion purposes only.

### **Procedures for Data Collection and Analysis**

**Procedures for data collection.** The researcher administered the survey electronically over 4 weeks beginning in early January of 2019 and ending in early February of 2019. Formal contact to participants was made via e-mail with an introduction letter (Appendix B). All correspondences were sent at around 6:30 a.m. on Monday mornings, as this time period has been shown to garner the highest response rates (Callegaro, Manfreda, & Vehovar, 2015). Initial correspondence included an explanation of the purpose of the survey, a link to the web-based survey instrument in Qualtrics, and a request to complete the survey. Automatic email follow-ups were generated for non-respondents. These reminder e-mails were sent to participants who had not completed the survey 2 and 3 weeks after initial invitation to participate. Research has demonstrated that any more than two follow-up e-mail may reduce response rates, due to annoyance by potential respondents (Callegaro, Manfreda, & Vehovar, 2015). The survey closed 4 weeks after initial launch.

A web-based survey methodology was recommended and used for several reasons. Callegaro, Manfreda, and Vehovar (2015) suggest that web based surveys are low cost, provide a quick way to collect large amounts of data, are easier to implement,

provide higher quality of collected information (e.g., time stamps for responses, etc.), can be administered over multiple platforms or media (e.g., computer, cell-phone, etc.), allow for time and geographic flexibility, and are self-administered. These are all important aspects given the fact that 200 requests to participate were initiated.

Qualtrics software was used to ensure anonymity of participants using numeric coding and to ensure that personally identifiable information was not linked to survey results. Prior to completing the survey, participants received informed consent information and had the option to discontinue participation at any time (Appendix G). The researcher will maintain data for a period not longer than institutionally permissible under policy. At the conclusion of the survey, participants had the option of entering their name into a drawing for one of eight individual \$25.00 Visa gift cards. Callegaro, Manfreda, and Vehovar (2015) note that research has shown that incentives for web surveys increase response rates. Names entered in the drawing were not linked to survey results. In all, eight individual \$25.00 Visa gift cards were distributed. Finally, it is recommended that appreciation be shown to participants (Dillman, Smyth, Christian, 2014). Therefore, a generated e-mail thanking participants was distributed to all potential participants once the survey window had closed.

**Procedures for data analysis.** An important critical first step in preparing for data entry into R Project Statistical Computing Software was the preparation of data. Every survey was assigned a number as was each response to each question. This allowed for easy coding of data. Additionally, every variable was assigned a name for tracking and reference. According to Fowler (2014), the researcher must also consider taking steps that allow for “adjusting for nonresponse to the survey, adjusting for items that were not

answered, weighting to adjust for different probabilities of selection, and calculating the effects of the sample design on the statistical calculations” (p. 134). These steps were taken prior to data analysis.

Self-reported EO behaviors as indicated in this study allowed for the categorization of participants into groups based on their level of proactiveness, innovativeness, and risk-taking. Individuals who scored a 4 or 5 on the IEO scale were considered more innovative, proactive, or risk-taking, whereas CSBOs who scored a 1 or 2 were considered less innovative, proactive, or risk-taking. Scores of 3 did not indicate more or less EO.

CSBO responses to the second portion of the survey were not categorized. Scores of frequency of business activities were simply compared to higher or lower levels of entrepreneurial orientation. In this study, scores of 5 or 6 on the school business instrument were considered to have a higher level (frequency) of pro-business activity, while scores of 1 or 2 had a lower level (frequency) of pro-business activity.

From a data analysis perspective, multiple statistical procedures were used. Descriptive statistical techniques were used to analyze responses to survey instrument items. These techniques included frequency distributions and correlation. In this case, correlation coefficients were used to determine the relationship between the independent measures of innovativeness, proactiveness, and risk-taking independently and the dependent measure of school business performance as a singular construct. Importantly, the researcher is interested in whether there is a relationship between higher levels of innovativeness, proactiveness, and risk-taking and business activities that promote revenue generation or revenue savings.

## **Summary of Methodology**

A review of literature from the last 20 years in the field of EO is generally behavioral based in nature and focuses heavily on its relation to business performance. Additionally, performance of K-12 public schools and CSBOs in New York State and across the country relies heavily on quantitative metrics. Some examples of this include budget passage rates and organizational fiscal stress scores (New York State Office of the State Comptroller, 2018). This survey-based study aimed to further investigate the influence that EO, as perceived (or reported on) by CSBOs, has on business performance, specifically in K-12 small rural public schools. When appropriately applied, the correlational, cross-sectional survey design is considered an effective way of studying populations and their behaviors (Dillman, Smyth, & Christian, 2014).

A survey consisting of the IEO instrument (Bolton & Lane, 2011) and a face valid school business performance instrument was distributed to a randomly selected sample of 200 subjects in rural New York State schools. The response rate was 41.5% ( $N=83$ ). Due to the sensitive nature of the questions and participant responses, anonymity was maintained throughout the process.

## **Chapter 4: Findings and Results**

Entrepreneurial orientation has been shown to positively influence business performance in private, higher education, public, and non-profit sectors (Cleverley-Thompson, 2016; Kim, 2010; Morris, Coombes, & Schindehutte, 2007; Riggs, 2005; Semrau, Ambos, & Kraus, 2015). However, an investigation of entrepreneurial orientation's relationship to the K-12 education field has not been explored. This study looked to examine whether chief school business officials (CSBOs) consider themselves to be entrepreneurially oriented and whether their entrepreneurial orientation (EO) expressed a correlational relationship to frequency of CSBO pro-business performance activities in rural upstate New York State K-12 school districts.

### **Research Questions**

Two main research questions have been investigated for this study:

1. How do chief school business officials in small rural K-12 public education settings identify themselves on the entrepreneurial characteristics of innovativeness, proactiveness, and risk-taking as outlined in entrepreneurial orientation theory?
2. What is the relationship between scores on the Individual Entrepreneurial Orientation scale by chief school business officials in small rural K-12 public education settings and frequency of school pro-business activity (revenue saving/generating)?

Correlational studies often have hypotheses. In this study, the following hypotheses were generated from the second research question that informed this study:

1. There is a significant positive correlation between *innovativeness* and higher frequency of pro-business practices.
2. There is a significant positive correlation between *proactiveness* and higher frequency of pro-business practices.

### **Study Sample Descriptive Statistics**

A total of 83 participants from a random sample of 200 completed the survey of self-perceived entrepreneurial orientation and frequency of pro-school business performance activities. This yielded a 41.5% response rate. Table 4.1 reports the sample characteristics in terms of gender, age, employment type, years in current role, years in education, and years in non-education fields. Participants who did not respond to the business performance or demographic question sets were referred to as NR.

### **Entrepreneurial Orientation**

Bolton and Lane's (2011) instrument was used to measure the independent self-perceived levels of risk-taking, proactiveness, and innovativeness of chief school business officials in rural New York State K-12 schools (Appendix C).

Table 4.1

*Demographics of Study Sample*

Characteristic	N	%
<b>Gender</b>		
Female	41	49.4%
Male	39	47.0%
Chose Not to Identify	1	1.2%
NR	2	2.4%
<b>Age</b>		
20-29	2	2.4%
30-39	12	14.5%
40-49	20	24.1%
50-59	35	42.2%
60+	10	12.0%
Left Blank	4	4.8%
<b>Employment Type</b>		
Civil Service	25	30.1%
SDBL	32	38.6%
SBL	3	3.6%
Other Certified	17	20.5%
Other (General)	4	4.8%
Left Blank	2	2.4%
<b>Years in Current Role</b>		
<10	52	62.7%
10-19	15	18.1%
20-29	13	15.7%
30+	1	1.2%
Left Blank	2	2.4%
<b>Years in Education</b>		
<10	20	24.1%
10-19	29	34.9%
20-29	29	34.9%
30+	3	3.6%
Left Blank	2	2.4%
<b>Years in Non-Education</b>		
<10	39	47.0%
10-19	25	30.1%
20-29	11	13.3%
30+	5	6.0%
Left Blank	3	3.6%

*Note.* SDBL = School District Business Leader Certification, SBL = School Business Leader Certification

Table 4.2

*Means (and Standard Deviations) of Entrepreneurial Orientation Characteristics Overall and by Subgroup*

Characteristic	N	Risk-Taking	Proactiveness	Innovativeness
Overall	81	3.25 (.71)	4.15 (.58)	3.33 (.69)
Gender				
Female	41	3.13 (.67)	4.26 (.54)	3.34 (.65)
Male	39	3.38 (.75)	4.05 (.60)	3.31 (.74)
Employment Type				
Certified	52	3.31 (.79)	4.22 (.62)	3.33 (.69)
Uncertified	29	3.13 (.51)	4.01 (.48)	3.32 (.70)
Years in Current Role				
<10	52	3.20 (.64)	4.09 (.61)	3.33 (.69)
10-19	15	3.64 (.81)	4.16 (.55)	3.53 (.78)
20-29	13	2.97 (.68)	4.36 (.44)	3.10 (.62)
30+	1	3.33	4.33	3.50
Years in Education				
<10	20	3.20 (.58)	4.10 (.62)	3.28 (.74)
10-19	29	3.41 (.75)	4.07 (.59)	3.52 (.73)
20-29	29	3.18 (.73)	4.24 (.56)	3.18 (.61)
30+	3	2.56 (.69)	4.33 (.33)	3.33 (.38)
Years in Non-Education				
<10	39	3.27 (.69)	4.18 (.60)	3.38 (.59)
10-19	25	3.40 (.75)	4.13 (.55)	3.45 (.77)
20-29	11	3.19 (.82)	4.16 (.58)	3.20 (.81)
30+	5	2.68 (.21)	4.00 (.49)	2.57 (.36)
NR	1	2.33	4.00	3.75

Scores of “1” on the entrepreneurial orientation scale equate to “strongly disagree”, scores of “2” equate to “disagree”, scores of “3” equate to “neither agree nor disagree,” scores of “4” equate to “agree,” and scores of “5” equate to “strongly agree.” The scale descriptive statistics (overall and disaggregated by group) are reported in Table 4.2 As seen in Table 4.2, overall chief school business officials in this sample population indicated that (on average) they perceived themselves very closely to “neither agree nor

disagree” to risk-taking (mean of 3.25) and innovativeness (mean of 3.33). CSBOs rated themselves as very closely to “agree” in terms of proactiveness (mean of 4.15).

### **Relationship Between Risk-taking and Pro-Business Frequency**

The first sub-scale identified in the entrepreneurial orientation measurement instrument (Bolton & Lane, 2011) is risk-taking. No hypothesis surrounding risk-taking was generated as K-12 schools are typically seen as more controlled, rigid, and hierarchical (Aydin, Ozfidan, Carothers, 2017). CSBOs in New York State’s K-12 environment are encouraged to avoid risk in the execution of their duties (New York State Office of the State Comptroller, 2018). However, as risk-taking is one of the three main components of Bolton and Lane’s (2011) entrepreneurial orientation instrument, an investigation was completed. The analysis of the data for this study identified that there was a weak non-significant relationship between risk-taking and business performance. The most frequently used statistic to measure the strength of the relationship between two variables in the correlation coefficient (Einspurch, 2005). In this study, an uncontrolled Pearson product-moment correlation coefficient test was used at the bivariate level. In this case, if the value of  $r$  was 1 when looking at risk-taking and business performance, then the researcher could infer that for every 1-point increase in risk-taking, there would be a 1-point increase in reported frequency of business performance activity. In this study, a Pearson product-moment coefficient test resulted in an  $r$  value of .09, suggesting a weak relationship between the two variables of risk-taking and business performance.

Additionally, a controlled standardized regression coefficient was performed in order to determine the relationship between risk-taking and business performance while removing the influence of the other two variables in this study of innovativeness and

proactiveness. Again, results suggested that there was a non-significant weak relationship between risk-taking and business performance. A summary of results is listed in Table 4.3 as follows.

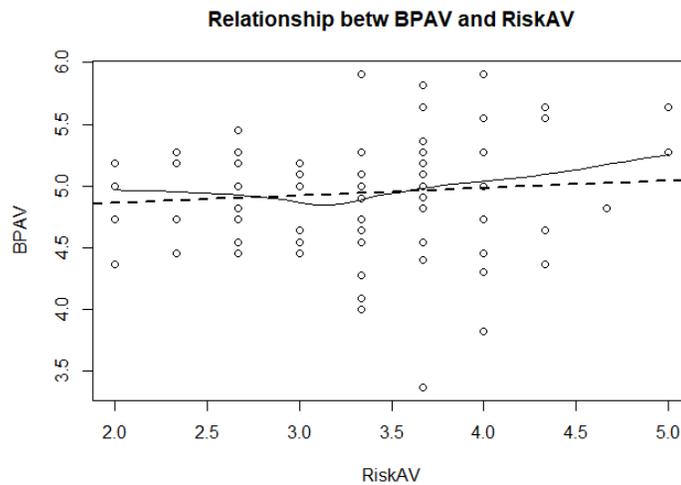
Table 4.3

*Summary of Correlational Analysis for Risk-taking and Pro-Business Frequency*

Correlational Analyses	Statistical Outcomes		
	<i>n</i>	<i>r</i>	<i>p</i>
Pearson Coefficient	81	.09	-
Standardized Regression Coefficient	81	.02	.78

*Note.* *n* = number of CSBOs. *r* = correlation statistic. *p* = level of significance ( $\alpha = 0.05$ )

Finally, a scatterplot graph was prepared to visually portray both the best-fit linear regression line (dashed line) and loess regression line (solid line). This information is shown in Figure 4.1 as follows.



*Figure 4.1.* Relationship between Pro-Business Frequency and Risk-taking. BPAV = Average Business Performance Score for each CSBO. RiskAV = Average Risk-Taking score for each CSBO.

## Relationship Between Innovativeness and Pro-Business Frequency

The first hypothesis indicated that there would be a significant positive correlation between self-perceived innovativeness as measured the individual entrepreneurial orientation scale and higher frequencies of pro-business practices as measured by the self-developed school business performance instrument. The analysis of this data shows a weak non-significant correlation, which means that there was a failure to reject the null, thusly finding no support for this hypothesis. The Pearson product-moment coefficient test resulted in an  $r$  value of .12, suggesting a weak relationship between the two variables of innovativeness and business performance.

In addition, a controlled standardized regression coefficient was performed in order to determine the relationship between innovativeness and business performance while removing the influence of the other two variables of risk-taking and proactiveness. Again, results suggested that there was a weak non-significant relationship between innovativeness and business performance. A summary of results is listed in Table 4.4 as follows.

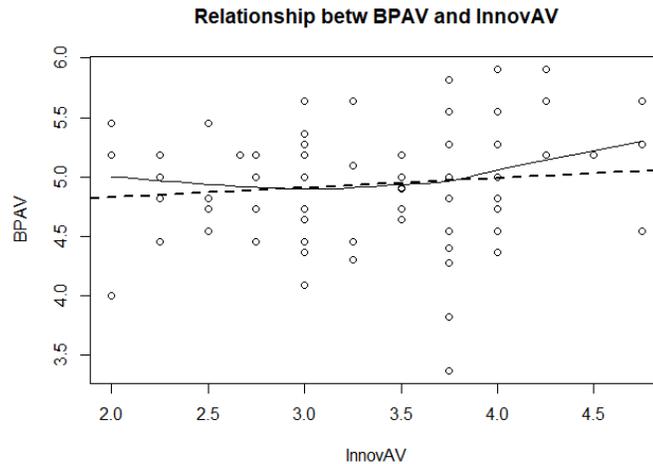
Table 4.4

### *Summary of Correlational Analysis for Innovativeness and Pro-Business Frequency*

Correlational Analyses	Statistical Outcomes		
	$n$	$r$	$p$
Pearson Coefficient	81	.12	-
Standardized Regression Coefficient	81	.01	.93

*Note.*  $n$  = number of CSBOs.  $r$  = correlation statistic.  $p$  = level of significance ( $\alpha = 0.05$ )

Finally, a scatterplot graph was prepared to visually portray both the best-fit linear regression line (dashed line) and loess non-linear regression line (solid line). This information is shown in Figure 4.2 as follows.



*Figure 4.2.* Relationship between Pro-Business Frequency and Innovativeness. BPAV = Average Business Performance Score for each CSBO. InnovAV = Average Innovativeness score for each CSBO.

### **Relationship Between Proactiveness and Pro-Business Frequency**

The second and final hypothesis indicated that there would be a significant positive correlation between self-perceived proactiveness as measured the individual entrepreneurial orientation scale and higher frequencies of pro-business practices as measured by the self-developed school business performance instrument. The analysis of the data for this study indicated that there was a relationship between scores of proactiveness and frequencies of pro-business practices. Here, the Pearson product-moment coefficient test resulted in an  $r$  value of .42, suggesting that a relationship between the two variables of proactiveness and frequency of pro-business activities exists.

In addition, a controlled standardized regression coefficient was performed in order to determine the relationship between proactiveness and business performance while removing the influence of the other two variables of risk-taking and innovativeness. Significance was measured at  $r = .34$  ( $p < .05$ ). Again, results suggested that there is a relationship between proactiveness and frequency of pro-business activities. A summary of results is listed in Table 4.5 as follows.

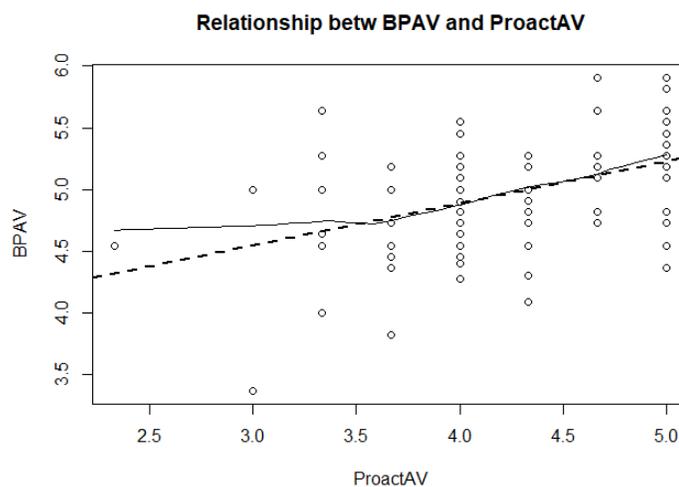
Table 4.5

*Summary of Correlational Analysis for Proactiveness and Pro-Business Frequency*

Correlational Analyses	Statistical Outcomes		
	<i>n</i>	<i>r</i>	<i>p</i>
Pearson Coefficient	81	.42	-
Standardized Regression Coefficient	81	.34	.00

*Note.* *n* = number of CSBOs. *r* = correlation statistic. *p* = level of significance ( $\alpha = 0.05$ )

Finally, a scatterplot graph was prepared to visually portray both the best-fit linear regression line (dashed line) and loess non-linear regression line (solid line). This information is shown in Figure 4.3 as follows.



*Figure 4.3.* Relationship between Pro-Business Frequency and Proactiveness. BPAV = Average Business Performance Score for each CSBO. ProactAV = Average Proactiveness score for each CSBO.

### **Conclusion**

This study consisted of 83 randomly sampled participants who completed an electronic survey consisting of questions measuring demographic characteristics, entrepreneurial orientation, and frequency of pro-business activities. Results from this sample will assist the researcher in inferring characteristics of the larger population that includes a total of 333 potential CSBOs in New York State. Overall, CSBOs see themselves as innovative, but neither agree nor disagree that they are risk-taking or proactive. However, at the bivariate level, results suggest that proactiveness is a greater predictor of business performance than risk-taking or innovativeness.

Chapter 5 integrates these findings with past research on entrepreneurial orientation and its relationship to business performance. Implications for practitioners, recommendations for future research, and study limitations will be presented.

## **Chapter 5: Discussion**

### **Introduction**

As K-12 educational institutions encounter an increasingly challenging 21<sup>st</sup> century – where market competition, performance expectations, and fiscal constraints are on the rise (Ellerson, 2016; Neely, 2015; Walker, 2017) – school districts are challenged to look for additional ways of creating savings and generating revenue. Many researchers have identified that higher levels of entrepreneurial orientation in organizational leaders and employees can improve business performance in the private, non-profit, higher education, and public sector setting (Lumpkin & Dess; 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Semrau, Ambos, & Kraus, 2016; Wales, Gupta, & Mousa, 2013).

This research investigated the self-perceived individual entrepreneurial orientation (IEO) of chief school business officials (CSBOs) in rural K-12 school districts in New York State. In order to ascertain IEO, an instrument devised by Bolton and Lane (2011) was administered. Through this instrument, the independent dimensions of risk-taking, innovativeness, and proactiveness were measured. Additionally, the study investigated the relationship between self-perceived IEO of CSBOs and frequency of CSBO pro-business activities using an exploratory school business performance tool. Chapter 4 outlined results and findings. The implications of these findings, the limitations of the research, recommendations for future research, and a summary of the research study are outlined in this chapter.

## **Implications of Findings**

The survey implemented in this study provides insight into the beliefs and perceptions of CSBOs in rural K-12 New York State school districts. This study provides an initial investigation of levels of IEO of CSBOs in New York State and its relationship to an exploratory school business performance measure. However, the results of the study can be extrapolated for further research surrounding these concepts and their potential implications for the field of K-12 education.

**Individual entrepreneurial orientation.** Covin and Slevin (1989) and Lumpkin and Dess (1996) have identified three main dimensions of entrepreneurial orientation including risk-taking, innovativeness, and proactiveness. Bolton and Lane (2011) used these three constructs to develop the instrument used in this study (Appendix C).

Research findings in this study suggest that CSBOs in rural K-12 New York school districts perceive themselves (on average) as very closely to “neither agree nor disagree” when looking at both risk-taking and innovativeness, independently. This suggests that these CSBOs do not consider themselves to be more or less risk-taking or innovative when answering questions on the IEO instrument as outlined by Bolton and Lane (2011).

However, these CSBOs (on average) generally “agree” that they are proactive. This suggests that CSBOs in this study agree that they are proactive by nature. This result is similar to what Cleverley-Thompson (2016) found when looking at academic deans in higher education in upstate New York. They also saw themselves as proactive in nature. It is important to note that research indicates that higher levels of IEO equate to higher levels of business performance in other sectors (Lumpkin & Dess; 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Semrau, Ambos, & Kraus, 2016; Wales, Gupta, &

Mousa, 2013). Recognizing that CSBOs don't "strongly agree" to any dimension (risk-taking, proactiveness, or innovativeness) overall provides insight into self-perceived IEO of CSBOs. They simply do not consider themselves as entrepreneurially oriented when looking at the constructs of innovativeness and risk-taking as determined by Bolton and Lane's (2011) IEO instrument. However, this research indicates that CSBOs do generally "agree" that they are proactive in nature.

**Multidimensionality.** Furthermore, this research supports the multidimensional assertion made by Kreiser et al. (2002) whereby the three dimensions (innovativeness, risk-taking, and proactiveness) as outlined by Covin and Slevin (1989) and Lumpkin and Dess (1996) can act independently to improve business performance. In this study, proactiveness was positively correlated to frequency of pro-business revenue savings and revenue generating activities. Yet, a weak non-significant relationship was demonstrated between risk-taking / school business performance and innovativeness / school business performance, respectively. Knowing that only one dimension – proactiveness – correlates with frequency of pro-business practices, supports the multidimensionality of the three constructs as outlined by Kreiser et al. (2002).

**Non-competitive nature of K-12 education.** An identified gap in the literature on entrepreneurial orientation relates to the fact that much of the research on the entrepreneurial orientation – business performance linkage has focused on organizations that have succeeded. Success of an organization in for profit industry is typically tied to long term viability.

Currently in K-12 education, success is not necessarily tied to business performance but instead linked to educational opportunities and outcomes. Of

consideration in this study and in line with findings, taking risks and innovativeness may not be of great importance in K-12 education, where organizations do not have to depend on entrepreneurialism as a requirement for organizational survival. School districts in New York State do not file for bankruptcy and close their doors. Much of their revenue is generated through local taxation or state aid (state aid is another form of tax dollars). There may be less impetus to be innovative or risk-taking in educational settings, as the likelihood of organizational failure is exceptionally low and organizational success is viewed and measured differently.

**Moderating and mediating factors.** Moderating and mediating factors are also of importance in the peer reviewed literature and have been shown to positively or negatively impact that IEO-business performance linkage. Some of these factors that may impact this research include regulatory structures and managerial expectation.

**Regulatory structures.** Regulatory structures may be impacting the relationship between entrepreneurial orientation and business performance in rural K-12 school districts in New York State. Neely (2015) discussed the challenges that schools have in meeting federal regulations and guidelines in order to receive funding. Rural K-12 schools in New York not only face myriad challenges from federal guidelines, but also in the form of New York State regulations, county regulations (like Civil Services rules, taxation rules, etc.), board of education policy, regulations, and procedures, and local ordinances. As Vij and Bedi (2012) note, , “... entrepreneurial orientation needs to be associated with low structural formalization, decentralization and low complexity inherent in the organic organization structures for better performance” (p. 23). This is not necessarily the case for CSBOs in rural New York State K-12 settings. When confronted

with these challenges, professionals in the field may become more risk averse and have limited opportunity for innovativeness. School districts in New York State may look to hire professionals who have these characteristics as well as they may be more likely to thrive in this setting. Although there is no definitive evidence to suggest that that issue is present in this study, it is an important consideration when viewing this research.

***Managerial expectation.*** Rural and small K-12 New York school districts are governed by a board of education. Diochan's (2010) research indicates that the expectations of the governing body will impact the entrepreneurial orientation - business performance linkage. This could be of consideration in this study when looking at the weak correlation between two of the constructs (risk-taking and innovativeness) and business performance. The school board's willingness to hire and retain entrepreneurially oriented CSBOs could be a moderating factor of the relationship while their willingness to take risks and be innovative could be a mediating factor as well. According to Davis, Bell, Payne, and Kreiser (2010), top managers power also moderates this relationship between entrepreneurial orientation and business performance. Therefore, the power exerted by the superintendent and the tolerance for IEO could be an influence in the results demonstrated in this study. Although there is no definitive evidence to suggest that that issue is present in this study, it is an important consideration when viewing this research.

***Individual-opportunity nexus theory.*** The individual-opportunity nexus theory (IO nexus theory) suggests that entrepreneurialism can only occur when the entrepreneurially oriented individual is coupled with the right opportunity (Shane & Venkataraman, 2000). When considering the potential moderating and mediating factors

outlined above, opportunity may be reduced. If opportunity is reduced, the IO nexus theory would suggest that the relationship between the individual and business performance could be mediated by a lack of opportunity. Again, although there is no definitive evidence to suggest that that issue is present in this study, it is an important consideration when viewing this research.

### **Limitations**

The results of this research study should be approached with caution. The first and most apparent limitation is the fact that the self-developed business performance instrument used in this study was not validated through research and statistically tested. Future studies could examine the strength of this measure. This would provide an improved framework for assessing school business performance in K-12 settings.

Additionally, the survey design in this study was dependent on perception data. Although perception data is good at understanding individuals' opinions and beliefs related to all sorts of natural phenomena, they are not necessarily the best empirical test in research. According to self-enhancement theory, individuals typically take a tendentiously positive view of themselves (Sedikides & Gregg, 2008). This may be especially relevant in this research where frequency of pro-business performance is reported by the individuals who are responsible for completing the work. The CSBOs in this study may be biased towards positive reporting of their activities.

Another limitation includes the fact that no data were collected from non-CSBO stakeholders. When looking at the IEO – business performance relationship, having voices that include such individuals as members of the board of education, the superintendent of schools, other administrators, staff members, and subordinate

employees could provide a broader spectrum of perspective than solely the beliefs of the CSBO. As detailed above, recognizing that the CSBO would be unlikely to rank oneself lowly in terms of IEO and business performance activities is certainly a consideration in this research.

A final limitation relates to the demographics of the study population. When looking that the years of service in the current role as CSBO, 52 (62.7%) of the participants had less 10 years of experience with 31 (37%) having less than 5 years of experience. New CSBOs may be less likely to complete tasks that are pro-business in nature simply as a product of the time it requires for new learning. As noted by the New York State Association of School Business Officials (2018), CSBOs have a significant number of organizational responsibilities. Getting to a point where frequency of pro-business activity likely takes years or decades. This may have impacted the results the correlational relationship between IEO and business performance. Future analysis could look at the impact of this consideration.

### **Recommendations**

The researcher recommends that employers continue to seek out practitioners who exhibit proactive characteristics. The research in this study concluded that there was a correlation between self-perceived proactiveness and higher frequencies of K-12 pro-business school activities. When CSBOs actively look for ways to create savings or generate revenue, critical resources can potentially be diverted to additional programs and services for students, families, and communities. Recognizing that this correlational linkage is not a causal link is important, yet the relationship still exists as demonstrated in this research.

This study uncovered many opportunities for future research. In line with the limitations, some areas that could be studied include the development of a reliable and valid school business performance instrument, a 360-degree assessment of CSBOs IEO, and expanding research beyond New York State. In recognition of the fact that the school business performance tool used in this study was exploratory in nature, future research may look to test or improve this measure. Currently, there is no identifiable measure of school business performance by which leaders and districts can quantify school business productivity and success.

Another recommendation includes the inclusion of others in the determination of level of IEO in CSBOs. This study looked only at the self-perceived IEO of CSBOs. It would be useful to incorporate perceptions of IEO by other members of the school community that could include the superintendent, other business office staff, instructional staff, support staff, and board of education members. By providing a 360-degree view of the CSBOs IEO, a more robust assessment of IEO of CSBOs in schools could be achieved.

As this study focused only on New York State K-12 rural public-school districts, future research could be expanded beyond New York State. In the United States, every state has a governing body or Department of Education that moderates educational institutions within their state. Not only would further research in other states provide a broader base from which to view the relationship between IEO and school business performance, but it may also provide insight into whether or not the findings from this study are reflective of what is occurring in the rest of the United States.

Additionally, when taking into consideration collected demographic information; this research had no meaningful way of assessing the impact of demographics. Despite the fact that this research identified a nearly 50/50 split on gender and established baselines for various experience related demographics, another avenue of inquiry may include looking at the impact of gender, age, or years of experience on the EO – business performance linkage in K-12 public institutions. Subsequent research may explore demographics as a potential factor in or around the relationship of EO and business performance.

Most importantly and in recognition of the fact that this is the first known study to look at the relationship between IEO characteristics and business performance in K-12 educational settings, it is recommended that future research in this area be continued. For decades, research on EO has focused primarily on the private sector and only more recently on the non-profit, higher education, and public domains. This research is proving to be beneficial in exploring the benefits of IEO to these fields, especially in terms of business performance (Lumpkin & Dess; 1996; Rauch, Wiklund, Lumkin, & Frese, 2009; Semrau, Ambos, & Kraus, 2016; Wales, Gupta, & Mousa, 2013). At this point, it can be conclusively contended that certain IEO constructs influence (positively or negatively) business performance in K-12 schools.

## **Conclusion**

The research conducted in this study provided a number of contributions to the field of K-12 education. Specifically, the author established that meaningful progress can be made towards identifying the main competencies that CSBOs need in order to demonstrate effectiveness. This was done through the development of an exploratory

school business performance instrument. To date, this is the first study that looks to quantify these competencies in a meaningful way. This instrument could have practical implications for practitioners and employers alike as they look to quantify the effectiveness of their school business leaders and departments.

Additionally, this study is one of the first to investigate behavioral characteristics of K-12 school business professionals. There is a dearth of research in this field that attempts to look at CSBOs – the individuals who are responsible for revenue generating and revenue savings activities. The IEO scale is just one of many business-related instruments that could be used to assess characteristics of CSBOs. This study provides a starting point for a much larger conversation surrounding what characteristics lead to business success in schools. It is apparent through this research that the IEO – business performance linkage is not nearly as strong in K-12 education as it is in other sectors based on the exploratory methods used in this study.

Finally, this research demonstrates that proactiveness is related to business performance in K-12 New York State rural school districts. Although we do not fully understand all the moderating and mediating factors that affect this relationship, this research suggests that proactiveness will increase frequencies of pro-business activities in this setting. In acknowledgement of this, rural K-12 school districts in New York State should take this into consideration when hiring and retaining CSBOs.

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## Appendix A

### List of Districts that fit Criteria for Survey Distribution

<b>Count</b>	<b>2017-18 School Year</b>	<b>SPARSITY FACTOR</b>	<b>PUBLIC ENROLL EST.</b>
1	TUCKAHOE COMMO	0.005	290
2	LE ROY	0.010	1,219
3	SAUQUOIT VALLE	0.012	1,032
4	HALDANE	0.019	843
5	PHOENIX	0.022	1,735
6	CANASTOTA	0.023	1,341
7	SPRINGS	0.026	709
8	SUSQUEHANNA VA	0.028	1,457
9	SCHALMONT	0.033	1,852
10	ORISKANY	0.036	595
11	FRANKFORT-SCHU	0.039	966
12	MANCHSTR-SHRTS	0.042	786
13	SENECA FALLS	0.056	1,294
14	PAWLING	0.062	1,139
15	KINDERHOOK	0.067	1,756
16	WESTMORELAND	0.072	911
17	LITTLE FALLS	0.084	1,126
18	DOVER	0.088	1,359
19	COXSACKIE ATHE	0.090	1,335
20	RAVENA COEYMAN	0.090	1,815
21	JORDAN ELBRIDG	0.092	1,228
22	OWEGO-APALACHI	0.092	1,993
23	STILLWATER	0.094	1,055
24	SCHUYLERVILLE	0.094	1,580
25	AVON	0.102	1,004
26	EDEN	0.106	1,320
27	FALLSBURG	0.111	1,393
28	WEEDSPORT	0.114	825
29	CATSKILL	0.115	1,428
30	WHEATLAND CHIL	0.116	688

31	BROADALBIN-PER	0.118	1,726
32	LANSING	0.119	1,219
33	LA FAYETTE	0.120	849
34	WATERLOO CENT	0.124	1,615
35	LIBERTY	0.129	1,655
36	SODUS	0.136	1,030
37	MEDINA	0.137	1,533
38	LIVONIA	0.141	1,477
39	SKANEATELES	0.142	1,374
40	WAVERLY	0.146	1,505
41	MAYFIELD	0.150	921
42	GENERAL BROWN	0.152	1,437
43	AKRON	0.154	1,383
44	BEEKMANTOWN	0.154	1,878
45	MARION	0.158	712
46	BRUNSWICK CENT	0.158	1,193
47	SHERRILL	0.158	1,824
48	HOLLEY	0.160	950
49	RHINEBECK	0.160	1,042
50	WILSON	0.163	1,128
51	SALAMANCA	0.163	1,152
52	NORWICH	0.165	1,789
53	PHELPS-CLIFTON	0.172	1,547
54	BRIDGEHAMPTON	0.173	184
55	HANNIBAL	0.173	1,360
56	MOUNT MORRIS	0.176	595
57	PULASKI	0.178	1,010
58	CORINTH	0.178	1,174
59	WESTFIELD	0.181	664
60	MEXICO	0.181	1,991
61	ROYALTON HARTL	0.184	1,243
62	BATH	0.184	1,502
63	LYONS	0.186	900
64	QUOGUE	0.188	94
65	FALCONER	0.191	1,130
66	DRYDEN	0.201	1,487
67	BROCTON	0.203	533
68	MONTAUK	0.213	278
69	GROTON	0.216	821
70	ALBION	0.216	1,817
71	WINDSOR	0.220	1,611

72	POTSDAM	0.225	1,294
73	SHELTER ISLAND	0.226	204
74	CALEDONIA MUMF	0.228	800
75	PORTVILLE	0.228	967
76	EAST BLOOMFIEL	0.232	882
77	PEMBROKE	0.232	930
78	REMSENBURG	0.233	143
79	FORT PLAIN	0.234	796
80	FREWSBURG	0.240	778
81	BEMUS POINT	0.241	688
82	TRUMANSBURG	0.241	1,059
83	HOOSIC VALLEY	0.242	925
84	CAZENOVIA	0.243	1,436
85	GRANVILLE	0.244	1,052
86	RONDOUT VALLEY	0.244	1,909
87	NEWFIELD	0.245	762
88	SIDNEY	0.247	1,084
89	LAKE GEORGE	0.248	778
90	SPRINGVILLE-GR	0.248	1,737
91	GOWANDA	0.252	1,172
92	ELLENVILLE	0.253	1,629
93	HOOSICK FALLS	0.254	1,119
94	PORT BYRON	0.257	872
95	DUANESBURG	0.258	700
96	PERU	0.259	1,900
97	GENESEO	0.261	866
98	MILLBROOK	0.261	930
99	BYRON BERGEN	0.263	886
100	WELLSVILLE	0.263	1,222
101	HOMER	0.264	1,891
102	NORWOOD NORFOL	0.266	973
103	SALMON RIVER	0.266	1,466
104	HOLLAND PATENT	0.267	1,382
105	DANSVILLE	0.267	1,417
106	PERRY	0.271	781
107	OAKFIELD ALABA	0.271	789
108	WARSAW	0.271	863
109	SCHOHARIE	0.272	889
110	HOLLAND	0.272	894
111	RED CREEK	0.276	869
112	SACKETS HARBOR	0.277	451

113	HAMILTON	0.277	543
114	FISHERS ISLAND	0.279	66
115	ALEXANDER	0.283	847
116	YORK	0.287	696
117	TULLY	0.287	812
118	YORKSHRE-PIONE	0.287	2,378
119	GARRISON	0.288	215
120	UNION SPRINGS	0.288	825
121	NORTH COLLINS	0.290	586
122	CAIRO-DURHAM	0.291	1,191
123	KENDALL	0.292	654
124	WATERVILLE	0.292	764
125	TIOGA	0.292	943
126	GREENWICH	0.293	996
127	FONDA FULTONVI	0.293	1,301
128	BARKER	0.295	750
129	NORTHEASTERN	0.295	1,310
130	TUXEDO	0.297	252
131	WHITNEY POINT	0.298	1,383
132	STOCKBRIDGE VA	0.300	422
133	MCGRAW	0.300	547
134	CANTON	0.301	1,232
135	MORIAH	0.302	688
136	ALLEGANY-LIMES	0.303	1,140
137	N. ROSE-WOLCOT	0.304	1,180
138	COBLESKL-RICHM	0.307	1,699
139	CATO MERIDIAN	0.308	904
140	LYNDONVILLE	0.313	584
141	OTEGO-UNADILLA	0.314	849
142	PAVILION	0.318	678
143	CANAJOHARIE	0.318	882
144	CAMPBELL-SAVON	0.319	835
145	CLYDE-SAVANNAH	0.320	775
146	CANDOR	0.321	730
147	CHATHAM	0.323	1,056
148	GREENVILLE	0.323	1,156
149	CAMBRIDGE	0.325	875
150	S. JEFFERSON	0.325	1,866
151	ATTICA	0.327	1,233
152	GALWAY	0.328	819
153	SHERBURNE EARL	0.328	1,294

154	FRIENDSHIP	0.329	333
155	MADISON	0.329	448
156	CHAZY	0.329	449
157	HARPURSVILLE	0.329	760
158	ELBA	0.331	352
159	COOPERSTOWN	0.331	860
160	WAYLAND-COHOCT	0.331	1,275
161	NORTHEAST	0.332	671
162	ARGYLE	0.333	500
163	GERMANTOWN	0.333	516
164	MORRISVILLE EA	0.333	633
165	SARANAC	0.334	1,441
166	NEWARK VALLEY	0.335	1,142
167	ODESSA MONTOUR	0.336	753
168	PANAMA	0.339	467
169	MT MARKHAM CSD	0.339	1,074
170	AFTON	0.343	606
171	BOLIVAR-RICHBG	0.344	735
172	CHAUTAUQUA	0.344	783
173	PENN YAN	0.344	1,368
174	MORAVIA	0.346	965
175	AMAGANSETT	0.347	86
176	GREENE	0.348	943
177	WATKINS GLEN	0.348	1,042
178	HINSDALE	0.349	412
179	BAINBRIDGE GUI	0.349	767
180	FABIUS-POMPEY	0.351	631
181	ARKPORT	0.352	448
182	HARTFORD	0.353	422
183	GORHAM-MIDDLES	0.354	1,163
184	ALTMAR PARISH	0.357	1,180
185	SALEM	0.358	549
186	BRUSHTON MOIRA	0.358	750
187	HONEOYE	0.360	593
188	MARATHON	0.360	705
189	GOUVERNEUR	0.360	1,510
190	LETCHWORTH	0.361	903
191	WEST CANADA VA	0.362	734
192	COPAKE-TACONIC	0.362	1,320
193	OXFORD	0.365	743
194	ADDISON	0.366	1,064

195	ALEXANDRIA	0.367	523
196	UNADILLA	0.367	783
197	PINE PLAINS	0.367	894
198	LISBON	0.368	571
199	DUNDEE	0.368	644
200	MILFORD	0.369	360
201	BERNE KNOX	0.369	777
202	CAMDEN	0.369	2,048
203	SPENCER VAN ET	0.370	896
204	MALONE	0.371	2,221
205	BRASHER FALLS	0.372	1,036
206	OP-EPH-ST JHNS	0.373	707
207	CASSADAGA VALL	0.373	832
208	ALFRED ALMOND	0.374	606
209	WHITEHALL	0.374	728
210	SCIO	0.376	350
211	ANDOVER	0.378	317
212	FILLMORE	0.378	638
213	NAPLES	0.378	676
214	LAURENS	0.380	309
215	LYME	0.380	337
216	LA FARGEVILLE	0.380	553
217	ELLCOTTVILLE	0.381	622
218	STAMFORD	0.382	272
219	WORCESTER	0.382	340
220	HAMMONDSPORT	0.382	454
221	FORESTVILLE	0.383	448
222	DALTON-NUNDA	0.383	642
223	WALTON	0.384	948
224	NEW LEBANON	0.387	416
225	CLYMER	0.388	435
226	ELDRED	0.388	550
227	MADRID WADDING	0.388	666
228	SOUTH SENECA	0.388	685
229	TICONDEROGA	0.388	758
230	CUBA-RUSHFORD	0.388	838
231	FRANKLINVILLE	0.389	660
232	TRI VALLEY	0.391	983
233	LOWVILLE	0.391	1,312
234	MORRIS	0.392	337
235	CANISTEO-GREEN	0.392	967

236	BELFAST	0.395	340
237	SCHENEVUS	0.395	363
238	CHARLOTTE VALL	0.395	379
239	BELLEVILLE-HEN	0.397	456
240	SHARON SPRINGS	0.398	243
241	CATTARAUGUS-LI	0.398	863
242	GLBTSVLE-MT U	0.399	351
243	AVOCA	0.399	434
244	ROMULUS	0.400	408
245	RICHFIELD SPRI	0.400	422
246	HEUVELTON	0.400	527
247	DOLGEVILLE	0.400	856
248	BRADFORD	0.402	261
249	COPENHAGEN	0.402	455
250	PINE VALLEY	0.402	525
251	RIPLEY	0.403	134
252	ONTEORA	0.403	1,281
253	REMSEN	0.405	406
254	OYSTERPONDS	0.407	69
255	BERLIN	0.407	688
256	WARRENSBURG	0.407	725
257	DEPOSIT	0.408	506
258	SULLIVAN WEST	0.408	1,082
259	WHITESVILLE	0.409	204
260	FORT ANN	0.409	452
261	MIDDLEBURGH	0.410	711
262	MORRISTOWN	0.411	323
263	PRATTSBURG	0.411	350
264	EDMESTON	0.411	392
265	GENESEE VALLEY	0.411	480
266	SOUTHERN CAYUG	0.411	664
267	HERMON DEKALB	0.412	398
268	CHATEAUGAY	0.412	503
269	BROOKFIELD	0.413	230
270	DE RUYTER	0.413	350
271	DELHI	0.413	761
272	FRANKLIN	0.414	259
273	THOUSAND ISLAN	0.414	908
274	SANDY CREEK	0.415	788
275	SHERMAN	0.416	396
276	CINCINNATUS	0.418	532

277	LAKE PLACID	0.419	650
278	AUSABLE VALLEY	0.420	1,122
279	BEAVER RIVER	0.421	848
280	WEST VALLEY	0.422	223
281	S. KORTRIGHT	0.422	350
282	RANDOLPH	0.423	898
283	JEFFERSON	0.424	222
284	NORTH WARREN	0.424	507
285	HADLEY LUZERNE	0.424	695
286	JASPER-TRPSBRG	0.426	449
287	ADIRONDACK	0.426	1,210
288	ROXBURY	0.427	271
289	CROWN POINT	0.429	274
290	CHERRY VLY-SPR	0.429	445
291	WESTPORT	0.431	215
292	CANASERAGA	0.431	239
293	WINDHAM ASHLAN	0.433	282
294	NORTHVILLE	0.433	437
295	VAN HORNSVILLE	0.436	186
296	LIVINGSTON MAN	0.436	439
297	GRGETWN-SO OTS	0.437	322
298	SOUTH LEWIS	0.437	1,008
299	TUPPER LAKE	0.440	754
300	HANCOCK	0.441	330
301	WYOMING	0.443	115
302	GILBOA CONESVI	0.444	311
303	WILLSBORO	0.445	253
304	HAMMOND	0.445	267
305	BOLTON	0.447	187
306	NORTHRN ADIRON	0.447	837
307	ROSCOE	0.449	230
308	MARGARETVILLE	0.449	357
309	WHEELERVILLE	0.450	117
310	EDWARDS-KNOX	0.450	521
311	HUNTER TANNERS	0.451	356
312	HARRISVILLE	0.453	384
313	PARISHVILLE	0.453	427
314	SARANAC LAKE	0.458	1,147
315	DOWNSVILLE	0.459	233
316	ELIZABETHTOWN	0.462	253
317	JOHNSBURG	0.463	315

318	COLTON PIERREP	0.465	327
319	POLAND	0.468	541
320	KEENE	0.469	172
321	ST REGIS FALLS	0.472	260
322	CLIFTON FINE	0.472	300
323	ANDES	0.474	82
324	EDINBURG	0.475	78
325	SCHROON LAKE	0.477	224
326	FIRE ISLAND	0.479	20
327	MINERVA	0.479	99
328	PUTNAM	0.481	18
329	WELLS	0.481	140
330	TOWN OF WEBB	0.481	245
331	INDIAN LAKE	0.482	113
332	LAKE PLEASANT	0.483	80
333	NEWCOMB	0.484	80
334	LONG LAKE	0.488	61

## Appendix B

### Introductory Email and Study Information

Date

Dear Chief School Business Official (or Designee),

My name is Mitchell J. Ball. I am the Assistant Superintendent for Business at the Naples Central School District, a small rural district in the Finger Lakes Region of Upstate New York. In addition, I am a doctoral candidate in the Executive Leadership Program at St. John Fisher College. As a requirement for my Ed.D degree in Executive Leadership, I am conducting a research study involving school business officials in the field of K-12 education. I would like to invite you to participate in the study by answering a brief internet based survey.

The topic of my study is the relationship between entrepreneurial orientation and school business performance. I am looking specifically at rural public K-12 school districts in New York State. Primarily, I am interesting in how school business officials identify themselves in relation to the entrepreneurial traits of proactiveness, risk-taking, and innovativeness. Additionally, I am interested in understanding how entrepreneurial orientation relates to business performance, if at all.

The brief survey can be taken from any location at your convenience on any computer, mobile device, or other electronic internet based media device. The survey should take approximately 10-15 minutes. Responses will be digitally recorded and uploaded. There is no preparation needed for the survey. Your participation or non-participation in this research study will not impact any current or future professional relationships or collaboration with your organization/institution.

If you participate and become uncomfortable answering the questions, you can choose not to answer. In addition, this study is voluntary, and you may withdraw your participation at any time.

At the conclusion of the survey, there will be an opportunity to enter your name and phone number and/or e-mail address for a random drawing. If your name is drawn, you will win one of eight \$25 Visa gift cards. Your entrance in the drawing will in no way be linked to your survey responses. A separate link to a Google Forms entry form will be included at the conclusion of the survey. Please note, if at any time during participation you decide to discontinue participation in the survey and still wish to enter the drawing, simply select (at the bottom of the page) “click here to continue” until you get to the end of the survey. Unanswered questions will not be recorded in any way. You are not required to answer every question in order to enter in the drawing.

Thank you for your consideration. Please feel free to contact me at 585-755-5793 or [mjb04235@sjfc.edu](mailto:mjb04235@sjfc.edu) with any study-related questions or concerns.

Additional information on the study, confidentiality, and informed consent is included in the below link.

If willing to participate, please click the link here: **[INSERT URL]**

Sincerely,

Mitchell J. Ball  
Education Doctoral Candidate, Executive Leadership  
St. John Fisher College, Rochester, NY

## Appendix C

### Bolton and Lane's (2011) Individual Entrepreneurial Orientation Scale

10 item instrument using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree)

- RISK2: I like to take bold action by venturing into the unknown
- RISK3: I am willing to invest a lot of time and/or money on something that might yield a high return
- RISK5: I tend to act "boldly" in situations where risk is involved
- INNOV1: I often like to try new and unusual activities that are not typical but not necessarily risky
- INNOV3: In general, I prefer a strong emphasis in projects on unique, one-of-a-kind approaches rather than revisiting tried and true approaches used before
- INNOV4: I prefer to try my own unique way when learning new things rather than doing it like everyone else does
- INNOV5: I favor experimentation and original approaches to problem solving rather than using methods others generally use for solving their problems
- PROACT1: I usually act in anticipation of future problems, needs or changes
- PROACT4: I tend to plan ahead on projects
- PROACT5: I prefer to "step-up" and get things going on projects rather than sit and wait for someone else to do it

## Appendix D

10/26/2018 Naples Central School District Mail - IEO Scale

 Mitchell Ball <mball@naplescsd.org>

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**IEO Scale**

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**Bolton, Dawn** <dawn.bolton@wku.edu> Mon, Apr 23, 2018 at 4:29 AM  
To: Mitchell Ball <mball@naplescsd.org>

Good Morning, Mitch,

Thank you for the email, your interest in our scale, and for your condolences in the loss of my colleague. You have my permission to use it in your research. How else may I help you?

Good luck in completing your doctoral program,

Dawn Bolton

*Dr. Dawn Langkamp Bolton*  
*Mattie Newman Ford Professor and*  
*Director of the Center for Entrepreneurship & Innovation*  
*Gordon Ford College of Business*  
*Western Kentucky University*  
*[www.wku.edu/cei](http://www.wku.edu/cei)*  
**#StartSomething!**

## Appendix E

### Draft Self-Developed School Business Performance Measurement Instrument

#### Exploratory Data Collection Tool

Please **rank** the items in each of the 11 areas below in order of perceived importance with “1” being most important, “2” being next most important, ”3” being least important. Please respond based on the last **three** years of your professional experience.

#### Area 1: Fiscal & Financial Planning Management

Rank	Statement
	I (we) review internal control processes in order to avoid fraud and misuse
	I (we) complete RFP’s for professional services in order to create savings
	I (we) analyze long-range financial plans in order to create savings

#### Area 2: Cash & Debt Management

Rank	Question
	I (we) invest available cash on hand in CD’s or other short to long-term investment vehicles
	I (we) leverage available cash in order to push off short term or long-term debt
	I (we) schedule debt service in order to maximize aid

#### Area 3: Budgeting Management & Efficiency

Rank	Question
	I (we) implement spending freezes in order to save money
	I (we) dig deeply into budget codes to analyze expense for the purposes of saving money
	I (we) closely review BOCES billing to ensure accuracy

#### Area 4: Revenue Management

Rank	Question
	I (we) review grant spending to ensure carry over funds are carried over
	I (we) apply for non-Title, Non – IDEA (non-traditional) grants

	I (we) use analytics to maximize funding
	I (we) attempt to run as many expenses as possible through an aidable category in order to maximize aid

#### **Area 5: Consolidation or Sharing of Services**

<b>Rank</b>	<b>Question</b>
	I (we) look to share services with other municipal entities (schools and/or non-schools)
	I (we) look to consolidate personnel positions on an ongoing basis in order to create savings
	I (we) look to consolidate programs on an ongoing basis in order to create savings
	I (we) look for ways to generate revenue by running services through BOCES in order to get aid back

#### **Area 6: Program Analysis**

<b>Rank</b>	<b>Question</b>
	I (we) analyze special education programs to ensure that staffing counts and programs are necessary per child counts and IEP's
	I (we) study enrollment trends to ensure appropriate staffing and classroom sections
	I (we) review cohort size guidelines to ensure appropriate student distribution (e.g., cap kindergarten slots)
	I (we) enforce local and state guidelines on walkers

#### **Area 7: Operational Efficiency**

<b>Rank</b>	<b>Question</b>
	I (we) utilize technology for general ongoing and preventive maintenance in order to reduce labor costs
	I (we) review equipment replacement schedules in order to reduce maintenance and create savings
	I (we) review maintenance vehicles replacement schedules in order to reduce maintenance/create savings
	I (we) investigate preventative equipment options (like a water softener) to reduce long term cost

#### **Area 8: Human Resources & Personal Management**

<b>Rank</b>	<b>Question</b>
	I (we) review frequency and purpose of overtime use by department to ensure appropriate use

	I (we) are actively involved in collective negotiations to ensure best outcomes for the district
	I (we) attend professional associations conferences in order to learn best practices for revenue generation
	I (we) attend professional associations conferences in order to learn best practices for creating savings

### **Area 9: Instructional Program Efficiency**

<b>Rank</b>	<b>Question</b>
	I (we) complete residency checks to ensure there is no impropriety
	I (we) follow-up on homeless students to ensure status is accurate
	I (we) review classroom furniture replacement schedules in order to reduce maintenance/create savings
	I (we) review STACS and compare them to state reports to ensure aid maximization

### **Area 10: Transportation Efficiency**

<b>Rank</b>	<b>Question</b>
	I (we) review bus replacement schedules in order to reduce maintenance/create savings
	I (we) look to maximize transportation aid by reviewing bus routing
	I (we) review bus routing with an eye towards combining runs in an effort to create savings
	I (we) investigate preventative maintenance equipment (like a bus wash system) in an attempt to reduce long term cost (savings)

### **Area 11: Instructional Technology Efficiency**

<b>Rank</b>	<b>Question</b>
	I (we) review IT infrastructure replacement schedules in order to reduce maintenance expense/create savings
	I (we) review computer equipment and devices replacement schedules in order to reduce maintenance/create savings
	I (we) update software systems in order to create savings
	I (we) ensure that software purchases align with programs and/or district mission

## Appendix F

### CSBO Business Performance Survey Instrument

Please answer the below questions from "Never" to "Very Frequently" based on your last three years of professional practice:

	Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
I (we) analyze long-range financial plans in order to create savings						
I (we) schedule debt service in order to maximize aid						
I (we) dig deeply into budget codes to analyze expense for the purposes of saving money						
I (we) attempt to run as many expenses as possible through an aidable category in order to maximize aid						
I (we) look for ways to generate revenue by running services through BOCES in order to get aid back						
I (we) study enrollment trends to ensure appropriate staffing and classroom sections						
I (we) utilize technology for general ongoing and preventive maintenance in order to reduce labor costs						
I (we) are actively involved in collective negotiations to ensure best outcomes for the district						
I (we) review STACS and compare them to state reports to ensure aid maximization						
I (we) review bus replacement schedules in order to reduce maintenance/create savings						
I (we) ensure that software purchases align with programs and/or district mission						

## Appendix G

### St. John Fisher College INFORMED CONSENT FORM

**Title of study:** The Relationship Between Entrepreneurial Orientation and School Business Performance through the Lens of Rural K-12 Public School Business Officials

**Name of researcher:** Mitchell J. Ball

**Faculty Supervisor:** Dr. Jason Berman

**Phone for further information:** Mitchell Ball: 585-755-5793

**Purpose of study:** The purpose of the study is to examine the level of perceived entrepreneurial orientation in K-12 rural public chief school business officials. Additionally, the study will investigate the relationship between entrepreneurial orientation and school business performance.

**Place of study:** Surveys will be distributed to various rural school districts located within New York State.

**Length of participation:** Up to 15 minutes per participant

**Method(s) of data collection:** Internet based survey with demographic and research specific questions.

**Random Drawing:** At the conclusion of the survey, there will be an opportunity for participants to enter their name and phone number and/or e-mail address for a random drawing. Eight \$25 Visa gift cards will be distributed to random participants. Entrance in the drawing will in no way be linked to survey responses. A separate link to a Google Forms entry form will be included at the conclusion of the survey. If at any time during participation participants decide to discontinue participation in the survey and still wish to enter the drawing, they will have the option to simply select (at the bottom of the page) “click here to continue” until the end of the survey. Unanswered questions will not be recorded in any way. Participants are not required to answer every question in order to enter the drawing.

**Risks and benefits:** The expected risks and benefits of participation in this study are explained below:

Minimal risk exists, as the probability of and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during routine tests. Participants will answer internet based survey questions. There are no additional anticipated emotional or physical risks associated with participating in this study. Participation or non-participation in this

research study will not impact professional relationships or collaboration with the researcher or research institution. By participating in this study, participants will contribute to study results, which will add to the current body of research on the relationship between entrepreneurial orientation and business performance.

**Method for protecting confidentiality/privacy of data collected:** All consent to participate is voluntary. Confidentiality and privacy will be maintained as no names or personally identifiable information will be collected. Participants will answer general demographic information and respond to the research based survey questions.

**Your rights:** As a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you before you choose to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of the results of the study.

If you have any further questions regarding this study, please contact the researcher listed above. If you experience emotional or physical discomfort due to participation in this study, please contact your personal health care provider, your local county office of mental health, or text “Got5” to the New York State Office of Mental Health at 741741 for free, 24/7, confidential crisis support.

The Institutional Review Board of St. John Fisher College has reviewed this project. For any concerns regarding this study/or if you feel that your rights as a participant (or the rights of another participant) have been violated or caused you undue distress (physical or emotional distress), please contact Jill Rathbun by phone during normal business hours at (585) 385-8012 or [irb@sjfc.edu](mailto:irb@sjfc.edu). She will contact a supervisory IRB official to assist you.

By consenting to participate below, you are acknowledging that you are agreeing to participate in this research. Please click “yes” to consent or “no” to opt out. Opting out will exit you from the survey.